

Draft Programmatic Environmental Impact Statement for the Marine Mammal Health and Stranding Response Program

March 2007

Volume I: Draft Programmatic Environmental Impact Statement



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Office of Protected Resources
1315 East-West Highway
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Prepared for:
National Oceanic and Atmospheric Administration (NOAA)
National Marine Fisheries Service (NMFS)
Office of Protected Resources



In accordance with:
NOAA Administrative Order 216-6:
Environmental Review Procedures for Implementing
The National Environmental Policy Act

Pursuant to:
The National Environmental Policy Act of 1969

Programmatic Environmental Impact Statement for the Marine Mammal Health and Stranding Response Program

Draft Programmatic Environmental Impact Statement

March 2007

Comments Must Be Submitted No Later Than April 30, 2007
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ABBREVIATIONS AND ACRONYMS

ABR	Auditory Brainstem Response
ADFG	Alaska Department of Fish and Game
AEP	Auditory Evoked Potential
APHIS	Animal and Plant Health Inspection Service
ASHPO	American Samoa Historic Preservation Office
AVMA	American Veterinary Medical Association
BLM	Bureau of Land Management
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CI	Co-Investigator
CIMS	Chesapeake Information Management System
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CNMI	Commonwealth of the Northern Mariana Islands
CPR	Cardio Pulmonary Resuscitation
CSC	Coastal Service Center
DDT	Dichloro-Diphenyl-Trichloroethane
DEA	Drug Enforcement Administration
DIN	Dissolved Inorganic Nitrogen
DIP	Dissolved Inorganic Phosphorus
DOC	Department of Commerce
DOI	Department of the Interior
DPS	Distinct Population Segment
EA	Environmental Assessment
EEZ	Exclusive Economic Zone

EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
EPA	Environmental Protection Agency
ERM	Effects Range Median
ERL	Effect Range Low
ESA	Endangered Species Act
ESU	Evolutionary Significant Unit
FLMNH	Florida Museum of Natural History
FOSC	Federal On-Scene Coordinator
FR	Federal Register
GEPA	Guam Environmental Protection Agency
GMP	Gulf of Mexico Program
HAB	Harmful Algal Bloom
HAS	Hawaii Audubon Society
HAZWOPER	Hazardous Waste Operations and Emergency Response
HSWRI	Hubbs-SeaWorld Research Institute
IATA	International Air Transport Association
ICS	Incident Command System
LOA	Letter of Agreement
m	Meter
mg/L	Milligrams per liter
MMC	Marine Mammal Commission
MMHSRA	Marine Mammal Health and Stranding Response Act
MMHSRP	Marine Mammal Health and Stranding Response Program
MMPA	Marine Mammal Protection Act

MSDS	Material Safety Data Sheet
NAO	NOAA Administrative Order
NCCR	National Coastal Condition Report II
NEPA	National Environmental Policy Act
NERR	National Estuarine Research Reserve
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NMMTB	National Marine Mammal Tissue Bank
NMS	National Marine Sanctuary
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRDC	Natural Resources Defense Council
NRHP	National Register of Historic Places
NWHICRER	Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve
NWR	National Wildlife Refuge
OCNMS	Olympic Coast National Marine Sanctuary
OSHA	Occupational Safety and Health Administration
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyls
PCCS	Provincetown Center for Coastal Studies
PEIS	Programmatic Environmental Impact Statement
PFMC	Pacific Fishery Management Council

PI	Principal Investigator
PIT	Passive Integrated Transponder
POP	Persistent Organic Pollutant
POTWs	Publicly Owned Treatment Works
PR1	Office of Protected Resources, Permits, Conservation and Education Division (NMFS)
ROD	Record of Decision
ROI	Region of Influence
SA	Stranding Agreement
SAV	Submerged Aquatic Vegetation
TCP	Traditional Cultural Property
TOC	Total Organic Carbon
UME	Unusual Mortality Event
U.S.C.	United States Code
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VHF	Very High Frequency
VIDPNR	Virgin Islands Department of Planning and Natural Resources
WDFW	Washington Department of Fish and Wildlife
WGMMUME	Working Group on Marine Mammal Unusual Mortality Events

Executive Summary

1

2 The National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service
3 (NMFS) has prepared this draft Programmatic Environmental Impact Statement (PEIS) pursuant to
4 the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality
5 (CEQ) Regulations for Implementing NEPA (40 Code of Federal Regulations 1500-1508), and the
6 NOAA environmental review procedures (NOAA Administrative Order 216-6).

7 **ES.1 Proposed Actions**

8 With the passage of the Marine Mammal Protection Act (MMPA) in 1972, Congress gave jurisdiction
9 over marine mammals in U.S. waters to the federal government. All cetaceans and all pinnipeds,
10 except walrus (*Odobenus rosmarus*), were placed under the jurisdiction of the Department of
11 Commerce and is now specifically housed in NMFS. The Department of the Interior, U.S. Fish and
12 Wildlife Service was given authority over walrus, sea otters (*Enhydra lutris*), sirenians (manatees
13 [*Trichechus spp.*] and dugongs [*Dugong dugon*]), and polar bears (*Ursus maritimus*).

14 In 1992, the Marine Mammal Health and Stranding Response Program (MMHSRP) was formalized
15 with the passage of Title IV, an amendment to the MMPA entitled The Marine Mammal Health and
16 Stranding Response Act. This Act charged the Secretary of Commerce to develop a marine mammal
17 health and stranding response program with three goals:

- 18 1. Facilitate the collection and dissemination of reference data on the health of marine mammals
19 and health trends of marine mammal populations in the wild;
- 20 2. Correlate the health of marine mammals and marine mammal populations, in the wild, with
21 available data on physical, chemical, and biological environmental parameters; and
- 22 3. Coordinate effective responses to unusual mortality events by establishing a process in the
23 Department of Commerce in accordance with Section 404.

24 The MMHSRP developed the following four Proposed Actions to encompass the activities of the
25 MMHSRP :

- 26 1. Issuance of the *Policies and Best Practices for Marine Mammal Stranding Response,*
27 *Rehabilitation, and Release* (Policies and Best Practices) as final guidance.
- 28 2. Issuance of a new Endangered Species Act (ESA)/MMPA permit to the MMHSRP. The new
29 permit would include current and future response activities for endangered species,

1 disentanglement activities, biomonitoring projects, and import and export of marine mammal
2 tissue samples. The permit would be issued no later than July 1, 2007 and would expire in
3 five years.

4 3. Continuation of current MMHSRP operations, including response, rehabilitation, release, and
5 research activities, with renewal and authorization of Stranding Agreements (SAs) and
6 Scientific Research Authorizations and other NMFS activities referenced in Section 1.3.1.

7 4. Continuation of the Prescott Grant Program.

8 The Region of Influence (ROI) for the Proposed Actions and alternatives includes all areas where
9 MMHSRP activities may occur. The ROI is geographically defined as the coastal zone and marine
10 waters of the U.S., including the Exclusive Economic Zone. The coastal zone includes coastal
11 waters, adjacent shorelands, intertidal areas, salt marshes, wetlands, and beaches. The ROI also
12 includes the marine mammal rehabilitation facilities of the stranding network.

13 **ES.2 Purpose and Need**

14 The purposes of the Proposed Actions are to respond to marine mammals in distress, including those
15 stranded, entangled, and out of habitat, and to answer research and management questions about
16 marine mammal health. Stranded and distressed marine mammal response is conducted for many
17 reasons including NMFS' legislative mandate and the need to obtain data for management and
18 scientific purposes. Marine mammals are also sentinels of ecosystem health and may provide
19 valuable links to human health. Response to marine mammals is also conducted out of a concern for
20 animal welfare and ocean stewardship.

21 NMFS is charged with the national oversight and collaboration of the MMHSRP, and creating
22 policies that will work for the majority of participants. The MMHSRP has identified several needs
23 for effectively carrying out the mandates of Title IV:

24 1. Operational efficiency - To operate the MMHSRP effectively and efficiently, maximizing the
25 benefits from opportunistic events while making the best use of limited resources;

26 2. Quality data - To collect data on marine mammal health and health trends in an organized and
27 consistent manner to meet current and future information needs for appropriate conservation
28 and management; and

29 3. Safety - To implement policies to ensure that MMHSRP activities are conducted humanely
30 and in a manner that protects the safety of volunteers and the public to the maximum extent
31 possible.

1 **ES.3 Alternatives**

2 The alternatives to implement the Proposed Actions are grouped into the following six topics:
 3 stranding agreements and response; carcass disposal; rehabilitation activities; release activities;
 4 disentanglement; and biomonitoring and research activities. A No Action Alternative, Status Quo
 5 Alternative, and Preferred Alternative are designated under each issue. The No Action Alternative
 6 for each issue is based upon NMFS not undertaking the coordination and operation of the MMHSRP.
 7 Current SAs would not be renewed and new SAs would not be issued. The Policies and Practices
 8 manual and the ESA/MMPA permit would not be issued. The stranding and disentanglement
 9 networks would continue their current activities. As current SAs expired, the current National
 10 Stranding Network would cease to exist. Once the current ESA/MMPA permit expires on June 30,
 11 2007, the current disentanglement network would no longer function.

12 Table ES-1 summarizes the alternatives considered in the PEIS.

13 **Table ES-1. Alternatives Considered in Detail**

Alternative	Description
<i>Stranding Agreements and Response</i>	
Alternative A1	No Action- SA's expire, stranding response would end.
Alternative A2	Status Quo- Current SAs would be renewed, current stranding response activities continue. Final SA criteria would not be issued.
Alternative A3	SAs issued to any applicants after review, new SA template would not be utilized. Final SA criteria would not be issued. Current and future activities included.
Alternative A4 (Preferred)	Final SA criteria would be implemented, new SA template would be utilized, current and future activities included.
Alternative A5	Final SA criteria would be implemented, new SA template would be utilized, and response to threatened, endangered or rare animals would be required.
<i>Carcass Disposal</i>	
Alternative B1	No Action- SA's expire, no carcass disposal would occur, carcasses would be left where stranded.
Alternative B2	Status Quo- Current methods of carcass disposal continue.
Alternative B3 (Preferred)	Recommendation to transport chemically euthanized animal carcasses off-site.
<i>Rehabilitation Activities</i>	
Alternative C1	No Action- Current SAs would expire, stranding response would cease, and animals would not be rehabilitated.
Alternative C2	Status Quo- Current rehabilitation activities would continue. Final Rehabilitation Facility Standards would not be implemented.
Alternative C3 (Preferred)	New SAs would be issued, rehabilitation activities continue. Final Rehabilitation Facility Standards would be implemented.

Table ES-1. Alternatives Considered in Detail (continued)

Alternative	Description
Rehabilitation Activities (continued)	
Alternative C4	New SAs would be issued, rehabilitation activities would continue. Rehabilitation of threatened endangered and rare animals would be required; response to other animals would be optional. Final Rehabilitation Facility Standards would be implemented.
Release of Rehabilitated Animals	
Alternative D1	No Action- Current SAs would expire, stranding response and rehabilitation would cease, and therefore there would be no animals to release.
Alternative D2	Status Quo- Current release activities would continue. Adaptive changes to release activities would not be permitted. Final release criteria would not be implemented.
Alternative D3 (Preferred)	New SAs would be issued, release activities continue. Final Release criteria would be implemented.
Disentanglement Activities	
Alternative E1	No Action- No disentanglement network.
Alternative E2	Status Quo- Disentanglement network would continue current activities, no modifications or new members added
Alternative E3 (Preferred)	Disentanglement network would continue current activities on East Coast with modifications to West Coast network. The Disentanglement Guidelines and training prerequisites would be implemented.
Biomonitoring and Research Activities	
Alternative F1	No Action- Biomonitoring and research activities would not occur.
Alternative F2	Status Quo- New ESA/MMPA permit would continue current biomonitoring and research activities.
Alternative F3 (Preferred)	New ESA/MMPA permit would be issued to include current and future biomonitoring and research activities.

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2 **ES.4 Environmental Impacts and Mitigation**

3 The environmental impacts of the alternatives were analyzed for the following resources:

- 4
- 5 • Biological resources: protected and sensitive habitats, submerged aquatic vegetation (SAV)
 - 6 and macroalgae, sea turtles, marine mammals, threatened and endangered species, fish, birds,
 - 7 and other wildlife;
 - 8 • Water and sediment quality;
 - 9 • Human health and safety;
 - 10 • Cultural resources; and
 - Socioeconomics.

1 Table ES-2 summarizes the impacts on these resources from each of the alternatives. While potential
2 adverse and beneficial effects on all of the chosen resource areas could occur, effects on marine
3 mammals and human health and safety would be considered the most important. Mitigation measures
4 have been developed to avoid, minimize, or eliminate the potential adverse effects on the affected
5 resources from the proposed alternatives.

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Table ES-2. Summary Matrix of Impacts

Alternatives	Impact Area				
	Biological Resources	Water & Sediment Quality	Cultural Resources	Human Health & Safety	Socioeconomics
Stranding Agreements & Response					
Alternative A1- No Action	Moderate, adverse effects on marine mammals, as stranded animals would be removed from the population. Valuable information on marine mammal health would not be collected. No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds.	No effects on water and sediment quality.	No effects on cultural resources.	Minor, short-term adverse effects as the public interact with stranded animals. Beneficial effects as response personnel no longer needed.	Moderate, long-term beneficial direct effects on stranding network members, as there would be reduction, if not an elimination, of costs. Minor to moderate indirect adverse effects to SA holders whose activities attract external funding. Negligible adverse effects to businesses adjacent to stranding sites. Potential beneficial effects if people come to see stranding event.
Alternative A2- Status Quo	Minor, short-term adverse effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, shellfish, and birds from equipment use or leaks on beaches/nearshore waters and the presence of responders. Minor to moderate, adverse effects on marine mammals would be expected from response activities and if new SAs are not issued.	Minor, short-term adverse effects on surrounding sand and nearshore waters could occur from equipment leaks and euthanasia solution or other environmental contaminants in tissue, blood, and other body fluids.	Potential minor, adverse effects on submerged cultural resources or resources buried in sand from equipment and vehicle use on beaches and nearshore waters. There would not be any effects on Alaska Natives, Native American tribes, or other aboriginal people's cultural uses of coastal resources.	Minor, short-term adverse effects on the public (interacting with a stranded animal) and stranding responders (e.g., physical injury and zoonotic diseases).	Minor to moderate, long-term adverse effects to stranding network members from operating costs associated with these activities. Negligible adverse effects to businesses adjacent to stranding sites. Potential beneficial effects if people come to see stranding event.
Alternative A3	Same effects on biological resources as Alternative A2. Some beneficial impacts could come from allowing new SA holders to be added, given that they have the proper experience with marine mammal response, as geographic coverage would increase and new rehabilitation facilities may be added.	Same effects as Alternative A2.	Same effects as Alternative A2.	Same effects as Alternative A2.	Minor to moderate, long-term adverse effects on network members from operating expenses. New involvement with response activities would help offset expense of these activities. Negligible adverse effects to businesses adjacent to stranding sites. Potential beneficial effects if people come to see stranding.
Alternative A4 (Preferred)	Same effects on biological resources as Alternative A2. Beneficial impacts from use of new techniques and tools during response activities and ability to add new SA holders. Long-term beneficial effects on marine mammals would be expected to occur with the implementation of SA criteria.	Same effects as Alternative A2.	Same effects as Alternative A2.	Same effects as Alternative A2, with one exception. SA criteria would ensure that responders are experienced and have the knowledge to avoid or minimize health and safety risks.	Alternative A4 is similar to Alternative A3, but under Alternative A4 the Final SA criteria would be implemented. Moderate to major, adverse effects to the current SA holders would be expected to occur, as existing SA holders may need more training or may need to alter existing practices in order to meet the new criteria. Negligible adverse effects to businesses adjacent to stranding sites. Potential beneficial effects if people come to see stranding event.

Table ES-2. Summary Matrix of Impacts (continued)

Alternatives	Impact Area				
	Biological Resources	Water & Sediment Quality	Cultural Resources	Human Health & Safety	Socioeconomics
Stranding Agreements & Response					
Alternative A5	Same effects from stranding response activities as Alternative A2, with two exceptions. Beneficial effect on threatened, endangered, or rare animals and an adverse effect on other species. Same effects from the implementation of SA criteria as Alternative A4.	Same effects as Alternative A2.	Same effects as Alternative A2.	Same effects as Alternative A4.	Minor to major, long-term adverse effects to SA holders similar to those described in Alternatives A3 and A4, but they would also depend on the proportion of stranded marine mammals that are not rare, threatened, or endangered and whether or not the network member chooses to continue responding to those animals. Negligible adverse effects to businesses adjacent to stranding sites. Potential beneficial effects if people come to see stranding event.
Carcass Disposal					
Alternative B1- No Action	Potential adverse effects could occur from leaving carcasses on the beach to naturally decompose. Animal carcasses may contain contaminants, which could negatively impact the surrounding environment. No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds.	Potential adverse effects could occur from leaving carcasses on the beach to naturally decompose. Animal carcasses may contain contaminants, which could negatively impact the surrounding water and sediment quality.	No effects on cultural resources.	Minor, short-term adverse effects as the public interact with stranded animals. Contaminated or chemically euthanized carcasses could potentially contaminate the groundwater and/or nearshore water. Beneficial effect on personnel involved in carcass disposal, as they would no longer be exposed to risks.	Negligible adverse impacts in terms of lost revenues, restaurants, and parks in the immediate vicinity of the carcass(es), if the public chose to avoid the area. Potential beneficial effects if people come to see stranding event
Alternative B2- Status Quo	Minor to moderate, short- and long-term adverse effects, as animal carcasses may contain persistent environmental contaminants or euthanasia solution, which could negatively impact the surrounding environment. Other adverse effects from burial, equipment use, spills of hazardous materials or wastes from equipment, vessels, or vessel accidents. Beneficial effect of carcass disposal at sea, as it may provide food for organisms.	Minor, short-term adverse effects on water and sediment quality could occur from equipment leaks; euthanasia solution or other contaminants in tissue, blood, and other body fluids; spills of hazardous materials or wastes from vessels; or a vessel accident. Burial and equipment use may have a negligible impact on erosion.	Potential minor, long-term, adverse effects on submerged cultural resources or resources buried in sand from beach burial, and equipment and vehicle use on beaches and nearshore waters. There would not be any effects on Alaska Natives, Native American tribes, or other aboriginal people's cultural uses of coastal resources.	Minor and major, short- and long-term adverse effects as the public interacts with a stranded animal. Contaminated or chemically euthanized carcasses left on the beach or buried could potentially contaminate the groundwater and/or nearshore water, making it unhealthy for humans to swim near the carcass site. Workers involved in disposal could be exposed to zoonotic diseases, contaminants, and euthanasia solution.	Negligible adverse impacts in terms of lost revenues, restaurants, and parks in the immediate vicinity of the carcass(es), if the public chose to avoid the area. Potential beneficial effects if people come to see stranding event
Alternative B3 (Preferred)	Same effects as Alternative B2, with one exception. Chemically euthanized carcasses would not be buried on-site, minimizing some of the adverse effects.	Same effects as Alternative B2.	Same effects as Alternative B2.	Same effects as Alternative B2 with one exception. Recommended that chemically euthanized animal carcasses not be buried on the beach, which would remove the health and safety risks associated with beach burial.	Effects would be the same as those described under Alternative B2, except that chemically euthanized carcasses would be moved off-site and the cost would be incurred by the stranding network member. Adverse effects would be negligible, minor, or major, depending on the number of carcasses.

Table ES-2. Summary Matrix of Impacts (continued)

Alternatives	Impact Area				
	Biological Resources	Water & Sediment Quality	Cultural Resources	Human Health & Safety	Socioeconomics
Rehabilitation Activities					
Alternative C1- No Action	Moderate, long-term, adverse effects as marine mammals would not be taken into rehabilitation and most would likely die from injuries or disease. No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds.	No effects on water and sediment quality.	No effects on cultural resources.	Beneficial effects would be expected as risks to rehabilitation personnel would end.	Potential major, long-term, adverse effects on facilities that focus primarily on rehabilitation activities. Facilities may cease operation, unless their activities could be shifted. Larger facilities that engage in other activities may experience a minor, long-term positive effect in terms of the reduced operating costs from the elimination of rehabilitation activities.
Alternative C2- Status Quo	Minor to major, short- and long-term, beneficial and adverse effects on marine mammals. Potential adverse effects from sampling, anesthesia, disease, euthanasia, and not implementing the Rehabilitation Facility Standards No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds.	Minor adverse effects due to use of open ocean/bay net pens and temporary pools and contamination from wastes, pathogens, etc. Rehabilitation facilities would have necessary permits for wastewater discharges.	Potential minor to major adverse effects on from the use of temporary pools and net pens, depending on where they are sited. Net pens may disturb or damage submerged cultural resources.	Minor, short-term, direct adverse effects on rehabilitation personnel, including physical injuries, exposure to chemicals, and exposure to zoonotic diseases.	Current rehabilitation facilities would continue to bear minor to major, long-term adverse effects. Rehabilitation facilities would operate as they currently do and therefore continue to incur supply, equipment, personnel, and maintenance expenses.
Alternative C3 (Preferred)	Same effects as Alternative C2, with one exception. Rehabilitation Facility Standards would decrease the risk of disease transmission ensure a healthy environment, maximize the success of rehabilitation, and increase the potential for release to the wild. Would reduce animal pain and suffering.	Same effects as Alternative C2.	Same effects as Alternative C2.	Same effects as Alternative C2, with one exception. Health and safety standards in the rehabilitation facility standards would have a beneficial effect.	Minor to major, adverse effects on rehabilitation facilities. Facilities would need to upgrade to comply with the minimum facility standards. Level of impact would depend on each facility, if they need to upgrade, and how much they would need to upgrade to meet the minimum standards.
Alternative C4	Same effects as Alternative C3, with a few exceptions. Adverse effects on animals that are not rare, threatened, or endangered. These animals often serve as models for other species and this would be an indirect adverse affect on rare, threatened, and endangered species.	Same effects as Alternative C2.	Same effects as Alternative C2.	Same effects as Alternative C3.	Alternative C4 would adversely affect rehabilitation facilities in the same manner as Alternative C3. Alternative C4 could adversely affect facilities to a lesser extent, however, since under the rehabilitation of non-rare and non-ESA species would only be optional.
Release of Rehabilitated Animals					
Alternative D1- No Action	Adverse effects as marine mammals would not be released back to the wild, which negatively impacts all species, but especially threatened or endangered species. Beneficial effect on wild populations, as there would not be the risk of introducing a diseased animal that could potentially infect other marine mammals. No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds.	No effects on water and sediment quality.	No effects on cultural resources.	Beneficial effects would be expected as risks to release personnel would end.	Beneficial effects as the end of release activities would eliminate the expenses related to these activities.

Table ES-2. Summary Matrix of Impacts (continued)

Alternatives	Impact Area				
	Biological Resources	Water & Sediment Quality	Cultural Resources	Human Health & Safety	Socioeconomics
Release of Rehabilitated Animals					
Alternative D2- Status Quo	Minor, short- and long-term, adverse and beneficial effects on marine mammals. Release activities (tagging, marking, and transport) may have adverse effects. Released animal could carry a zoonotic disease and infect wild population. Adverse effects on all biological resources from equipment use, spills of hazardous materials or wastes from equipment, vessels, or vessel accidents.	Minor, short-term, direct adverse effects could occur from spills of hazardous materials or wastes from release vessels; a vessel accident; or leaks from equipment into sand or surrounding waters.	Minor, long-term, adverse effects on cultural resources buried in sand from equipment and vehicle use on beaches.	Minor, short-term, direct adverse effects on release personnel, including physical injuries and exposure to chemicals.	Minor to moderate, adverse effects as continued expenses would be incurred from release activities. Facilities that release more animals, larger species of marine mammals, or those that need to travel greater distance to release animals would incur a greater share of expenses.
Alternative D3 (Preferred)	Same effects as Alternative D2, with one exception. Release criteria would be implemented and may reduce the effects on marine mammals.	Same effects as Alternative D2.	Same effects as Alternative D2.	Same effects as Alternative D2	Minor to moderate, adverse effects as costs may increase at each facility in order to comply with the release criteria. Possible addition of facilities could help offset the release activities and their costs.
Disentanglement Activities					
Alternative E1- No Action	Major, long-term adverse effects on marine mammals from ending the Disentanglement Network as animals would have increased pain and suffering and would most likely die. No significant effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds. Gear on an entangled animal may be shed and become marine debris, which could potentially harm biological resources.	No effects on water and sediment quality.	No effects on cultural resources.	Beneficial effects would be expected as risks to responders would end. Potential adverse impacts on public health if individuals attempt to disentangle an animal.	Minor to moderate, beneficial effects on current participants could occur from the elimination of expenses incurred from disentanglement activities.
Alternative E2- Status Quo	Minor, short-term adverse effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, birds, and marine mammals from spills of hazardous materials or wastes from vessels or a vessel accident. Minor to major, short- and long-term, beneficial and adverse effects on marine mammals. Disentanglement would continue; new responders could not be added. Animal adverse reactions to close approaches, physical/chemical restraint, or be injured during the process.	Minor, short-term, adverse effects could occur from spills of hazardous materials or wastes from release vessels or a vessel accident.	No effects on cultural resources.	Adverse effects on responders, including physical injuries, exposure to chemicals, potentially death. Potential adverse impacts on public health if individuals attempt to disentangle an animal.	Minor to moderate, adverse effects would continue to be borne by participants engaged in disentanglement activities.

Table ES-2. Summary Matrix of Impacts (continued)

Alternatives	Impact Area				
	Biological Resources	Water & Sediment Quality	Cultural Resources	Human Health & Safety	Socioeconomics
Disentanglement Activities					
Alternative E3 (Preferred)	Same effects as Alternative E2, except that new responders and techniques could be added and Disentanglement Guidelines/training would be in place to reduce adverse effects.	Same effects as Alternative E2.	No effects on cultural resources.	Same effects as Alternative E2. There would be less risk under this alternative, as modifications new tools and techniques and the Disentanglement Guidelines/training could reduce safety risks.	No impacts to East Coast participants. Minor to moderate, adverse effects would be borne by West Coast participants due to modifications of current operations and training expenses.
Biomonitoring & Research Activities					
Alternative F1- No Action	Adverse effects on marine mammals as important health information would no longer be collected. No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds.	No effects on water and sediment quality.	No effects on cultural resources.	Beneficial effects would be expected as risks from research activities would end.	No effects on socioeconomics.
Alternative F2- Status Quo	<p>Minor, short-term adverse effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, birds, and marine mammals from spills of hazardous materials or wastes from vessels; a vessel accident; or leaks from equipment into sand or surrounding waters.</p> <p>Protected and sensitive habitats and SAV and macroalgae could be damaged by vessels/researchers. Sea turtles/birds and their nests could be disturbed/ damaged. Fish may be caught in nets or disturbed.</p> <p>Minor to major, short- and long-term, adverse effects on marine mammals from close approach, tagging, marking, restraint, handling, capture, transport, sampling, and other activities. Long-term beneficial effects from collection of health information.</p>	Minor, short-term, direct adverse effects could occur from spills of hazardous materials or wastes from release vessels; a vessel accident; or leaks from equipment into sand or surrounding waters.	Adverse effects would not likely occur. Potential effects on submerged cultural resources or resources buried in sand from equipment and vehicle use on beaches and vessel use in nearshore waters.	Minor, short-term, direct adverse effects on research personnel, including physical injuries, exposure to chemicals, and exposure to zoonotic diseases.	Minor to moderate, adverse effects could occur depending on the nature of biomonitoring and research activities and the ongoing personnel and research expenses.
Alternative F3 (Preferred)	Same effects as Alternative F2, with other adverse effects from new research activities.	Same effects as Alternative F2.	Same effects as Alternative F2.	Same effects as Alternative F2.	Minor to moderate, adverse effects could occur depending on the nature of new biomonitoring and research activities and the ongoing personnel and research expenses.

**DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT
FOR THE MARINE MAMMAL HEALTH AND STRANDING RESPONSE PROGRAM**

TABLE OF CONTENTS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45

EXECUTIVE SUMMARY ES-1

 ES.1 Proposed Actions ES-1

 ES.2 Purpose and Need ES-2

 ES.3 Alternatives ES-3

 ES.4 Environmental Impacts and Mitigation ES-4

1. PURPOSE AND NEED FOR THE PROPOSED ACTIONS 1-1

 1.1 Introduction 1-1

 1.2 Establishment and Overview of the MMHSRP 1-1

 1.2.1 Establishment of the MMHSRP 1-1

 1.2.2 Overview of the Current MMHSRP 1-3

 1.3 Purpose and Need for the Actions 1-5

 1.3.1 Purpose for the Actions 1-5

 1.3.2 Need for the Actions 1-8

 1.4 Region of Influence 1-12

 1.5 Public Involvement Process 1-13

 1.6 Agency Cooperation and Consultation 1-13

 1.7 Organization of the PEIS 1-14

2. ALTERNATIVES 2-1

 2.1 Introduction 2-1

 2.1.1 Stranding Agreements and Response Activities 2-1

 2.1.2 Carcass Disposal 2-4

 2.1.3 Rehabilitation Activities 2-6

 2.1.4 Release of Rehabilitated Animals 2-8

 2.1.5 Disentanglement Network 2-10

 2.1.6 Biomonitoring and Research 2-12

 2.2 Alternatives Considered but Eliminated from Further Analysis 2-13

 2.2.1 Stranding Response Alternatives 2-13

 2.2.2 Carcass Disposal Alternatives 2-14

 2.2.3 Rehabilitation Activities Alternatives 2-14

 2.2.4 Release of Rehabilitated Animals Alternatives 2-15

 2.2.5 Disentanglement Alternative 2-16

 2.2.6 Biomonitoring and Research Activities Alternatives 2-16

3. AFFECTED ENVIRONMENT 3-1

 3.1 Introduction 3-1

 3.2 Biological Resources 3-2

 3.2.1 Definition of the Resource 3-2

 3.2.2 Affected Environment 3-6

 3.3 Water and Sediment Quality 3-33

1	3.3.1	Definition of the Resource.....	3-33
2	3.3.2	Affected Environment.....	3-34
3	3.4	Cultural Resources.....	3-38
4	3.4.1	Definition of the Resource.....	3-38
5	3.4.2	Affected Environment.....	3-39
6	3.5	Human Health and Safety.....	3-41
7	3.5.1	Definition of the Resource.....	3-41
8	3.5.2	Affected Environment.....	3-41
9	3.6	Socioeconomics.....	3-46
10	3.6.1	Definition of the Resource.....	3-46
11	3.6.2	Affected Environment.....	3-46
12	4.	ENVIRONMENTAL CONSEQUENCES	4-1
13	4.1	Introduction.....	4-1
14	4.2	Biological Resources	4-3
15	4.2.1	Stranding Agreements and Response Alternatives	4-3
16	4.2.2	Carcass Disposal Alternatives	4-11
17	4.2.3	Rehabilitation Activities Alternatives.....	4-15
18	4.2.4	Release of Rehabilitated Animals Alternatives	4-19
19	4.2.5	Disentanglement Alternatives.....	4-23
20	4.2.6	Biomonitoring and Research Activities Alternatives	4-27
21	4.3	Water and Sediment Quality.....	4-37
22	4.3.1	Stranding Agreements and Response Alternatives	4-37
23	4.3.2	Carcass Disposal Alternatives	4-38
24	4.3.3	Rehabilitation Activities Alternatives.....	4-41
25	4.3.4	Release of Rehabilitated Animals Alternatives	4-42
26	4.3.5	Disentanglement Alternatives.....	4-43
27	4.3.6	Biomonitoring and Research Activities Alternatives	4-43
28	4.4	Cultural Resources.....	4-44
29	4.4.1	Stranding Agreements and Response Alternatives	4-44
30	4.4.2	Carcass Disposal Alternatives	4-45
31	4.4.3	Rehabilitation Activities Alternatives.....	4-46
32	4.4.4	Release of Rehabilitated Animals Alternatives	4-46
33	4.4.5	Disentanglement Alternatives.....	4-47
34	4.4.6	Biomonitoring and Research Activities Alternatives	4-47
35	4.5	Human Health and Safety.....	4-48
36	4.5.1	Stranding Agreements and Response Alternatives	4-48
37	4.5.2	Carcass Disposal Alternatives	4-50
38	4.5.3	Rehabilitation Activities Alternatives.....	4-52
39	4.5.4	Release of Rehabilitated Animals Alternatives	4-53
40	4.5.5	Disentanglement Alternatives.....	4-54
41	4.5.6	Biomonitoring and Research Activities Alternatives	4-55
42	4.6	Socioeconomics.....	4-56
43	4.6.1	Stranding Agreements and Response Alternatives	4-56
44	4.6.2	Carcass Disposal Alternatives	4-58
45	4.6.3	Rehabilitation Activities Alternatives.....	4-60
46	4.6.4	Release of Rehabilitated Animals Alternatives	4-61
47	4.6.5	Disentanglement Alternatives.....	4-62
48	4.6.6	Biomonitoring and Research Activities Alternatives	4-62
49	5.	MITIGATION	5-1

1	5.1	Introduction.....	5-1
2	5.2	Biological Resources	5-1
3	5.2.1	Stranding Agreements and Response Alternatives	5-1
4	5.2.2	Carcass Disposal Alternatives	5-3
5	5.2.3	Rehabilitation Activities Alternatives.....	5-4
6	5.2.4	Release of Rehabilitated Animals Alternatives	5-6
7	5.2.5	Disentanglement Alternatives.....	5-7
8	5.2.6	Biomonitoring and Research Alternatives	5-8
9	5.3	Water and Sediment Quality	5-14
10	5.3.1	Stranding Agreements and Response Alternatives	5-14
11	5.3.2	Carcass Disposal Alternatives	5-14
12	5.3.3	Rehabilitation Activities Alternatives.....	5-15
13	5.3.4	Release of Rehabilitated Animals Alternatives	5-15
14	5.3.5	Disentanglement Alternatives.....	5-15
15	5.3.6	Biomonitoring and Research Alternatives	5-15
16	5.4	Cultural Resources	5-16
17	5.4.1	Stranding Agreements and Response Alternatives	5-16
18	5.4.2	Carcass Disposal Alternatives	5-16
19	5.4.3	Rehabilitation Activities Alternatives.....	5-17
20	5.4.4	Release of Rehabilitated Animals Alternatives	5-17
21	5.4.5	Disentanglement Alternatives.....	5-17
22	5.4.6	Biomonitoring and Research Alternatives	5-17
23	5.5	Human Health and Safety	5-17
24	5.5.1	Stranding Agreements and Response Alternatives	5-17
25	5.5.2	Carcass Disposal Alternatives	5-18
26	5.5.3	Rehabilitation Activities Alternatives.....	5-19
27	5.5.4	Release of Rehabilitated Animals Alternatives	5-20
28	5.5.5	Disentanglement Alternatives.....	5-20
29	5.5.6	Biomonitoring and Research Alternatives	5-21
30	5.6	Socioeconomics	5-21
31	5.6.1	Stranding Agreements and Response Alternatives	5-21
32	5.6.2	Carcass Disposal Alternatives	5-22
33	5.6.3	Rehabilitation Activities Alternatives.....	5-22
34	5.6.4	Release of Rehabilitated Animals Alternatives	5-22
35	5.6.5	Disentanglement Alternatives.....	5-22
36	5.6.6	Biomonitoring and Research Alternatives	5-22
37	6.	CUMULATIVE AND OTHER IMPACTS.....	6-1
38	6.1	Resource Specific Cumulative Impact Analysis	6-1
39	6.1.1	Biological Resources	6-2
40	6.1.2	Water and Sediment Quality	6-3
41	6.1.3	Cultural Resources	6-3
42	6.1.4	Human Health and Safety	6-3
43	6.1.5	Socioeconomics	6-4
44	6.2	Unavoidable Adverse Impacts	6-5
45	6.3	Irreversible and Irretrievable Commitment of Resources.....	6-5
46	6.4	Relationship Between Short-term Uses and Long-term Productivity.....	6-5
47	7.	PREPARERS	7-1
48	8.	REFERENCES.....	8-1

1 **9. GLOSSARY 9-1**
2 **10. INDEX 10-1**

3

4

APPENDICES

5 A PEIS Distribution List
6 B Agency Coordination and Consultation (including NMFS Biological Opinion)
7 C Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and
8 Release
9 D Scoping Report
10 E Biological Resources Tables
11 F National Marine Mammal Stranding Network and Disentanglement Network Members
12 G NMFS Permit No. 932-1489-08
13 H General Descriptions of Research Methodologies Under the ESA/MMPA Permit
14 I Required Take Tables for the ESA/MMPA Permit Application
15 J Carcass Disposal Information
16 K Prescott Grant Program
17 L Marine Mammal Oil Spill Response Guidelines
18 M Socioeconomic Information Summary Tables

19

20

FIGURES

21 Figure 3-1. Nationwide Stranding Summary 3-14
22 Figure 3-2. Pinniped Strandings Nationwide 3-15
23 Figure 3-3. Cetacean Strandings Nationwide 3-16
24 Figure 3-4. Northeast Region Pinniped Strandings 2001-2004 3-19
25 Figure 3-5. Northeast Region Cetacean Strandings 2001-2004 3-19
26 Figure 3-6. Southeast Region Pinniped Strandings 2001-2004 3-22
27 Figure 3-7. Southeast Region Cetacean Strandings 2001-2004 3-22
28 Figure 3-8. Southwest Region Pinniped Strandings 2001-2004 3-24
29 Figure 3-9. Southwest Region Cetacean Strandings 2001-2004 3-25
30 Figure 3-10. Northwest Region Pinniped Strandings 2001-2004 3-27
31 Figure 3-11. Northwest Region Cetacean Strandings 2001-2004 3-27
32 Figure 3-12. Alaska Region Pinniped Strandings 2001-2004 3-30
33 Figure 3-13. Alaska Region Cetacean Strandings 2001-2004 3-30
34 Figure 3-14. Pacific Islands Region Pinniped Strandings 2001-2004 3-32
35 Figure 3-15. Pacific Islands Region Cetacean Strandings 2001-2004 3-33

36

37

TABLES

38 Table ES-1. Alternatives Considered in Detail ES-3
39 Table ES-2. Summary Matrix of Impacts ES-7
40 Table 4-1. Alternatives Considered in Detail 4-2
41 Table 4-2. Summary Matrix of Impacts 4-63
42 Table 6-1. Reasonably Foreseeable MMHSRP Actions 6-1

43

1 **1. Purpose and Need for the Proposed Actions**

2 **1.1 Introduction**

3 This draft Programmatic Environmental Impact Statement (PEIS) has been prepared pursuant to the
4 National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality's (CEQ)
5 Regulations for Implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and the
6 National Oceanic and Atmospheric Administration (NOAA) environmental review procedures
7 (NOAA Administrative Order [NAO] 216-6). It describes a reasonable range of alternatives and the
8 existing environmental conditions. The draft PEIS contains a detailed analysis of the environmental
9 consequences of the alternatives. This chapter describes the Marine Mammal Health and Stranding
10 Response Program (MMHSRP) and the underlying purpose and need for the proposed actions.

11 **1.2 Establishment and Overview of the MMHSRP**

12 **1.2.1 Establishment of the MMHSRP**

13 Public response to marine mammals in distress, particularly those that are on the beach or "stranded,"
14 has occurred in various forms for decades. Historically, private organizations were founded to
15 respond to stranded marine mammals. Many efforts were also conducted by museums to obtain
16 marine mammal specimens for their collections. Aquaria with marine mammals in captivity also
17 responded and provided veterinary care to stranded and injured marine mammals, particularly
18 cetaceans. Prior to the 1970s, response was extremely localized, relatively inconsistent, and occurred
19 with minimal Federal involvement. Communication between different groups responding to
20 strandings was minimal, and accounts of single strandings were not integrated into any sort of
21 meaningful analysis or overall picture that reflected animal stranding patterns or distributions.

22 With the passage of the Marine Mammal Protection Act (MMPA) in 1972, Congress gave jurisdiction
23 over marine mammals in U.S. waters to the Federal government. All cetaceans and all pinnipeds,
24 except walrus (*Odobenus rosmarus*), were placed under the jurisdiction of the Department of
25 Commerce and is now specifically housed in the National Marine Fisheries Service (NMFS), NOAA.
26 The Department of the Interior, U.S. Fish and Wildlife Service (USFWS) was given authority over
27 walrus, sea otters (*Enhydra lutris*), sirenians (manatees [*Trichechus spp.*] and dugongs [*Dugong*
28 *dugon*]), and polar bears (*Ursus maritimus*). The MMPA protected marine mammals from capture or
29 harassment, and NMFS implementing regulations prohibited the possession of parts from carcasses

1 except by those specifically authorized to do so. This was a significant driving force in the
2 development of a formal regional stranding network.

3 The U.S. Marine Mammal Commission (MMC) sponsored a workshop in 1977 which brought
4 scientists together to discuss marine mammal strandings. One recommendation from that workshop
5 was to establish a framework for a national marine mammal stranding network with regional centers
6 and a centralized data file, coordinated by NMFS. The network was formally established, and was
7 organized, as independent volunteer organizations coordinated through each of the NMFS
8 jurisdictional regions.

9 Throughout the 1980s, the stranding network continued to grow across the U.S. and worldwide.
10 Information, mostly from stranded animals, began to accumulate on marine mammal mortalities
11 caused by human interactions, such as fisheries, and marine mammal mass mortality events. In the
12 late 1980s, a number of mass mortality events occurred in the U.S. and abroad, gaining significant
13 public attention. A mass die-off of humpback whales (*Megaptera novaeangliae*) in the Northeast U.S.
14 was linked to saxitoxin, resulting from a harmful algal bloom (HAB). Hundreds of bottlenose
15 dolphins (*Tursiops truncatus*) stranded dead in the Southeast U.S. due to *Morbillivirus* infection. The
16 investigation into these events encountered significant difficulties due to the lack of baseline data on
17 marine mammal health and NMFS and Congressional efforts began to formalize the health and
18 stranding program. Mounting evidence from these strandings and others showed high levels of
19 anthropogenic contaminants, such as persistent organic pollutants (POPs), raising concerns about the
20 overall health of marine mammal populations. Interest in marine mammal health and strandings
21 continued to increase as the public raised concerns about deteriorating ocean conditions. Based on
22 these growing concerns Congress passed the Marine Mammal Health and Stranding Response Act
23 (MMHSRA) in 1992.

24 Under the MMHSRA, the MMHSRP was formalized with the passage of Title IV, an amendment to
25 the MMPA. This Act charged the Secretary of Commerce to develop a marine mammal health and
26 stranding response program with three goals:

- 27 1. Facilitate the collection and dissemination of reference data on the health of marine mammals
28 and health trends of marine mammal populations in the wild;
- 29 2. Correlate the health of marine mammals and marine mammal populations, in the wild, with
30 available data on physical, chemical, and biological environmental parameters; and

1 3. Coordinate effective responses to unusual mortality events (UMEs) by establishing a process
2 in the Department of Commerce in accordance with Section 404 of the MMPA.

3 In this legislation, there is specific language relative to stranding networks. First, a stranding was
4 defined as “an event in the wild in which (A) a marine mammal is dead and is (i) on a beach or shore
5 of the United States; or (ii) in waters under the jurisdiction of the United States (including any
6 navigable waters); or (B) a marine mammal is alive and is (i) on a beach or shore of the United States
7 and is unable to return to the water; (ii) on a beach or shore of the United States and, although able to
8 return to the water, is in need of apparent medical attention; or (iii) in the waters under the jurisdiction
9 of the United States (including any navigable waters), but is unable to return to its natural habitat
10 under its own power or without assistance” (16 United States Code [U.S.C.] 1421h). Secondly, the
11 Department of Commerce is authorized by Section 112(c) of the MMPA to enter into agreements
12 with individuals or groups to “take” marine mammals in response to a stranding event. “Take” means
13 to “harass, hunt, capture, or kill or to attempt to harass, hunt, capture, or kill any marine mammal” (16
14 U.S.C. 1362). Title IV also mandated the implementation of several other programs under the
15 umbrella of the MMHSRP. These programs are described below.

16 **1.2.2 Overview of the Current MMHSRP**

17 Since the passage of Title IV, the MMHSRP has grown significantly. The current MMHSRP
18 includes the following components:

- 19 • National Marine Mammal Stranding Network
- 20 • Marine Mammal UME Program
- 21 • National Marine Mammal Tissue Bank (NMMTB) and Quality Assurance Program
- 22 • Marine Mammal Health Biomonitoring, Research, and Development
- 23 • Marine Mammal Disentanglement Network
- 24 • John H. Prescott Marine Mammal Rescue Assistance Grant Program (a.k.a. the Prescott
25 Grant Program)
- 26 • Information Management and Dissemination.

27 The National Marine Mammal Stranding Network consists of organizations nationwide who respond
28 to stranded or entangled pinnipeds (except walrus) and all cetaceans within U.S. waters. These
29 organizations are authorized to respond under the MMPA, utilizing the authority of either Section
30 112(c) or Section 109(h). Organizations operating under 112(c) authority have entered into formal

1 agreements with NMFS for stranding response. These agreements are known as Stranding
2 Agreements (SAs), previously termed Letters of Agreement (LOAs). Organizations with SAs include
3 non-profits, for-profits, institutions of higher education, museums, governmental agencies, and
4 individuals. Section 109(h) of the MMPA allows Federal, state, and local government employees in
5 the line of duty to take a stranded marine mammal in a humane manner (including euthanasia) if such
6 taking is for: the protection or welfare of the mammal; the protection of public health and welfare; or
7 the nonlethal removal of nuisance animals. Appendix F lists the current (2007) members of the
8 NMFS National Stranding Network. The National Stranding Database was mandated under the
9 MMPA (16 U.S.C. 1421f) to contain marine mammal health reference data and data on species that
10 are subject to UMEs. The establishment of a data access policy was also mandated, to allow access to
11 marine mammal tissues in the NMMTB, any analyses conducted on these tissues, and other marine
12 mammal data in the database. Standardized datasheets to record stranding information have been
13 developed and are revised periodically.

14 The Working Group on Marine Mammal Unusual Mortality Events (WGMMUME), mandated under
15 the MMPA (16 U.S.C. 1421c), is a multidisciplinary panel of experts organized by NMFS to assist in
16 determining criteria for UMEs. A UME is defined in the MMPA as “a stranding that is unexpected;
17 involves a significant die-off of any marine mammal population; and demands immediate response.”
18 The WGMMUME coordinates emergency responses and investigations into causes of mortality and
19 morbidity. The Group also evaluates the environmental factors associated with UMEs, provides
20 training and resources (when possible), and oversees the Marine Mammal UME Fund.

21 The development of the NMMTB at the National Institute of Standards and Technology was
22 mandated by the MMPA (16 U.S.C. 1421f) and initiated by NMFS. Sources of tissues include:
23 samples from UMEs; samples from marine mammals taken incidental to commercial fishing
24 operations; samples from marine mammals taken for subsistence purposes; biopsy samples; and any
25 other samples properly and legally collected. The MMHSRP was mandated to issue guidance “for
26 analyzing tissue samples (by use of the most effective and advanced diagnostic technologies and tools
27 practicable) as a means to monitor and measure overall health trends in representative species or
28 populations of marine mammals...” (16 U.S.C. 1421f). The NMMTB provides a long-term archive
29 for marine mammal tissue samples, so that future retrospective analyses can be conducted. The
30 MMHSRP also coordinates and conducts field assessments of wild populations of marine mammals,
31 particularly in areas where there is a health question or concern, such as a previous mass stranding,
32 UME, die-off, or outbreak.

1 Analogous to the stranding network, response to entangled marine mammals was conducted at a local
2 level on an ad hoc basis for several decades. NMFS Headquarters and the NMFS Northeast Region
3 began the formalization of the Marine Mammal Disentanglement Network in 1997, when a contract
4 was issued to the Provincetown (Massachusetts) Center for Coastal Studies (PCCS) to respond to
5 entangled large whales along the East Coast. The Disentanglement Network is a partnership between
6 NMFS, PCCS, the U.S. Coast Guard (USCG), state agencies, and other entities. The
7 Disentanglement Network is responsible for monitoring and documenting whales that have become
8 entangled in fishing gear, as well as conducting rescue operations. PCCS has established protocols
9 for all aspects of response, including animal care and assessment; vessel and aircraft support; and
10 media and public information. PCCS has also developed response equipment and currently trains
11 other members of the stranding and disentanglement networks. Today, over 500 civilian and
12 governmental volunteers have received training as first responders for entangled whales. Appendix F
13 lists the current members of the Disentanglement Network.

14 The Prescott Grant Program was established under the Marine Mammal Rescue Assistance Act of
15 2000. NMFS was authorized to disburse \$4.0 million to eligible members of the National Stranding
16 Network for: the recovery or treatment of marine mammals; the collection of data from living or dead
17 stranded marine mammals for scientific marine mammal health research; and facility operation costs.
18 Since 2001, 187 awards totaling over \$16.5 million have been disbursed to stranding network
19 members. Projects funded by the Prescott Grant Program have resulted in an increase in stranding
20 response, data collection, and scientific analyses.

21 **1.3 Purpose and Need for the Actions**

22 **1.3.1 Purpose for the Actions**

23 The purposes of the proposed actions are to respond to marine mammals in distress, including those
24 stranded, entangled, and out of habitat, and to answer research and management questions about
25 marine mammal health. Stranded and distressed marine mammal response is conducted for many
26 reasons, including NMFS' legislative mandate and the need to obtain data for management and
27 scientific purposes. Marine mammals are also sentinels of ecosystem health and may provide
28 valuable links to human health. Response to marine mammals is also conducted out of a concern for
29 animal welfare and ocean stewardship. Each of these reasons will be discussed below.

30 NMFS is mandated under Title IV of the MMPA with collecting, disseminating, and investigating
31 correlates of data on marine mammal health and investigating UMEs. Due to the scope and nature of

1 marine mammal strandings in U.S. waters, NMFS has delegated responsibility for stranding response
2 to local persons, organizations, and institutions through MMPA 112(c) agreements. These groups are
3 required to share basic information from the response with NMFS to fulfill the statutory mandates.
4 Basic information, such as location, animal disposition, and morphological data, is collected on a
5 Level A datasheet. NMFS also conducts many research projects to assess marine mammal health on
6 wild free-ranging animals, including remote sampling (biopsy, breath, etc.) and captures. These
7 research projects allow the MMHSRP to utilize controlled experimental designs (*i.e.*, number of
8 samples, age classes, sex, location) and collect samples from off-shore species that are rarely reported
9 stranded on beaches.

10 NMFS has an interest in collecting data from stranded and wild animals to monitor marine mammal
11 population status and health. Data from stranding events and health-related research projects are
12 utilized in marine mammal stock assessment reports. Reports of interactions between fisheries and
13 marine mammals, particularly if the interaction may have played a role in the mortality of the marine
14 mammal, are also very important data for fishery management.

15 Information obtained from stranded, sampled, and captured marine mammals is also important in
16 expanding a basic biological understanding of many species. Geographic locality of strandings and
17 rates of occurrence can reflect species distribution and abundance; seasonal patterns may also be
18 interpreted. For some species that are cryptic and difficult to observe at sea (*e.g.*, *Kogia sp.*),
19 population distribution information from surveys may be incomplete or underestimated. Records of
20 stranded animals may help fill in some of the gaps. By placing tracking devices on rehabilitated and
21 captured marine mammals, movement and diving behavior can also be studied in species that have
22 never otherwise been tagged, in addition to assessing the fate of the released animal. Recently
23 rehabilitated and tracked rare marine mammal species include Risso's dolphins (*Grampus griseus*)
24 and rough-toothed dolphins (*Steno bredanensis*).

25 Samples collected from stranded marine mammals are used in a variety of scientific research projects.
26 Life history studies utilizing tissues from stranded marine mammals can determine age (growth layer
27 groups in teeth or bones), sexual maturity (dissection of ova or testes), and reproductive history (scars
28 in the ovaries of females documenting ovulation and pregnancy). Other studies can determine food
29 habits (through prey remains in stomachs and digestive tracts) and the relationship between traits and
30 other variables (age at sexual maturity, length at sexual maturity, differences in food habits with
31 geographic range, etc.). Field studies investigating similar attributes may require years or decades of
32 dedicated survey or remote sensing efforts, and can only be performed on certain populations of

1 individually identifiable marine mammal species. Scientific studies of stranded marine mammals
2 have improved the understanding of genetic diversity and relatedness, contaminants and toxins in
3 marine mammals, marine mammal diseases, and parasites. Most of the samples used in these studies
4 are impossible to collect from free-ranging marine mammals, particularly offshore species which can
5 be logistically difficult to locate and study. However, the MMHSRP is involved in several health
6 research projects, and samples collected remotely via biopsies and other methods, or collected via
7 health assessment captures may provide basic information about populations including genetic
8 identification of individuals or stocks, feeding behavior, disease prevalence, toxicological
9 information, and general population health.

10 Marine mammals are sentinels of ocean health. As top predators in the ocean ecosystem, marine
11 mammals reflect their prey and their environment. Many environmental contaminants and biotoxins
12 accumulate upwards in the food web, and can be detected at high levels in predators. Changes in the
13 temporal and geographic distribution in pathogens, prey, and toxins may be detected in stranded
14 marine mammals. These differences reflect changes in the severity, transport, concentration, and
15 dispersion of these elements in the environment, creating a picture of environmental variability and
16 change over space and time.

17 The health of marine mammals has also been linked to human health, both directly and as models.
18 By examining strandings, threats that are shared by humans who utilize the marine ecosystem may be
19 investigated. Marine mammals serve as models to examine the effects of biotoxins and disease on a
20 mammalian system. Directly, many of the diseases that marine mammals have are considered
21 “zoonotic,” which means that they have the potential to spread between animals and humans. Some
22 zoonotic diseases that have been detected in marine mammals include brucellosis, leptospirosis, *West*
23 *Nile virus*, *Erysipelothrix rhusiopathiae*, rabies, *Herpes virus*, and *Morbillivirus*. Marine mammals
24 can directly serve as warning signals that these disease organisms are present in the marine
25 environment, even if they have not been detected in other sampling or monitoring programs. Marine
26 mammals also have a direct link with human health in those areas and cultures in which consumptive
27 uses (*i.e.* harvest and eating) of marine mammals are practiced. In the U.S., this occurs primarily in
28 Alaska Native communities.

29 A final rationale for stranding response is out of a greater concern for the ocean or the environment in
30 general. Humans perceive themselves as caretakers of ocean resources, including marine mammals.
31 There is a desire to responsibly manage these resources for the use and enjoyment of current and

1 future generations. Those involved in stranding response derive a sense of accomplishment from
2 helping marine mammals return to the wild, either immediately or after rehabilitation.

3 **1.3.2 Need for the Actions**

4 NMFS is charged with the national oversight and collaboration of the MMHSRP, and creating
5 policies that will work for the majority of participants. The MMHSRP has identified several needs
6 for effectively carrying out the mandates of Title IV:

- 7 1. Operational efficiency - To operate the MMHSRP effectively and efficiently, maximizing the
8 benefits from opportunistic events while making the best use of limited resources;
- 9 2. Quality data - To collect data on marine mammal health and health trends in an organized and
10 consistent manner to meet current and future information needs for appropriate conservation
11 and management; and
- 12 3. Safety –To implement policies to ensure that MMHSRP activities are conducted humanely
13 and in a manner that protects the safety of volunteers and the public to the maximum extent
14 possible.

15 To meet the purpose and need, the MMHSRP developed the following four proposed actions:

- 16 1. Issuance of the Policies and Best Practices for Marine Mammal Stranding Response,
17 Rehabilitation, and Release (a.k.a. Policies and Best Practices) as final guidance.
- 18 2. Issuance of a new Endangered Species Act (ESA)/MMPA permit to the MMHSRP. The new
19 permit would include current and future response activities for endangered species,
20 disentanglement activities, biomonitoring projects, and import and export of marine mammal
21 tissue samples.
- 22 3. Continuation of current MMHSRP operations, including response, rehabilitation, release, and
23 research activities, with renewal and authorization of SAs and Scientific Research
24 Authorizations and other NMFS activities referenced in Section 1.3.1.
- 25 4. Continuation of the Prescott Grant Program.

26 **1.3.2.1 Policies and Best Practices Manual**

27 The Policies and Best Practices manual is a collection of protocols and guidance for stranding
28 response, rehabilitation, and release activities. These documents, developed by NMFS (and USFWS
29 for release activities), would be used to standardize practices of the National Stranding Network
30 members, while allowing for regional flexibility. The manual is currently released as an interim draft

1 and would be issued as final guidance after the NEPA analysis has been completed. Future
2 development of these protocols and guidance may involve the issuance of regulations and subsequent
3 NEPA analyses, but none are currently proposed. The five draft documents included in the manual
4 are the:

- 5 • Evaluation Criteria for a Marine Mammal SA (New Applicants and Renewals)
- 6 • National Template for Marine Mammal SAs
- 7 • Standards for Marine Mammal Rehabilitation Facilities (a.k.a. Rehabilitation Facility
8 Standards)
- 9 • Standards for the Release of Rehabilitated Marine Mammals (a.k.a. release criteria)
- 10 • Marine Mammal Disentanglement Guidelines

11 These documents are summarized in Section 2 and their full text is located in Appendix C.

12 **1.3.2.2 ESA/MMPA Permit**

13 The NMFS Office of Protected Resources, Permits, Conservation and Education Division (PR1)
14 issues the ESA/MMPA permit to authorize takes of marine mammals, including threatened and
15 endangered species. The permit covers some of the MMHSRP's activities including emergency
16 response activities for threatened and endangered species, health assessment studies, and other
17 research projects.

18 The current permit, NMFS Permit No. 932-1489-08 (Appendix G), which expires June 30, 2007,
19 allows the MMHSRP Coordinator to:

- 20 • Collect, preserve, label, and transport all species of the Orders Cetacea and Pinnipedia
21 (except walrus), for tissue and fluid samples for physical, chemical, or biological analyses,
22 import, and export;
- 23 • Take stranded or distressed marine mammals, including threatened or endangered species;
- 24 • Salvage specimens from dead marine mammals, including threatened or endangered species;
- 25 • Conduct aerial surveys to locate imperiled marine mammals or survey the extent of disease
26 outbreaks or die-offs;
- 27 • Harass marine mammals on land incidental to other MMHSRP activities authorized by the
28 permit; and
- 29 • Develop and maintain cell lines from species under NMFS jurisdiction.

1 Takes of live marine mammals include those that are stranded, entangled, disentangled, trapped out of
2 habitat, extra-limital, in peril (*e.g.*, in vicinity of an oil spill), or are a nuisance. The permit does not
3 authorize takes of USFWS species, but fluid and tissue samples of USFWS species may be received if
4 they were collected legally. Sources of legally obtained samples for research activities are listed in
5 Appendix G.

6 As the Principal Investigator (PI), the MMHSRP Coordinator may add Co-Investigators (CIs) to
7 conduct research and enhancement activities under this permit at their discretion. Addition of CIs
8 typically occurs following a review of the proposed activities (including protocols and statistical
9 analyses) and curriculum vitae of the investigator. Under the current ESA/MMPA permit, animals
10 may be taken during close approach, capture, tagging, marking, biopsy sampling, collection of
11 sloughed skin and feces, breath sampling, blood sampling, administration of drugs, euthanasia, video
12 recording, and incidental harassment. General descriptions of these research methodologies are in
13 Appendix H. Live threatened and endangered species may be taken during emergency response.
14 This includes returning the animal back to the wild; treating a distressed condition; disentangling an
15 animal on the beach or at sea; transporting the animal for return to the wild or a
16 treatment/rehabilitation facility; or humanely euthanizing the animal.

17 For import and export of marine mammal specimens, the MMHSRP may be required to have import
18 and export permits, if the species is listed on the Convention on International Trade in Endangered
19 Species of Wild Fauna and Flora (CITES) Appendix I or II. The CITES permits are issued by the
20 USFWS and are required to import and export samples, parts, carcasses, or live animal species (for
21 treatment or release) listed on CITES Appendix I. Species listed on CITES Appendix II only require
22 an export permit, unless the importing country has stricter measures than CITES.

23 Under the preferred alternative (Section 2.1.6.2), the new permit would be issued on or before July 1,
24 2007 and activities would be authorized for five years (the length allowed for a permit). Takes of live
25 marine mammals would also include animals that are: exhibiting abnormal behavior; injured or
26 diseased; in need of medical treatment; a potential to cause harm or a health risk to a wild population
27 or to human health; released from public display, rehabilitation facilities, research facilities, or
28 capture/release projects. Live marine mammals may also be taken from rehabilitation facilities if they
29 are neglected, abused, or have other humane issues. Samples legally obtained for research activities
30 would be expanded to include samples from: live animals during surveillance; imported samples;
31 confiscated animals (*e.g.* as part of enforcement action); or animals legally taken in other permitted
32 research activities in the U.S. or abroad. New activities that would be listed under the new permit

1 include, but would not be limited to passive acoustic recording, active acoustic playbacks, and
2 vaccinations (including clinical trials and use in wild populations). General descriptions of these
3 research methodologies are in Appendix H.

4 **1.3.2.3 MMHSRP Operations**

5 The day-to-day operations of the MMHSRP include coordination and oversight of the National
6 Marine Mammal Stranding Network and the Disentanglement Network. The MMHSRP authorizes
7 response and rehabilitation activities through SAs, issued under Section 112(c) of the MMPA. SA
8 authorizations have been delegated to the NMFS Regional Administrators. Issuance and periodic
9 review of these SAs is undertaken by the MMHSRP through the Regional Stranding Coordinators,
10 located in each NMFS jurisdictional region. Through SAs, NMFS authorizes persons, organizations,
11 or institutions to respond to reports of marine mammals that are stranded or in distress. Stranding
12 data are collected and maintained in the National Database. The MMHSRP also coordinates UME
13 investigations with the WGMMUME. The MMHSRP reviews the evaluation and decision to release
14 rehabilitated animals. If rehabilitated animals are deemed non-releasable, the MMHSRP will oversee
15 the transfer of these animals to public display or scientific research facilities.

16 The MMHSRP authorizes marine mammal disentanglement efforts under its ESA/MMPA permit (see
17 Section 2.1.5). The MMHSRP also funds some of the disentanglement activities through contracts.
18 The ESA/MMPA permit also authorizes stranding response to ESA-listed marine mammal species
19 and a variety of marine mammal research projects (see Section 2.1.6 and Appendix H). The
20 MMHSRP issues Authorization Letters to qualified researchers to allow the use of stranded marine
21 mammal parts in scientific research projects. The MMHSRP oversees the collection and maintenance
22 of marine mammal tissue samples in the NMMTB. The MMHSRP also issues grants and cooperative
23 agreements through the Prescott Grant Program to stranding network participants and researchers
24 utilizing samples from stranded marine mammals. All activities conducted utilizing federal funds are
25 under the authority of the SA or Authorization Letter.

26 **1.3.2.4 Prescott Grant Program**

27 The MMHSRP partially funds some of the activities of the National Marine Mammal Stranding
28 Network through the competitive Prescott Grant Program, which disburses up to \$4 million per year
29 to stranding network members and researchers. Some of this grant money is used to fund response
30 and rehabilitation activities (transportation, equipment, supplies, and salary) and research activities
31 utilizing samples or data from stranded marine mammals. These activities are authorized either by

1 the recipient's SA, Regional Authorization letter to possess marine mammal parts from stranded
2 animals, or separately issued ESA/MMPA scientific research permit.

3 The awarding of competitive grants is a multi-step process which addresses compliance with NEPA
4 and other applicable laws and regulations several times. A complete application must contain enough
5 information on the potential environmental impacts of the project for NOAA to make a NEPA
6 compliance determination. These applications are evaluated through peer-review and internal NMFS
7 merit review panels, who take into consideration the environmental information that was provided.
8 After the funding decision has been made regarding which projects have been selected, the Prescott
9 program will assess the activities contained within each proposal to ensure that they have been
10 addressed in this PEIS. These activities may include stranding response, rehabilitation, release, and
11 scientific research activities that are authorized under the MMHSRP's MMPA/ESA permit. If the
12 project falls entirely within the scope of the PEIS, no further environmental review will be conducted.
13 If projects are selected for funding that include activities that are not assessed in this document (*e.g.*,
14 facility construction or renovation), a separate environmental analysis will be prepared for that award.
15 In addition, each award may have Special Award Conditions imposed upon it with respect to
16 environmental compliance, if necessary.

17 A list of all projects previously funded by Prescott Grant funds, with recipient and title, is given in
18 Appendix K. This grant program is subject to annual Congressional appropriation, which may be
19 reduced or eliminated in any fiscal year, and recipients should consider Prescott grant funds as
20 supplemental to their operating budgets.

21 **1.4 Region of Influence**

22 The Region of Influence (ROI) for the alternatives includes all areas where MMHSRP activities may
23 occur. The ROI is geographically defined as the coastal zone and marine waters of the U.S.,
24 including the Exclusive Economic Zone (EEZ). The coastal zone includes coastal waters, adjacent
25 shorelands, intertidal areas, salt marshes, wetlands, and beaches. The ROI also includes the marine
26 mammal rehabilitation facilities of the stranding network (described in Section 2.1.3). In Section
27 3.2, Biological Resources, the discussion on marine mammals has been divided according to the six
28 NMFS regions. This has been done to address the differences in marine mammal species and
29 strandings within each region. The states and territories included in the NMFS Northeast, Southeast,
30 Southwest, Northwest, Alaska, and Pacific Islands regions are listed in Table 1-1.

1

Table 1-1. Description of NMFS Regions

NMFS Regions	States/Territories
Northeast	ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, VA
Southeast	NC, SC, GA, FL, AL, MS, LA, TX, PR, VI
Southwest	CA
Northwest	OR, WA
Alaska	AK
Pacific Islands	HI, Guam, American Samoa, Commonwealth of the Northern Mariana Islands (CNMI)

2

3 **1.5 Public Involvement Process**

4 NMFS is required by NEPA to provide the public an opportunity to comment on the PEIS. The
5 Notice of Intent (NOI) was published in the Federal Register (FR) on December 28, 2005 (70 FR
6 76777-76780). The NOI announced NMFS' decision to prepare a PEIS and conduct public scoping
7 meetings. Scoping meetings were held in January and February of 2006 in each NMFS region.
8 Comments on the scope of the PEIS and the Policies and Best Practices were received. The scoping
9 process and public comments received can be found in the Scoping Report (Appendix D).

10 NMFS will make the Draft PEIS available to the public for a 45-day comment period, after the Notice
11 of Availability (NOA) is published in the FR. NMFS will consider any comments submitted by
12 agencies, organizations, or members of the public on the Draft PEIS. Copies of the Dear Reviewer
13 letter and distribution list are located in Appendix A.

14 The Final PEIS will include the comments received on the Draft PEIS and NMFS responses to them.
15 An NOA for the Final PEIS will be published in the FR. The public may comment on the document
16 for 30 days after the NOA is published. After that time, a Record of Decision (ROD) will be
17 prepared, detailing NMFS' decision regarding the MMHSRP and the alternatives.

18 **1.6 Agency Cooperation and Consultation**

19 NMFS invited the MMC, USFWS, U.S. Geological Survey (USGS), and the U.S. Department of
20 Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) to be cooperating
21 agencies in the PEIS process. APHIS is a cooperating agency for this PEIS. The USFWS and USGS
22 declined to be cooperating agencies and the MMC did not respond. Cooperating agency
23 responsibilities are outlined in 40 CFR 1501.6. At a minimum, a cooperating agency would provide
24 reviews of preliminary documents. Cooperating agency correspondence is included in Appendix B.

1 Section 7 of the ESA requires that all Federal agencies consult with NMFS or USFWS, as applicable,
2 before initiating any action that may affect a listed species. The MMSHRP initiated consultation with
3 the NMFS Office of Protected Resources, Endangered Species Division and the USFWS.
4 Consultation with NMFS is also required if a proposed action permitted, funded, or undertaken by a
5 Federal agency could adversely affect Essential Fish Habitat (EFH). The MMHSRP has consulted
6 with the NMFS Office of Habitat Conservation regarding EFH. Correspondence regarding ESA and
7 EFH consultations is included in Appendix B.

8 The Coastal Zone Management Act requires Federal agency activities to be consistent, to the
9 maximum extent practicable, with states' federally approved coastal management programs. NMFS
10 has determined that the alternatives are consistent with the coastal management programs in the
11 affected area. NMFS sent consistency determinations to the appropriate state coastal program
12 administrators regarding its conclusion. NMFS is currently waiting for responses from each program.
13 Correspondence regarding coastal zone management consultation is included in Appendix B.

14 As stated previously, this PEIS will serve as the NEPA analyses for the MMHSRP's ESA/MMPA
15 permit application. The permit application has been submitted to NMFS PR1 for review. NMFS PR1
16 will distribute the application to other NMFS scientists, the MMC, NMFS Office of Law
17 Enforcement, and other appropriate Federal agencies. NMFS PR1 will also publish a Notice of
18 Receipt in the FR, which initiates a mandatory 30-day public comment period. NMFS PR1 will
19 address any comments received on the application. NMFS PR1 will also comment on the PEIS to
20 address any concerns relating to permit activities. Before issuance of the permit, NMFS PR1 will
21 formally accept the Final PEIS as the NEPA analysis for the permit application. A Notice of Issuance
22 of the permit will then be published in the FR.

23 **1.7 Organization of the PEIS**

24 The principal sections of this PEIS are as follows:

25 **Section 1:** Purpose of and Need for the Proposed Actions. This section briefly discusses the
26 MMHSRP, describes the proposed actions, defines the project scope, explains the public involvement
27 process, and identifies the organization of the document.

28 **Section 2:** Alternatives. This section describes the alternatives and alternatives considered but
29 eliminated from further consideration.

1 **Section 3:** Affected Environment. This section describes the existing environmental conditions of
2 select resources in the area in which the alternatives would occur.

3 **Section 4:** Environmental Consequences. Using information from Section 3, this section identifies
4 the potential environmental impacts on each resource area under the alternatives. Direct and indirect
5 impacts that may result from the alternatives are identified on a broad scale as is appropriate for a
6 PEIS.

7 **Section 5:** Mitigation. This section identifies mitigation measures developed to address the potential
8 environmental impacts identified in Section 4.

9 **Section 6:** Cumulative and Other Impacts. This section discusses the potential cumulative impacts
10 that could result from the impacts of the alternatives, combined with past, other present and
11 reasonably foreseeable future actions. Unavoidable impacts, irreversible and irretrievable
12 commitment of resources, and the relationship between short-term uses and long-term productivity
13 are also discussed.

14 **Sections 7 and 8:** These sections provide a list of this document's preparers and references.

15 **Sections 9 and 10:** These sections provide a glossary and index.

16 **Appendices:** This PEIS includes 13 appendices that provide additional information.

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2. Alternatives

2.1 Introduction

This section discusses the alternatives to implement the proposed actions. The alternatives are grouped into the following six topics: SAs and response; carcass disposal; rehabilitation activities; release activities; disentanglement; and biomonitoring and research activities. Activities and Policies and Best Practices documents are described under each issue, where appropriate, to clarify the actions taken under each alternative. A No Action Alternative, Status Quo Alternative, and Preferred Alternative are designated under each issue.

The No Action Alternative for each issue is based upon NMFS not undertaking the coordination and operation of the MMHSRP. Current SAs would not be renewed and new SAs would not be issued. The Policies and Best Practices manual and the ESA/MMPA permit would not be issued. The stranding and disentanglement networks would continue their current activities. As current SAs expired, the current National Stranding Network would cease to exist. Once the current ESA/MMPA permit expires on June 30, 2007, the current disentanglement network would no longer function.

2.1.1 Stranding Agreements and Response Activities

2.1.1.1 Response Activities

Response activities analyzed in this PEIS are only those that are conducted by groups operating under the authority of a SA, MMPA 109(h) (state and local governments), or another legal means. Response to a live stranded marine mammal may include beach assessment, capture, relocation, transport to a rehabilitation facility, euthanasia, and/or release back to the wild. Response to a dead stranded marine mammal may include beach assessment, collection of the carcass, field or laboratory necropsy, carcass disposal, and/or retention of parts and specimens. This may include the use of heavy machinery on or close to the beach in order to retrieve or move animals. Response may also include the administration of chemical agents (sedatives, antibiotics, euthanasia solution) or other veterinary intervention on the beach. While conducting a beach response, the stranding network member may cordon off or close areas of the beach to public access.

Hazing of marine mammals may occur if an animal is in the vicinity of an oil or hazardous material spill, HABs, or sonar. Animals may also be hazed to deter a potential mass stranding. For all marine mammals, including threatened and endangered species, hazing is authorized under the MMHSRP's ESA/MMPA permit. Hazing methods include, but are not limited to, the use of acoustic and visual

1 deterrents, vessels, exclusion devices, and capture and relocation. Active and passive acoustic
2 deterrents may be used to deter cetaceans. Pingers, which are typically used in the commercial
3 fishing industry, produce high-frequency pulses of sound to deter animals. Passive deterrents include
4 devices that provide a reflection of echolocation signals. Pinniped acoustic deterrents include bells,
5 firecrackers, or starter pistols. Visual deterrents for pinnipeds include flags, streamers, and flashing
6 lights. Vessels can be used to herd animals back out to open water or away from a hazardous
7 situation. Exclusion devices for pinnipeds may include nets or fencing.

8 **2.1.1.2 Stranding Agreement Template and Criteria**

9 While NMFS has issued SAs for many years, they have been in a variety of formats with a large
10 amount of variability between regions. They have also differed significantly in the level of detail
11 regarding the authorized activities of the agreement holder. The National Template for Marine
12 Mammal SAs (see Appendix C) was developed to standardize the SA nationwide, while maintaining
13 flexibility in certain areas to address differences in the NMFS regions. All sections that are in black
14 are proposed to be implemented nationwide; the shaded sections are flexible and may be implemented
15 on a region-by-region basis. The Template codifies the rights and responsibilities of both NMFS and
16 the Stranding Network Participant. Different sections apply to different roles of stranding responders,
17 and may be used independently or in conjunction with each other. For instance, a network member
18 that only conducted dead animal response and necropsy activities would have Article III in their
19 Stranding Agreement but not Article IV, V or VI, whereas a network member that responded to live
20 and dead animals, and transported and rehabilitated live animals would have all Articles but VI,
21 which corresponds to Designee organizations. One of the main differences between this template and
22 previous versions utilized is Article IX, Section B, which sets out a procedure for probation,
23 suspension and eventual termination following repeated violations of the terms and conditions of the
24 SA.

25 The Evaluation Criteria for a Marine Mammal Stranding Program Agreement (a.k.a. SA criteria) are
26 criteria for new and renewal SA applicants (see Appendix C). The qualifications were designed to
27 standardize SAs across the U.S., but allow for regional flexibility when necessary. Qualifications are
28 listed for response to dead stranded marine mammals/first response; response, triage, and transport of
29 live stranded marine mammals; and rehabilitation and release of live stranded marine mammals.

1 **2.1.1.3 Stranding Agreement and Response Alternatives**

2 The following alternatives address the stranding response activities of the stranding network and the
3 SA criteria in the Policies and Best Practices manual.

4 **Alternative A1.** No Action Alternative- SAs are not issued or renewed. No stranding
5 response activities.

6 Under Alternative A1, NMFS would not issue new SAs or renew current SAs. The SAs would expire
7 and authorized stranding response activities would end. The current stranding network would cease
8 to exist. Federal (not including NMFS), state, and local agencies authorized under MMPA 109(h)
9 would still be able to conduct emergency response to non-ESA listed species, and ESA-listed species
10 under regulations at 50 CFR 17.21(c)(3) and 17.31(a), where applicable. However, response
11 activities would likely be limited and localized, and would consist mostly of carcass disposal for the
12 protection of public health and safety.

13 **Alternative A2.** Status Quo Alternative- Current SAs are renewed and current stranding
14 response activities continue. Final SA criteria are not issued.

15 Under Alternative A2, NMFS would renew the current SAs but would not issue new SAs. Current
16 stranding response activities would continue but new activities would not be included. New SA
17 holders could not be added to the network and other changes to the network would not occur. The
18 final SA criteria would not be issued. SAs would continue to be issued regionally with national
19 programmatic oversight. Standardization would not occur or proceed slowly with resultant
20 inefficiencies which may impact accomplishment of agency mandates.

21 **Alternative A3.** SAs are issued to any applicants after review. Final SA criteria are not
22 issued. SAs include current and future stranding response activities.

23 Under Alternative A3, NMFS would issue SAs to any applicants after they were reviewed by the
24 NMFS Regional Office (including renewals). The final SA Criteria would not be implemented, and
25 the new SA template would not be utilized. SAs would include current and future stranding response
26 activities.

27 **Alternative A4.** Preferred Alternative- Final SA criteria are implemented. SAs would be
28 issued on a case-by-case basis. SAs include current and future stranding
29 response activities.

1 Under Alternative A4, NMFS would implement the final SA criteria and issue SAs on a case-by-case
2 basis to those entities meeting the SA criteria (including renewals and new applicants), utilizing the
3 new SA template. SAs would include current and future stranding response activities.

4 **Alternative A5.** Final SA criteria are implemented. SAs would be issued on a case-by-case
5 basis. Stranding response to threatened, endangered, and rare animals is
6 **required**; response to other animals is optional.

7 Under Alternative A5, NMFS would implement the final SA criteria and issue SAs on a case-by-case
8 basis to those entities meeting the SA criteria (including renewals and new applicants), utilizing the
9 new SA template. SAs include current and future stranding response activities, however this
10 alternative would require response to threatened, endangered and rare animals as part of the terms and
11 conditions of the SA. Response to all other animals would be optional, but highly encouraged.
12 Stranding participants could respond to these non-listed animals when feasible, based upon the
13 availability of resources.

14 **2.1.2 Carcass Disposal**

15 **2.1.2.1 Carcass Disposal Methods**

16 During stranding response activities, carcass disposal methods depend on the species, the number and
17 size of animals, location and logistics. Location includes coastal geography, currents, and state
18 and/or local laws and regulations. Logistics refers to the availability of equipment, resources, and
19 manpower. The method of carcass disposal will also be based upon the chemicals used on the animal,
20 including antibiotics, sedatives, and/or euthanasia solution.

21 One method of disposal is to leave the carcass where the stranding occurred. Natural decomposition,
22 scavengers, and the tide will eventually dispose of the remains. Leaving the carcass on-site is
23 possible in uninhabited areas. However it is less feasible in populated areas where the carcass may be
24 a public health or aesthetic concern, or if chemicals were used to euthanize the animal. Another
25 method of disposal is to move a carcass from an unsuitable area (public beach) to a more appropriate
26 location (a remote beach or a landfill) and let it decompose. Carcasses may also be buried onsite or
27 transported and buried in a more suitable location. A carcass can be towed out to sea and released,
28 but the release site must be far enough from shore so the carcass will not wash up again. If a carcass
29 returns to shore, it necessitates further response and disposal activities. A carcass can also be sunk by
30 attaching materials, such as cement barriers or chains, to weigh the carcass down.

1 Other industrial disposal methods include incinerating, rendering, and composting. The ability of the
2 local stranding network to utilize these methods depends greatly on the resources available in their
3 area and cost. Composting is an alternative method of carcass disposal that is not commonly used at
4 the present time, but it is being explored in an experiment conducted by the University of New
5 England utilizing funding from a recent Prescott grant. This study will look at the efficiency of
6 composting, as well as the retention rate of euthanasia solution, bacteria and viruses, and possibly
7 contaminants, by comparing readings from the pre-composted carcasses and the resulting compost. If
8 composting were to be used as a method of carcass disposal, an additional NEPA analysis would be
9 required.

10 **2.1.2.2 Carcass Disposal Alternatives**

11 The following alternatives define different options for marine mammal carcass disposal.

12 **Alternative B1.** No Action Alternative- No carcass disposal.

13 Under Alternative B1, NMFS would terminate carcass disposal. Current SAs would expire and
14 stranding response would cease; any disposal activities conducted by stranding network members
15 would also cease. Carcasses of stranded animals would be left on-site to decompose or wash back out
16 into the ocean. Federal (not including NMFS), state, and local agencies authorized under MMPA
17 109(h) would still be able to conduct carcass disposal of non-ESA listed species, and ESA-listed
18 species under regulations at 50 CFR 17.21(c)(3) and 17.31(a), where applicable for the protection of
19 public health and safety. Their methods of carcass disposal and their impacts would not be covered
20 under the MMHSRP.

21 **Alternative B2.** Status Quo Alternative- Current methods of carcass disposal continue.

22 Alternative B2 would continue the current carcass disposal methods used by stranding network
23 members.

24 **Alternative B3.** Preferred Alternative- Recommendation to transport chemically euthanized
25 animal carcasses off-site.

26 Under Alternative B3, NMFS would advocate the removal of chemically euthanized animal carcasses
27 off-site for disposal by incineration, landfill, or other methods such as composting. Animals that die
28 naturally or euthanized by other means may be disposed of by whatever means feasible and allowed,
29 including those methods described in Section 2.1.2.1.

1 **2.1.3 Rehabilitation Activities**

2 **2.1.3.1 Rehabilitation Facilities and Activities**

3 Thirty facilities are currently authorized under SAs, the National Contingency Plan, or as NMFS
4 designees to conduct marine mammal rehabilitation on species under NMFS jurisdiction (see
5 Appendix F). These facilities are highly variable in terms of species treated, capacity, and facility
6 amenities. Some rehabilitation is conducted in the open ocean, by using nets to fence off a bay or
7 lagoon, or by using floating platforms with nets attached. Some facilities have elaborate structures
8 including inground pools and underwater observation windows, while other groups have only
9 aboveground or temporary pools, which are assembled only when needed. The length of time that a
10 facility can rehabilitate an animal may depend on the species, medical needs, or the available
11 equipment. Most rehabilitation activities conducted in temporary (“pop-up”) pools with or without
12 external filtration units must be short-term (days or possibly weeks), and efforts focus primarily on
13 stabilization and assessment. Other organizations are capable of long-term rehabilitation efforts of
14 weeks or months, although usually at considerable cost (in both money and effort). Carcass disposal
15 methods at rehabilitation facilities include rendering, incinerating, or burial in a landfill.

16 Rehabilitation activities conducted by state or local government official in the normal course of their
17 duties are covered by regulation at 50 CFR 216.22 (a)(3): “Where the marine mammal in question is
18 injured or sick, it shall be permissible to place it in temporary captivity until such time as it is able to
19 be returned to its natural habitat.” The governmental official is required to report to the Secretary of
20 Commerce the activities under this section every six months details on the marine mammal take,
21 including “the description of the place and means of confinement and the measures taken for its
22 maintenance and care” when the animal has been retained in rehabilitation (50 CFR 216.22(b)(5)).

23 **2.1.3.2 Rehabilitation Facility Standards**

24 The Rehabilitation Facility Standards set minimum facility, husbandry, and veterinary standards for
25 rehabilitating marine mammals to optimize the success of releasing the animals back to the wild (see
26 Appendix C). The standards also address personnel health and safety issues and contingency
27 planning. Some standards are based on the Animal Welfare Act regulations, which define minimum
28 standards for captive marine mammals. Standards are also based on expert input from a 1998 NMFS
29 workshop in Miami, Florida. Recommended standards (above the minimum) are included for facility
30 design and operation and are suggestions for optimizing the rehabilitation success rate. Meeting or

1 exceeding the recommended standards may be considered a goal to strive towards when upgrading
2 existing or designing new facilities or protocols.

3 **2.1.3.3 Rehabilitation Activities Alternatives**

4 The following alternatives address the rehabilitation activities of the stranding network and the
5 Rehabilitation Facility Standards in the Policies and Best Practices manual.

6 **Alternative C1.** No Action Alternative- No rehabilitation of stranded animals.

7 Under Alternative C1, NMFS would terminate the rehabilitation of stranded animals. Current SAs
8 would expire, stranding response would cease, and therefore animals would not be rehabilitated. Sick
9 and injured animals would be left on the beach.

10 **Alternative C2.** Status Quo Alternative- Current rehabilitation activities continue.

11 Under Alternative C2, NMFS would continue the current rehabilitation activities of the stranding
12 network. New rehabilitation facilities could not be added to the stranding network. Adaptive changes
13 to rehabilitation activities would not be permitted. The final Rehabilitation Facility Standards would
14 not be implemented.

15 **Alternative C3.** Preferred Alternative- NMFS issues new SAs and response and rehabilitation
16 activities continue. Final Rehabilitation Facility Standards are implemented.

17 Under Alternative C3, NMFS would continue the current rehabilitation activities of the stranding
18 network, with the ability to designate new rehabilitation facilities and modify rehabilitation activities
19 if necessary. The final Rehabilitation Facility Standards would be implemented.

20 **Alternative C4.** New SAs are issued and response and rehabilitation activities continue.
21 Rehabilitation of threatened, endangered, and rare animals is **required**;
22 response to other animals is optional. Final Rehabilitation Facility Standards
23 are implemented.

24 Under Alternative C4, NMFS would require the rehabilitation of stranded threatened, endangered,
25 and rare animals. Rehabilitation of all other animals would be optional, but highly encouraged.
26 Stranding participants could rehabilitate these animals when feasible, based upon the availability of
27 resources. The final Rehabilitation Facility Standards would be implemented.

1 **2.1.4 Release of Rehabilitated Animals**

2 **2.1.4.1 Release Activities**

3 Release of a rehabilitated animal occurs when an attending veterinarian, after consultation with
4 NMFS, determines the animal is releasable. The presumption and goals for rehabilitated animals are
5 to release them back to the wild. In some cases, releasing a rehabilitated animal may not be the best
6 solution for either the individual animal or its conspecifics (members of the same species). The
7 minimum protocols for the release of a rehabilitated marine mammal are covered under regulation at
8 50 CFR 216.27. Every six months, the marine mammal must be evaluated for releasability by the
9 attending veterinarian. The release determination recommendation and a release plan are made by the
10 attending veterinarian of the rehabilitation facility, in consultation with their assessment and/or
11 husbandry team. This plan includes: 1) a description of the marine mammal, including its physical
12 condition and estimated age; 2) the date and location of the proposed release; and 3) the method and
13 duration of transport prior to release, per 50 CFR 216.67 (a)(2)(ii). The recommendation and release
14 plan are reviewed and approved or changed, if necessary, by NMFS prior to a release. The release
15 recommendation and plan are provided to NMFS at least 15 days in advance of a proposed release
16 date. The NMFS Regional Administrator may allow for pre-approved waivers for routine pinniped
17 cases as stated in 50 CFR 216.27(a)(2)(i)(A). This allows for the release of animals without the
18 required 15 day advanced notice or detailed release plan for an individual case. Typically these
19 waivers apply to cases involving routine diagnosis (*i.e.*, known cause of stranding), treatment, and
20 rehabilitation. Such waivers require the rehabilitation facility to submit a treatment and release
21 protocol for approval. Waivers are not considered for cetacean cases. Non-releasable animals may,
22 with NMFS approval, be permanently placed in a public display or scientific research facility, or may
23 be euthanized.

24 Prior to release, NMFS requires that animals are tagged or marked for individual identification, and
25 the tag number or description of the marking reported to NMFS. Current commonly used forms of
26 identification for cetaceans include photo identification, freeze branding, and/or a dorsal fin tag.
27 Photo identification should include the body, face, dorsal fin, flukes, and pectoral flippers, as well as
28 any identifying characteristics such as scars or color pattern markings. A numerical freeze brand (if
29 applicable) would be placed on both sides of the dorsal fin or just below the dorsal fin. Roto-tags
30 would be attached on the trailing edge of the dorsal fin. Identification of non-delphinid cetaceans is
31 determined in consultation with NMFS. NMFS must also approve any additional forms of
32 identification to be attached, such as VHF or satellite tags. All pinnipeds must be flipper tagged for

1 identification. Tags and placement instructions would be obtained from NMFS as appropriate for the
2 pinniped species. Other identification methods, such as freeze branding or glue tags, may be used in
3 addition to flipper tags. The identification method is detailed in the release plan, and will be
4 approved by NMFS prior to being implemented, especially if unique or atypical methods are utilized.

5 Cetaceans are transported to release sites by vessel. Pinnipeds are transported via vehicle or vessel to
6 beach or ocean release sites. Post-release monitoring is conducted for all released animals. Post-
7 release monitoring may be conducted using mark-resight methodology, radio telemetry, or satellite
8 tags. Monitoring should continue on a regular basis for at least one full year or, at a minimum, the
9 battery duration of the tag.

10 **2.1.4.2 Release Criteria**

11 The release criteria provide guidance for determining the release of rehabilitated marine mammals to
12 the wild (see Appendix C). The guidance includes marine mammal species under NMFS and
13 USFWS jurisdiction. It is a joint document developed by NMFS and USFWS in consultation with
14 marine mammal experts. Standards are also based upon review and public comment of the 1997 draft
15 NOAA Technical Memorandum “Release of Stranded Marine Mammals to the Wild: Background,
16 Preparation, and Release Criteria.” The standards provide recommendations for the medical,
17 behavioral, and developmental assessment of rehabilitated animals prior to release.
18 Recommendations on release site selection and post-release monitoring are also included. The
19 release criteria also require a health screen and certification before an animal is released.

20 **2.1.4.3 Release Alternatives**

21 The following alternatives address the release activities of the stranding network and the release
22 criteria in the Policies and Practices manual.

23 **Alternative D1.** No Action Alternative- No animals to be released.

24 Under Alternative D1, NMFS would end the release of stranded animals. Current SAs would expire,
25 stranding response and rehabilitation would cease, and therefore there would be no animals to release.

26 **Alternative D2.** Status Quo Alternative- Current release activities continue.

1 Under Alternative D2, NMFS would continue the current release activities of the stranding network.
2 Adaptive changes to release activities would not be permitted. The final release criteria would not be
3 implemented.

4 **Alternative D3.** Preferred Alternative- New SAs are issued and response, rehabilitation, and
5 release activities continue. Final release criteria are implemented.

6 Under Alternative D3, NMFS would continue the current release activities of the stranding network,
7 with the ability to modify release activities when necessary. The final release criteria would be
8 implemented.

9 **2.1.5 Disentanglement Network**

10 **2.1.5.1 Disentanglement Activities**

11 Disentanglement efforts are conducted for many marine mammals. For large whales,
12 disentanglement efforts may include vessel and aerial searches for the affected animal and incidental
13 harassment of non-entangled animals during these searches. Close approaches, tagging, use of buoys
14 or sea anchors to slow an animal's movement, cutting of lines and possibly flesh (when the line is
15 embedded), and remote sedation may occur during disentanglement. For pinnipeds and small
16 cetaceans, disentanglement efforts may include capture with incidental disturbance of non-entangled
17 animals, restraint, surgery, rehabilitation, administration of chemical agents (sedatives and/or
18 antibiotics), and release. Biopsy sampling may occur, either through the use of a remote dart or the
19 collection of tissues from the removed fishing gear. Appendix H contains the general methodologies
20 used during disentanglement activities. All disentanglement activities of ESA-listed species are
21 authorized under the ESA/MMPA permit; disentanglement of non-listed species are conducted under
22 the authority of the SA.

23 **2.1.5.2 Disentanglement Guidelines**

24 The Marine Mammal Disentanglement Guidelines provide the definitions and roles for First
25 Responders, Primary First Responders, and Primary Disentanglers for large whale disentanglements
26 (see Appendix C). The five levels of responders are described, including the targeted individuals,
27 responsibilities, and the criteria to be certified for each level. A First Responder is anyone in the
28 Disentanglement Network with any level of training who may respond to an entanglement report
29 under Network protocols and authorization. A Primary First Responder is an individual with a
30 higher network classification (Levels 3-5) that may direct efforts locally and, under certain conditions

1 and authorization, may attempt disentanglements during first response. A Primary Disentangler is an
2 individual who can perform all the duties of a First Responder, but also meets the NMFS criteria to
3 undertake the actual disentangling. Primary Disentanglers have a classification of Level 4 or 5 in the
4 Network. Under the direction of the NMFS Disentanglement Coordinator, these Guidelines are
5 currently in use for the Disentanglement Network on the East Coast (both NMFS Northeast and
6 Southeast Regions). There are approximately 165 trained members of the Disentanglement Network
7 with response levels ranging from 2-5. There are several thousand more members that have been
8 trained at response level 1.

9 There are no standardized protocols for disentanglement of small cetaceans and pinnipeds. Currently,
10 these animals are approached on a case-by-case basis by members of the stranding network,
11 responding to them as they would to any other stranded animal. Response to entangled small
12 cetaceans typically requires in-water capture of free-swimming animals. Some animals may have
13 impaired locomotion if the gear is heavy or anchored. Entangled pinnipeds are typically captured on
14 land when they are hauled out. Animals may be freed of gear and immediately released, or brought
15 into a rehabilitation facility for a period of time prior to release.

16 **2.1.5.3 Disentanglement Alternatives**

17 The following alternatives address the disentanglement network and the Disentanglement Guidelines
18 in the Policies and Practices manual.

19 **Alternative E1.** No Action Alternative- No disentanglement network.

20 Under Alternative E1, NMFS would terminate the disentanglement network. The current SAs would
21 expire and pinniped and small cetacean disentanglement would end. The current ESA/MMPA permit
22 would expire and disentanglement activities of ESA-listed species would not be authorized.
23 Entangled animals may be monitored, (as long as they were not harassed during the monitoring
24 activities), but no action would be taken to disentangle them.

25 **Alternative E2.** Status Quo Alternative- Disentanglement network continues current
26 activities, no modifications or new members added.

27 Under Alternative E2, NMFS would continue the current activities of the disentanglement network.
28 Current SAs would continue to allow disentanglement of pinnipeds and small cetaceans. The new
29 ESA/MMPA permit would be issued and would authorize the current disentanglement activities for

1 ESA-listed species. New members could not be added to the disentanglement network. Adaptive
2 changes to disentanglement activities, including the use of newly developed equipment, would not be
3 permitted.

4 **Alternative E3.** Preferred Alternative- Disentanglement network continues current activities
5 on East Coast with modifications to West Coast network. The
6 Disentanglement Guidelines and training prerequisites would be
7 implemented.

8 Under Alternative E3, NMFS would continue the current activities of the disentanglement network,
9 with the ability to add new participants and modify disentanglement activities and technologies when
10 necessary. Current and future SAs would continue to allow disentanglement of pinnipeds and small
11 cetaceans. The new ESA/MMPA permit would be issued and would authorize the current and future
12 disentanglement activities of ESA-listed species. The East Coast network would continue their
13 current activities. Modifications would be made to the West Coast network to coordinate the
14 structure and training with the East Coast network. The Disentanglement Guidelines and training
15 prerequisites for network participants would be implemented nationwide.

16 **2.1.6 Biomonitoring and Research**

17 **2.1.6.1 Biomonitoring and Research Activities**

18 The MMHSRP conducts and sponsors a variety of diagnostic assessments and research projects
19 relating to marine mammal health. The diagnostic assessments are conducted on stranded animals as
20 well as live, free-ranging animals that are remotely biopsied or captured as part of health assessment
21 projects in geographic areas with known health concerns. The areas targeted for health assessment
22 often include areas of previous and current die-offs. Animals captured for health assessments may
23 have an obvious health problem (*e.g.* skin lesions) or be exposed to known toxins. Many different
24 diagnostic and research labs are under permit and/or contract with the MMSHRP to provide analyses.
25 Services provided include histopathology, virology, bacteriology, toxicology (contaminant and
26 biotoxin analyses), and acoustic diagnostics. General research methodologies are described in
27 Appendix H.

28 **2.1.6.2 Biomonitoring and Research Alternatives**

29 The following alternatives address the biomonitoring and research activities of the MMHSRP.

1 **Alternative F1.** No Action Alternative- Biomonitoring and research activities would not
2 occur.

3 Under Alternative F1, NMFS would terminate the current biomonitoring and research activities of the
4 MMHSRP. This would include the NMMTB, health assessment captures, and other various research
5 projects.

6 **Alternative F2.** Status Quo Alternative- Continuation of current biomonitoring and research
7 activities.

8 Under Alternative F2, NMFS PR1 would issue the MMHSRP a new ESA/MMPA permit that would
9 include the current biomonitoring and research activities. New or future biomonitoring and research
10 activities would not be added under the permit.

11 **Alternative F3.** Preferred Alternative- New ESA/MMPA permit issued to include current and
12 future biomonitoring and research activities.

13 Under Alternative F3, NMFS PR1 would issue the MMHSRP a new ESA/MMPA permit that would
14 include current and future biomonitoring and research activities.

15 **2.2 Alternatives Considered but Eliminated from Further Analysis**

16 **2.2.1 Stranding Response Alternatives**

17 *Stranding Response Curtailed Immediately.* This alternative would immediately stop the response
18 to stranded animals and the current stranding network would cease to exist. Public comments
19 supported the continuation of stranding response activities and stated that this alternative was not
20 feasible. Under this alternative, NMFS would not be fulfilling its mandate under the MMPA, and
21 there would be a high level of public controversy. Therefore, NMFS eliminated this alternative.

22 *Stranding Response to Some Animals is Authorized, Other Animals are Prohibited.* Public
23 comments did not support prohibiting stranding response to certain animals. By denying
24 organizations the ability to respond to some animals, these animals would have to be left on the
25 beach. This would create public controversy, and would eliminate valuable information on marine
26 mammal health and populations that is gained from the examination of stranded animals. Therefore,
27 NMFS eliminated this alternative.

1 **2.2.2 Carcass Disposal Alternatives**

2 *All Animals are Buried On-site.* Burial is not an option in all geographic areas due to substrate
3 issues (rocks or dense soil, shallow water table, inaccessibility by necessary machinery, etc.) or local
4 restrictions. Burial of animal carcasses may be prohibited in some areas where animals strand. In
5 addition, marine mammal carcasses have the potential to be highly toxic. Chemically euthanized
6 animal carcasses may contain high concentrations of lethal chemicals. Other carcasses may have high
7 toxin levels from biotoxins or other contaminants. Burying these carcasses would create a risk to
8 scavengers, water quality, and soils. The option to transport carcasses off-site must be available.
9 Therefore, NMFS eliminated this alternative.

10 *All Animals are Transported Off-site for Disposal.* Public comments did not support the alternative
11 to transport all carcasses off-site for disposal. Transporting all carcasses off-site would place a
12 financial burden on stranding network participants. In addition, some carcasses may not be
13 transportable for logistical reasons: the animal is too large or too heavy to lift; equipment is
14 unavailable or cost prohibitive; equipment is not permitted; or has no available beach access. Other
15 disposal methods (burial, disposal at sea, natural decomposition) for non-toxic carcasses are more
16 cost-effective and feasible. Therefore, NMFS eliminated this alternative.

17 *No Animals are Chemically Euthanized.* Chemical injection is currently the most common humane
18 method of euthanasia for pinnipeds and small cetaceans. Other methods of euthanasia, such as
19 ballistics (shooting) or explosives, may be dangerous to personnel assisting with the process as well
20 as the public. Prohibiting the use of chemical euthanasia would require stranding personnel to either
21 use these methods or not perform euthanasia. The use of other methods would increase the risks to
22 human health and safety. Additional numbers of animals would be killed using other means or left on
23 the beach to die, which could increase the suffering of the animal and potentially create public
24 controversy. Therefore, NMFS eliminated this alternative.

25 **2.2.3 Rehabilitation Activities Alternatives**

26 *Rehabilitation Activities Curtailed Immediately.* This alternative would immediately stop the
27 rehabilitation of stranded animals. Public comments supported the continuation of rehabilitation
28 activities and stated that this alternative was not feasible. Under this alternative, NMFS would not be
29 fulfilling its mandate under the MMPA. Therefore, NMFS eliminated this alternative.

1 ***Rehabilitation of Some Animals is Authorized, Other Animals are Prohibited.*** Public comments did
2 not support prohibiting the rehabilitation of certain animals. By denying organizations the ability to
3 respond to some animals, these animals would have to be left on the beach. This would create public
4 controversy, and would eliminate valuable information on marine mammal health and populations.
5 Rehabilitation of common species also gives rehabilitation facilities additional opportunities to
6 perfect their rehabilitation practices, increasing the chance of successful rehabilitation and release of
7 threatened, endangered and rare species. Therefore, NMFS eliminated this alternative.

8 **2.2.4 Release of Rehabilitated Animals Alternatives**

9 ***All Animals are Released (After Rehabilitation).*** Currently, nonreleasable animals may be placed in
10 permanent captivity in a public display or at a research facility if they hold an APHIS exhibitor's or
11 research license. During rehabilitation, problems may be detected that would prevent the animal from
12 being deemed releaseable (*e.g.*, the animal has a medical issue requiring regular veterinary care and
13 medications, or it develops behavioral problems). Requiring the facility to release this animal despite
14 this condition would be detrimental to the welfare of the animal and possibly to the wild population
15 and human safety. Therefore, NMFS eliminated this alternative.

16 ***Release of Some Animals is Required, Other Animals are Optional.*** Under this alternative, release
17 of some species of rehabilitated animals would be required to occur under any circumstance, or the
18 animal would be euthanized. Currently, these animals may be deemed nonreleaseable and placed in
19 permanent captivity at a public display or at a research facility, where they contribute to the education
20 of the general public or to the scientific body of knowledge. Requiring the release of animals would
21 result in the release of inappropriate animals (those suffering from medical or behavioral conditions).
22 This would be detrimental to the welfare of the animals and possibly to the wild population and
23 human safety. Therefore, NMFS eliminated this alternative.

24 ***Release of Some Animals is Authorized, Other Animals are Prohibited.*** Under this alternative,
25 release of some species of rehabilitated animals would be prohibited, regardless of the circumstances.
26 Therefore, the animal would be placed in permanent captivity at a public display or at a research
27 facility or euthanized, even if it was "releaseable" or appropriate to be released back into the wild.
28 This would be a detriment to the wild population and would result in overcrowding at facilities, or
29 needless euthanasia. Therefore, NMFS eliminated this alternative.

1 **2.2.5 Disentanglement Alternative**

2 *Disentanglement of Some Animals is Authorized, Other Animals are Prohibited.* Under this
3 alternative, disentanglement of some species would be prohibited, regardless of the circumstances.
4 Therefore, the animal would remain entangled and potentially unable to feed, swim, or reproduce,
5 even if the entanglement could be dealt with at minimum risk to the animal and the response team
6 This would be a detriment to the wild population and would result in needless death and suffering of
7 marine mammals. Therefore, NMFS eliminated this alternative.

8 **2.2.6 Biomonitoring and Research Activities Alternatives**

9 *Health Assessment Captures Would Not Occur.* Under Title IV of the MMPA, one of the purposes
10 of the MMHSRP is to collect and disseminate reference data on the health and health trends of marine
11 mammal populations in the wild. Health assessment captures are an integral part of collecting this
12 health reference data. Captures are also used to provide information on animals in areas where UMEs
13 have occurred or are occurring, and significantly contribute to UME investigations. Therefore,
14 NMFS eliminated this alternative.

15 *Tissue Banking Would Not Occur.* The NMMTB was established under Title IV of the MMPA to
16 store, analyze, and archive marine mammal tissues. Without the NMMTB, reference data on the
17 health of marine mammals and populations of marine mammals would not be collected and
18 maintained. Under this alternative, NMFS would not be fulfilling its statutory mandate to maintain
19 the NMMTB. Therefore, NMFS eliminated this alternative.

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3. Affected Environment

3.1 Introduction

This chapter describes the environmental and socioeconomic conditions most likely to be affected by the alternatives. The information serves as a baseline from which to identify and evaluate potential impacts from implementation of the alternatives. In compliance with NEPA, CEQ, and NOAA regulations and guidelines, the description of the affected environment focuses on those resource areas that are potentially subject to impacts from the anticipated actions. These resources include:

- Biological resources: protected and sensitive habitats, submerged aquatic vegetation (SAV) and macroalgae, sea turtles, marine mammals, threatened and endangered species, fish, birds, and other wildlife;
- Water and sediment quality;
- Human health and safety;
- Cultural resources; and
- Socioeconomics.

Some environmental resources and conditions that are often analyzed in an EIS have been omitted from this analysis. Effects in the following categories are considered insignificant or irrelevant to the anticipated actions, or impacts from the alternatives are not anticipated:

- **Air quality:** Air quality impacts from any individual activity would either be non-existent or minor (such as limited dust or emissions from a vehicle or boat engine). The impacts would be insignificant contributions when compared to impacts from other motor vehicle emissions on highways and roads where MMHSRP activity is occurring, and would not represent a significant contribution to regional air quality. Pathogen spread through treatment or necropsy of sick animals would not be considered air pollution, but is analyzed under human health and safety.
- **Noise:** Most MMHSRP activities would not result in the production of noise. One exception would be the use of heavy machinery in response or disposal activities. However, this equipment would produce noise similar to or below levels that are allowed under local ordinances governing normal construction activities, and would be of short duration and extremely localized, and therefore resulting in insignificant impacts.

- 1 • **Land use:** The activities of the MMHSRP would not involve significant changes in land use
2 or be inconsistent with existing local and regional plans and policies on land use. The land
3 where response activities would occur is not considered suitable for agricultural use or
4 housing development.
- 5 • **Public services and utilities:** Public services include transportation, police, fire, and other
6 emergency services. Utilities include electric power, gas/steam/oil, telecommunications,
7 water facilities, storm drainage, and sanitary sewer systems. The MMHSRP's activities
8 would not disrupt, damage, or incur any other impact to these areas.
- 9 • **Coastal zone management:** NMFS has determined that the alternatives for the MMHSRP's
10 activities are consistent with the coastal management programs in the affected area. No
11 significant impacts would be expected from these activities.

12 **3.2 Biological Resources**

13 **3.2.1 Definition of the Resource**

14 Biological resources include native or naturalized plants and animals, and the habitats in which they
15 exist. Sensitive and protected biological resources include plant and animal species listed as
16 threatened or endangered by NMFS, USFWS, or that are otherwise protected under Federal or state
17 laws. Resources evaluated include protected and sensitive habitats; SAV and macroalgae; sea turtles;
18 fish and shellfish; coastal and marine birds; and marine mammals.

19 **Protected and Sensitive Habitats**

20 Protected and sensitive habitats are usually defined as those areas that are identified as marine
21 sanctuaries, national seashores, critical habitats, coral reefs, national parks, wildlife refuges, national
22 forests, national monuments, estuarine research reserve sites, and fisheries management areas. These
23 particular areas are under Federal jurisdiction and are managed by NMFS, USFWS, the National Park
24 Service (NPS), the National Ocean Service, the Bureau of Land Management (BLM), and the U.S.
25 Forest Service (USFS). Wilderness areas are typically designated within current national parks,
26 national wildlife refuges (NWR), national forests, and national monuments. Jurisdiction over
27 wilderness areas is divided between USFWS, NPS, BLM, and USFS. Sensitive habitats may also be
28 protected under State and local jurisdictions, including protected reserves, parks, beaches, and
29 seashores. Executive Order (EO) 13089, *Coral Reef Protection* requires federal agencies, whose
30 actions may affect U.S. coral reef systems, to identify those actions and ensure that they will not
31 degrade the conditions of such ecosystems. Coral reefs are colonial invertebrates that excrete a

1 calcium carbonate skeleton. Coral reefs provide habitat to a reef fish and invertebrates, increase
2 biodiversity, and protect shorelines from coastal erosion. Coral reefs support commercial and
3 recreational fishing, boating, scuba diving, and pharmaceutical research.

4 **SAV and Macroalgae**

5 The term SAV refers to rooted, vascular, flowering plants that live and grow below the water surface
6 (Stephan *et al.* 2000). SAV includes seagrasses and macrophytes (aquatic plants not rooted to a
7 substrate). Macroalgae, such as seaweed and kelp, are multicellular algae large enough to be visible
8 to the eye. SAV and macroalgae are among the most productive ecosystems in the world. Both occur
9 in all U.S. coastal waters, with the exception of South Carolina and Georgia, where turbidity and tidal
10 amplitude inhibit SAV growth (Stephan *et al.* 2000). SAV and macroalgae provide food and habitat
11 for a variety of organisms, including important commercial and recreational fisheries species. SAV
12 improves water quality, filters nutrients and contaminants, provides sediment stabilization, and
13 reduces coastal erosion (GMP 2004).

14 **Marine Mammals and Sea Turtles**

15 The mission of NMFS is to manage, conserve, and protect all living marine resources within the U.S.
16 EEZ, including marine mammals and sea turtles. Threatened and endangered marine mammals and
17 sea turtles are protected under the ESA. Thirteen marine mammal species within the U.S. are listed
18 under the ESA, and 7 foreign species are listed. Six sea turtle species within the U.S. are listed under
19 the ESA, and 2 foreign species are listed. All marine mammals are protected under the MMPA.
20 Some populations of marine mammals are designated as depleted under the MMPA. Twenty-six
21 species, or stocks of species, have been listed as depleted.

22 The ESA of 1973 (16 U.S.C. 1531–1534), administered by NMFS and USFWS, mandates the
23 protection and conservation of threatened and endangered species and the ecosystems on which they
24 depend. Under the ESA, an “endangered species” is defined as any species in danger of extinction
25 throughout all or a significant portion of its range. A “threatened species” is defined as any species
26 likely to become an endangered species in the foreseeable future. Critical habitat may also be
27 designated for threatened and endangered species. Critical habitat is defined as specific areas within
28 the geographical area occupied by a species at the time of listing, if the areas contain physical or
29 biological features essential to conservation, and those features may require special management
30 considerations or protection. Specific areas outside the geographical area occupied by the species
31 may also be designated as critical habitat, if it is determined that the area is essential for conservation.

1 Section 7 of the ESA requires that all Federal agencies consult with NMFS or USFWS, as applicable,
2 before initiating any action that could affect a listed species. Under Section 7, a Federal agency must
3 ensure that any project authorized, funded, or conducted by that agency is "...not likely to jeopardize
4 the continued existence of any endangered species or threatened species or result in the destruction or
5 adverse modification of habitat of such species which is determined to be critical." All six species of
6 sea turtles occurring in the U.S. are protected under the ESA. Federal protection of sea turtles is split
7 between NMFS and USFWS. NMFS has the lead responsibility for the conservation and recovery of
8 sea turtles in the marine environment. USFWS has the lead responsibility for sea turtles on nesting
9 beaches.

10 The MMPA of 1972 (16 U.S.C. 1361 et seq.) protects all marine mammals, regardless of whether or
11 not they are listed under the ESA. The Secretary of Commerce is responsible for the protection of all
12 cetaceans (whales, porpoises, and dolphins) and pinnipeds (seals and sea lions), except walruses, and
13 has delegated authority for implementing the MMPA to NMFS. The Secretary of the Interior is
14 responsible for the protection of walruses, polar bears, sea otters, manatees, and dugongs, and has
15 delegated this responsibility to the USFWS. These responsibilities include providing oversight and
16 advice to regulatory agencies on all Federal actions that might affect these species. Marine mammals
17 may be designated as "depleted" under the MMPA if the Secretary of Commerce, after consultation
18 with the MMC, determines that the species or population stock is below its optimum sustainable
19 population. Marine mammals that are listed as threatened or endangered under the ESA are also
20 designated as depleted under the MMPA.

21 The ESA prohibits the "take" of threatened and endangered species, with certain exceptions, within
22 the U.S. in waters under U.S. jurisdiction, and by U.S. citizens on the high seas. Under Section 3 of
23 the ESA, "take" is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or
24 collect, or to attempt to engage in any such conduct." Exceptions are permitted for activities that are
25 for scientific purposes or to enhance the propagation or survival of the affected species [Section
26 10(a)(1)(A)] or for activities where the take would be incidental to an otherwise lawful activity
27 [Section 10(a)(1)(B)]. Permits may be issued after submission, review, and a public comment period
28 of an application and conservation plan, provided that the impacts of the take will be minimized to the
29 maximum extent practicable. The taking must not appreciably reduce the likelihood of the survival
30 and recovery of the species in the wild. Since 1999, the MMSHRP has obtained a 10(a)(1)(A) permit
31 for directed research and enhancement (including response and rehabilitation) of endangered species
32 (Appendix G).

1 The MMPA prohibits the “take” of marine mammals, with certain exceptions, in waters under U.S.
2 jurisdiction and by U.S. citizens on the high seas. Under Section 3 of the MMPA, “take” of marine
3 mammals is defined as “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any
4 marine mammal.” “Harassment” is defined as any act of pursuit, torment, or annoyance that has the
5 potential to injure marine mammal stock in the wild, or that has the potential to disturb a marine
6 mammal or marine mammal stock in the wild by disrupting behavioral patterns, including migration,
7 breathing, nursing, breeding, feeding, and sheltering. The Secretary of Commerce may issue permits
8 which authorize the direct taking of marine mammals for scientific research, importation for public
9 display, and the enhancement of the survival or recovery of a species or stock under Section 104 of
10 the MMPA. Permits may also be issued for photography of marine mammals for educational or
11 commercial purposes. Since 1999, the MMHSRP has obtained an MMPA permit for directed take of
12 marine mammals (Appendix G). In cases where U.S. citizens are engaged in activities (other than
13 fishing) that result in “unavoidable” incidental take of marine mammals, the Secretary can issue an
14 incidental take authorization or an incidental harassment authorization. These authorizations can be
15 issued, after public notice and public comment period, if the Secretary of Commerce finds negligible
16 impacts.

17 **Fish, Shellfish, and EFH**

18 The ESA provides protection for threatened and endangered fish and shellfish species. The ESA
19 allows the listing of distinct population segments (DPS) of threatened and endangered species.
20 NMFS policy stipulates that a salmon population will be considered “distinct” for purposes of the
21 ESA if it represents an Evolutionarily Significant Unit (ESU) of the biological species. To qualify as
22 an ESU, a population (or group of populations) must be (a) reproductively isolated from populations
23 of the same species, and (b) represent an important component in the evolutionary legacy of the
24 species.

25 Pursuant to Section 303(a) (7) of the Magnuson-Stevens Fishery Conservation and Management Act,
26 regional fishery management councils must identify EFH used by all life history stages of each
27 managed species. EFH is defined as waters and substrate that are necessary to the species for
28 spawning, breeding, feeding, or growth to maturity. EFH that provides extremely important
29 ecological functions or are particularly vulnerable to degradation should be identified as habitat areas
30 of particular concern in order to prioritize conservation efforts. Activities that have been shown to
31 affect EFH include disturbance or destruction of habitat from stationary fishing gear, dredging and
32 filling, agricultural and urban runoff, direct discharge, and the introduction of exotic species.

1 Consultation with NMFS is required if a proposed action permitted, funded, or undertaken by a
2 Federal agency could adversely affect EFH. For this PEIS, consultation with NMFS was initiated on
3 June 22, 2006. The consultation determined that impacts to EFH would not be expected to occur as a
4 result of the Proposed Actions and alternatives; therefore EFH will not be discussed further.
5 Correspondence regarding EFH consultation is included in Appendix B.

6 **Coastal and Marine Birds**

7 The ESA provides protection for threatened and endangered bird species. The Migratory Bird Treaty
8 Act and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, provide
9 protection for all migrating bird populations. Under these regulations, NMFS is required to analyze
10 the potential impacts its actions may have on threatened, endangered, and migratory birds.

11 **3.2.2 Affected Environment**

12 **3.2.2.1 Protected and Sensitive Habitats**

13 Atlantic Coast federally protected and sensitive habitats include 14 National Estuarine Research
14 Reserves (NERRs), 69 National Wildlife Refuges (NWRs), 5 National Marine Sanctuaries (NMSs), 5
15 national parks, 8 national seashores, 10 wilderness areas, and 1 ecological preserve (DOC/NOAA and
16 DOI 2006, Wilderness.net 2006). Critical habitat has been designated for the North Atlantic right
17 whale (*Eubalaena glacialis*), West Indian manatee, piping plover (*Charadrius melodus*), yellow-
18 shouldered blackbird (*Agelaius xanthomus*), green sea turtle (*Chelonia mydas*), leatherback sea turtle
19 (*Dermochelys coriacea*), hawksbill sea turtle (*Eretmochelys imbricata*), and Johnson's seagrass
20 (*Halophila johnsonii*) (Appendix E, Table E-1).

21 There are 39 designated coral reefs ranging from the southern tip of South Carolina to the Upper
22 Florida Keys. Gray's Reef, located off of Sapelo Island, GA, is one of the largest nearshore live-
23 bottom reefs in the southeastern U.S. Fifty-four coral reefs are located within Puerto Rico and the
24 U.S. Virgin Islands. The staghorn coral (*Acropora cervicornis*) and elkhorn coral (*Acropora*
25 *palmata*) are the first coral species to be listed as threatened under the ESA (Appendix E, Table E-5).
26 These corals are the dominant reef building species and occur through out Florida, the Bahamas, and
27 the Caribbean. Elkhorn and staghorn coral are found in shallow water reefs in high energy zones. In
28 the ROI, the corals occur in the Florida Keys, Puerto Rico, and the U.S. Virgin Islands. Current
29 threats to the species are pollution, excess nutrients, pathogens, climate change, and overfishing
30 (NMFS 2006a).

1 Gulf of Mexico federally protected and sensitive habitats include 5 NERRs, 32 NWRs, 1 NMS, 1
2 national park, 2 national seashores, and 7 wilderness areas (DOC/NOAA and DOI 2006,
3 Wilderness.net 2006). Critical habitat has been designated for the West Indian manatee, Gulf
4 sturgeon (*Acipenser oxyrhynchus desotoi*), and whooping crane (*Grus americana*). Thirty-two coral
5 reefs are located in the Gulf of Mexico, including the Florida Middle Grounds and the Flower Garden
6 Banks, the northernmost coral reefs in North America (Appendix E, Table E-2).

7 Pacific Coast federally protected and sensitive habitats include 6 NERRs, 34 NWRs, 5 NMSs, 1
8 national seashore, 2 national parks, 5 national monuments, 5 national forests, 34 wilderness areas, and
9 1 Steller sea lion (*Eumetopias jubatus*) conservation area (DOC/NOAA and DOI 2006,
10 Wilderness.net 2006). Critical habitat has been designated for the following species: Steller sea lion,
11 North Pacific right whale (*Eubalaena japonica*), Southern Resident killer whale (*Orcinus orca*) DPS,
12 tidewater goby (*Eucyclogobius newberryi*), Western snowy plover (*Charadrius alexandrinus*
13 *nivosus*), Coastal California gnatcatcher (*Poliophtila californica californica*), spectacled eider
14 (*Somateria fischeri*), Steller's eider (*Polysticta stelleri*), marbled murrelet (*Brachyramphus*
15 *marmoratus marmoratus*), two coho salmon (*Oncorhynchus kisutch*) ESUs, five chinook salmon
16 (*Oncorhynchus tshawytscha*) ESUs, two chum salmon (*Oncorhynchus keta*) ESUs, and four steelhead
17 (*Oncorhynchus mykiss*) ESUs (Appendix E, Table E-3).

18 Pacific Islands federally protected and sensitive habitats include Hawaiian monk seal (*Monachus*
19 *schauinslandi*) critical habitat, four NWRs, two NMSs, one national park, and one wilderness area
20 (DOC/NOAA and DOI 2006, Wilderness.net 2006). The Northwestern Hawaiian Islands Marine
21 National Monument was established in June 2006. The monument encompasses the healthiest and
22 most undisturbed coral reef ecosystem in the U.S. and contains many rare, threatened, and
23 endangered species. Two territorially protected marine sanctuaries are located in CNMI (Appendix
24 E, Table E-4).

25 **3.2.2.2 SAV and Macroalgae**

26 From Maine to Virginia, eelgrass (*Zostera marina*) is the dominant SAV species, and co-occurs with
27 widgeon grass (*Ruppia maritima*). In North Carolina, Cuban shoalgrass (*Halodule wrightii*) and
28 eelgrass are the dominant SAV species. No SAV occurs in South Carolina and Georgia. In Florida,
29 dominant species of SAV include Cuban shoalgrass, turtlegrass (*Thalassia testudinum*), manatee
30 grass (*Syringodium filiforme*), and several species of *Halophila* (Stephan *et al.* 2000). Johnson's
31 seagrass is a threatened species found along the east coast of Florida, from central Biscayne Bay to

1 Sebastian Inlet. Critical habitat for Johnson's seagrass has been designated in the Indian River
2 Lagoon and Biscayne Bay, FL (Appendix E, Table E-5). Macroalgae species on the Atlantic Coast
3 include sea lettuce (*Ulva lactuca*) and rockweed (*Fucus spp.*). On the Atlantic coast, SAV loss was
4 reported in 23 of the 62 estuaries surveyed in NOAA's National Estuarine Eutrophication
5 Assessment. Severe SAV loss is occurring in the main stem of the Chesapeake Bay,
6 Tangier/Pocomoke Sounds (MD), Patuxent River (MD), Choptank River (MD), and Gardiners Bay
7 (NY). No severe SAV loss was found in the South Atlantic (North Carolina to Florida) (Bricker *et al.*
8 1999).

9 In the Gulf of Mexico, six common SAV species include Cuban shoalgrass, turtlegrass, manatee
10 grass, widgeon grass, paddle grass (*Halophila decipensi*), and star grass (*Halophila engelmannii*)
11 (GMP 2004). Macroalgae species include Sargassum (*Sargassum fluitans*), forked sea tumbleweed
12 (*Dictyota bartaryresii*), and watercress alga (*Halimeda opuntia*) (NMS 2005). SAV loss was reported
13 in 18 of the 38 estuaries surveyed in NOAA's National Estuarine Eutrophication Assessment. Severe
14 SAV loss is occurring in Lake Pontchartrain, LA and Galveston Bay, TX (Bricker *et al.* 1999).

15 Common SAV species on the Pacific Coast include eelgrass, surfgrass (*Phyllospadix serrulatus*), and
16 pickelweed (*Salicornia virginica*) (NOAA CSC 2001). Macroalgae species include giant kelp
17 (*Macrocystis pyrifera*), golden rockweed (*Silvetia compressa*), bull kelp (*Nereocystis leutkeana*),
18 rockweed (*Fucus sp.*), and sea lettuce (NMS 2005, OCNMS 2004). An invasive alga, *Caulerpa*
19 *taxifolia*, has been found in California coastal waters. SAV loss was reported in 8 of the 39 estuaries
20 surveyed in NOAA's National Estuarine Eutrophication Assessment. Severe SAV loss is occurring
21 in Morro Bay and San Francisco Bay, CA (Bricker *et al.* 1999).

22 In the Pacific Islands, common SAV species include paddle grass, Hawaiian paddle grass (*Halophila*
23 *hawaiiiana*), *Halophila minor*, and *Halophila ovalis* (NOAA CSC 2001). Macroalgae species include
24 *Styopodium flabelliforme*, *Halitheda opuntia*, *Caulerpa webbiana*, and *Padina australis* (NMS
25 2005). Seagrass beds provide important foraging grounds for green, olive ridley, and loggerhead sea
26 turtles. Six invasive species of macroalgae occur in Hawaii: *Acanthophora spicifera*, *Hypnea*
27 *musciformis*, *Kappaphycus spp.*, *Eucheuma denticulatum*, *Avrainvillea amadelpha*, and *Gracilaria*
28 *salicornia*. These species are spreading and competing with native marine flora and fauna (Puttock *et*
29 *al.* undated).

1 **3.2.2.3 Sea Turtles**

2 Six species of sea turtles have the potential to occur on the Atlantic Coast. Threatened species
3 include the loggerhead (*Caretta caretta*), green, and olive ridley (*Lepidochelys olivacea*) sea turtles.
4 Olive ridley sea turtle occurrences are rare but have been recorded in Puerto Rico, southern Florida,
5 and the Grand Banks. Endangered species include Kemp’s ridley (*Lepidochelys kempii*), leatherback,
6 and hawksbill sea turtles. Hawksbill sea turtles commonly occur in southern Florida, Puerto Rico, the
7 Virgin Islands, and the northern Gulf of Mexico, and have also been documented as far north as
8 Massachusetts. The Florida breeding population of green sea turtles is also listed as endangered
9 (Appendix E, Table E-6). Critical habitat for the green sea turtle is designated in waters extending
10 seaward 3 nautical miles from the mean high water line of the Culebra Islands in Puerto Rico (50
11 CFR 226.208). Critical habitat for the hawksbill sea turtle is designated in waters extending seaward
12 3 nautical miles from the mean high water line of Isla Mona and Monito Island, Puerto Rico (50 CFR
13 226.209). Critical habitat for the leatherback is designated off Sandy Point on St. Croix Island in the
14 Caribbean and around southwest Cape Point.

15 Four species of sea turtles have the potential to occur on the Pacific Coast. Threatened species
16 include the green, olive ridley, and loggerhead sea turtles. Endangered species include the
17 leatherback sea turtle and the green sea turtle breeding population found on the Pacific coast of
18 Mexico. The East Pacific green turtle, or “black turtle,” may be referred to as *Chelonia mydas*
19 *agassizii*. No sea turtles nest on the Pacific Coast of the U.S.; the closest nesting beaches are in Baja
20 California, Mexico. However, all five species have been recorded in U.S. waters and have been
21 found stranded on the coast. Foraging and short-term inter-breeding residency has been recorded for
22 green turtles in San Diego and leatherbacks in central and northern California. Green sea turtles
23 occasionally occur in Alaska and have been found in southern Alaskan waters. Olive ridley sea
24 turtles occurrences are rare in Oregon, Washington, and Alaska, but have been recorded (Hodge
25 2001). Loggerheads in Alaska are a rare occurrence and leatherbacks have been found in the Bering
26 Sea (Appendix E, Table E-6).

27 Five species of sea turtles have the potential to occur in the Pacific Islands ROI. Threatened species
28 include the green, loggerhead, and olive ridley sea turtles. Endangered species include the
29 leatherback and hawksbill sea turtles (Appendix E, Table E-6).

1 **3.2.2.4 Fish and Shellfish**

2 Three species of endangered fish occur on the Atlantic Coast: the Atlantic salmon (*Salmo salar*), the
3 shortnose sturgeon (*Acipenser brevirostrum*), and the smalltooth sawfish (*Pristis pectinata*)
4 (Appendix E, Table E-7). Atlantic salmon are a DPS located in the Gulf of Maine. The shortnose
5 sturgeon occurs throughout the Atlantic Coast and the smalltooth sawfish occurs from North Carolina
6 to Florida. There is no critical habitat designated for these species on the Atlantic Coast.
7 Commercial and recreational fisheries are managed by the states; the New England, Mid-Atlantic,
8 South Atlantic, and Caribbean Fishery Management Councils; and NMFS. Important commercial,
9 recreational, and/or ecological species include sand lance (*Ammodytes hexapterus*), bay anchovy
10 (*Anchoa mitchilli*), Atlantic croaker (*Micropogonias undulatus*), Atlantic menhaden (*Brevoortia*
11 *tyrannus*), American shad (*Alosa sapidissima*), and striped bass (*Morone saxatilis*). Shellfish species
12 include blue crab (*Callinectes sapidus*), Atlantic oyster (*Crassostrea virginica*), and hard clams
13 (*Mercenaria mercenaria*) (CIMS 2006).

14 In the Gulf of Mexico, Gulf sturgeon is threatened and the smalltooth sawfish is endangered
15 (Appendix E, Table E-8). Critical habitat has been designated for Gulf sturgeon in the Pensacola Bay
16 system, Santa Rosa Sound, Mississippi Sound/Pascagoula Bay system, Choctawhatchee Bay system,
17 Apalachicola Bay system, and Suwanee Sound (USFWS 2003). Commercial and recreational
18 fisheries in the Gulf of Mexico are managed by the states, the Gulf of Mexico Fishery Management
19 Council, and NMFS. Important commercial, recreational, and/or ecological species include Gulf
20 menhaden (*Brevoortia patronis*), red drum (*Sciaenops ocellatus*), striped mullet (*Mugil cephalus*),
21 and anchovy. Shellfish species include blue crab, stone crab (*Menippe mercenaria*), and penaeid
22 shrimp.

23 Protected shellfish and fish species that occur throughout the West Coast (excluding Alaska) include
24 coho salmon (threatened and endangered), chinook salmon (threatened and endangered), sockeye
25 salmon (*Oncorhynchus nerka*) (threatened and endangered), chum salmon (*Oncorhynchus keta*)
26 (threatened), and steelhead (threatened, endangered, and candidate). The southern DPS of green
27 sturgeon (*Acipenser medirostris*) is listed as threatened in California. Two endangered species that
28 only occur in California are the white abalone (*Haliotis sorenseni*) and the tidewater goby. Critical
29 habitat has been designated for the tidewater goby and includes 10 coastal stream segments in Orange
30 and San Diego counties, California (Appendix E, Table E-9). Critical habitat includes the stream
31 channels and their associated wetlands, floodplains, and estuaries (65 FR 69693–69717). There are
32 no threatened or endangered fish species in Alaska.

1 On the Pacific coast, the Southern Oregon/Northern California Coasts coho ESU is threatened and the
2 Central California Coast coho ESU is endangered. Critical habitat has been designated for both of
3 these ESUs. Four ESUs of chinook salmon are threatened and have critical habitat: the California
4 Coastal ESU, the Central Valley spring-run ESU, the Lower Columbia River ESU, and the Puget
5 Sound ESU. The Sacramento River winter-run ESU of chinook salmon is endangered and critical
6 habitat has been designated for this ESU. Two ESUs of chum salmon are threatened and have critical
7 habitat: Hood Canal summer-run ESU and the Columbia River ESU. Three ESUs of steelhead are
8 threatened and have critical habitat: the Northern California ESU, the Central California ESU, and the
9 South-Central California Coast ESU. The Southern California ESU of steelhead is endangered and
10 has designated critical habitat. Threatened chinook salmon ESUs that could be incidentally harvested
11 in Alaska include the Snake River fall-run ESU, Upper Willamette River ESU, Puget Sound ESU,
12 and the Lower Columbia River ESU (NMFS 2005).

13 Commercial and recreational fisheries on the West Coast are managed by the states, the Pacific
14 Fishery Management Council, the North Pacific Fishery Management Council, and NMFS.
15 Important commercial, recreational, ecological, and/or subsistence species include salmon, California
16 halibut (*Paralichthys californicus*), white croaker (*Genyonemus lineatus*), Pacific herring (*Clupea*
17 *harengus pallasi*), Atka mackerel (*Pleurogrammus monopterygius*) and Pacific cod (*Gadus*
18 *macrocephalus*) (CDFG 2001, WDFW 1997, WDFW 2006). Important shellfish species include
19 Dungeness crab (*Cancer magister*), Pacific razor clam (*Siliqua patula*), geoduck clam (*Panopea*
20 *abrupta*), king crab (*Paralithodes spp.*), and Tanner crab (*Chionoecetes bairdi*) (ADFG 2006).

21 No threatened or endangered species of fish occur in the Pacific Islands ROI. Commercial and
22 recreational fisheries in the ROI are managed by the State of Hawaii, U.S. Territories, the Western
23 Pacific Fishery Management Council, and NMFS. Important commercial, recreational, and/or
24 ecological species include albacore tuna (*Thunnus alalunga*), skipjack tuna (*Katsuwonus pelamis*),
25 wahoo (*Acanthocybium solanchi*), wrasses (*Labridae*), jacks (*Carangidae*), and blue marlin (*Makaira*
26 *nigricans*) (NMFS 2005).

27 **3.2.2.5 Coastal and Marine Birds**

28 Threatened species on the U.S. Atlantic Coast include the bald eagle (*Haliaeetus leucocephalus*) and
29 piping plover. Critical habitat for wintering populations of piping plovers has been designated along
30 the coastal shoreline of North Carolina and south along the eastern coast of the U.S. to the Gulf of
31 Mexico. The wood stork (*Mycteria americana*) is endangered from South Carolina to Florida. The

1 yellow-shouldered blackbird is listed as endangered only in Puerto Rico. Critical habitat for the
2 yellow-shouldered blackbird has been designated on the main island of Puerto Rico and on Isla Mona.
3 The roseate tern (*Sterna dougallii dougallii*) is endangered from Maine to North Carolina. The
4 Caribbean population of the roseate tern is threatened in Florida, Puerto Rico, and the Virgin Islands.
5 A non-essential population of whooping cranes is located from Virginia to Florida. Individuals of the
6 population are treated as threatened if they occur in a NWR or national park. (Appendix E, Table E-
7 10). Seabirds, shorebirds, wading birds, and waterfowl using the Atlantic Flyway migrate through or
8 nest on the Atlantic coast. Species include the great blue heron (*Ardea herodias*), snowy egret
9 (*Egretta thula*), osprey (*Pandion haliaetus*), great cormorant (*Phalacrocorax carbo*), red knot
10 (*Calidris canutus*), and whimbrel (*Numenius phaeopus*) (Clark and Niles 2000).

11 Threatened species in the Gulf of Mexico include the bald eagle and piping plover. Piping plover
12 critical habitat has been designated along the coastal shoreline of the Gulf Coast, from Texas to
13 Florida. The whooping crane is only listed as endangered in Texas and critical habitat has been
14 designated along the Texas Gulf Coast. The brown pelican (*Pelecanus occidentalis*) is endangered in
15 Texas, Louisiana, and Mississippi. The wood stork is only endangered in Alabama (Appendix E,
16 Table E-11). The Mississippi and Central Flyways pass through the Gulf of Mexico. Species that
17 migrate through or nest on the coast include the snowy egret, great blue heron, gull-billed tern (*Sterna*
18 *nilotica*), sanderling (*Calidris alba*), and American oystercatcher (*Haematopus palliatus*) (Hunter *et*
19 *al.* 2002, Elliott and McKnight 2000).

20 Threatened species found from California to Alaska include the bald eagle, marbled murrelet, and the
21 western snowy plover (Appendix E, Table E-12). Critical habitat for the western snowy plover has
22 been designated in California, Oregon, and Washington. Critical habitat for the marbled murrelet has
23 been designated in Alaska. Other threatened species found in California include the Coastal
24 California gnatcatcher and the San Clemente sage sparrow (*Amphispiza belli clementeae*). Critical
25 habitat for the Coastal California gnatcatcher has been designated in along the southern California
26 coast.

27 Endangered species on the entire West Coast include the short-tailed albatross (*Phoebastria albatrus*)
28 and Alaska breeding population of Steller's eider (Appendix E, Table E-12). Occurrences of Steller's
29 eider in California, Oregon, and Washington are rare or accidental. Critical habitat for the Steller's
30 eider has been designated in Alaska. The endangered brown pelican is found in California, Oregon,
31 and Washington. Endangered species only found in California include the California clapper rail
32 (*Rallus longirostris obsoletus*), light-footed clapper rail (*Rallus longirostris levipes*), San Clemente

1 loggerhead shrike (*Lanius ludovicianus mearnsi*), and California least tern (*Sterna antillarum*
2 *browni*). The California condor (*Gymnogyps californianus*) is an endangered species that has
3 recently been reintroduced in Southern California and may be found along the coast. In Alaska, the
4 spectacled eider is endangered and critical habitat has been designated.

5 The Pacific Flyway passes through the U.S. Pacific Coast. Species include the royal tern (*Sterna*
6 *maxima*), common murre (*Uria aalge*), snowy egret, Caspian tern (*Sterna caspia*), black-crowned
7 night heron (*Nycticorax nycticorax*), and the sooty shearwater (*Puffinus griseus*) (Hickey *et al.* 2003,
8 USFWS 2005, ADFG 2005).

9 Eleven endangered coastal and marine bird species are found in the Pacific Islands area: the short-
10 tailed albatross, Hawaiian coot (*Fulica Americana alai*), Hawaiian duck (*Anas wyvilliana*), laysan
11 duck (*Anas laysanensis*), laysan finch (*Telespyza cantans*), nihoa finch (*Telespyza ultima*), Hawaiian
12 dark-rumped petrel (*Pterodroma phaeopygia sandwichensis*), Newell's Townsend's shearwater
13 (*Puffinus auricularis newelli*), Hawaiian stilt (*Himantopus mexicanus knudseni*), Guam bridled white-
14 eye (*Zosterops conspicillatus conspicillatus*), and Mariana crow (*Corvus kubaryii*) (Appendix E,
15 Table E-13). No critical habitat has been designated for these bird species.

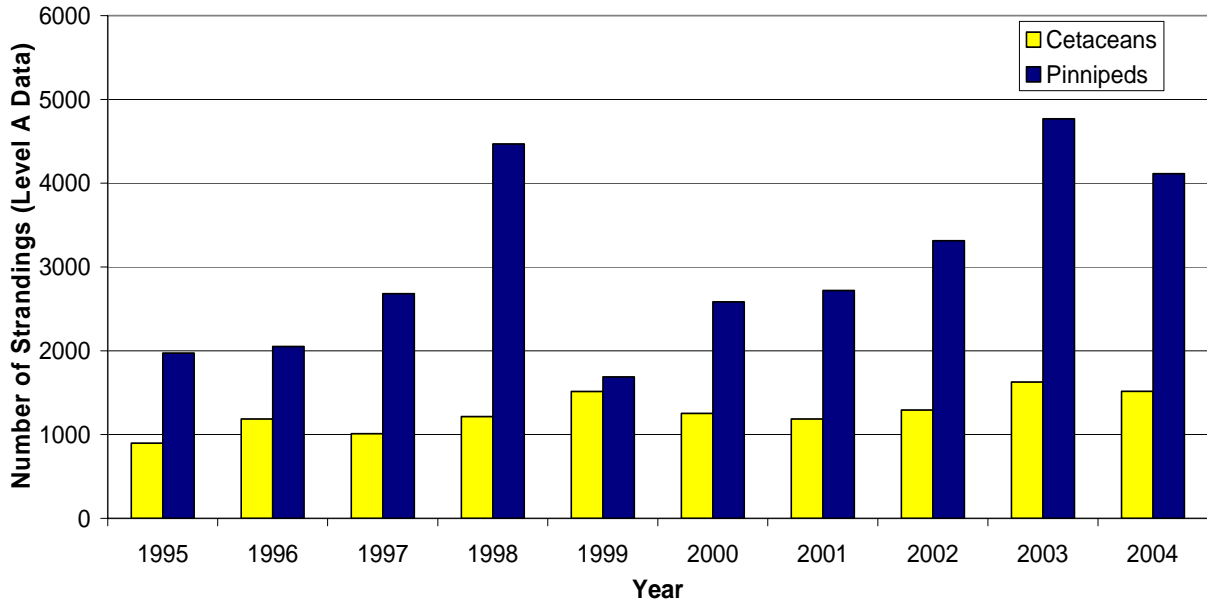
16 A variety of birds inhabit the region including geese, ducks, coots, rails, waders, and gulls. Species
17 include the Hawaiian goose (*Branta sandvicensis*), Tahiti petrel (*Pterodroma rostrata*), black-
18 crowned night-heron, pacific-golden plover (*Pluvialis fulva*), and red-footed booby (*Sula sula*) (HAS
19 2002, USFWS 2005).

20 **3.2.2.6 Marine Mammals**

21 Most marine mammal species are wide-ranging and have been reported stranded in all NMFS regions.
22 Populations of some species such as large whales, pinnipeds, and some small cetaceans routinely
23 cross regional boundaries. Other marine mammals are considered resident, staying to a relatively
24 localized area.

25 Significantly more pinnipeds strand each year than cetaceans (Figure 3-1). The majority of stranded
26 pinnipeds are alive when first reported, and up to 50 percent of the rehabilitated seals and sea lions
27 are released back into the environment. The majority of cetaceans strand dead. Of the live-stranded
28 small cetaceans, few are taken into a rehabilitation facility and very few are released. Only one
29 mysticete has ever been rehabilitated in the U.S. – a juvenile gray whale (*Eschrichtius robustus*) in
30 the Southwest Region.

1 In this section, descriptions of the marine mammals that may occur in each NMFS region are
2 presented, along with an overview of stranding information, including trends in strandings by
3 numbers, species and seasonality, mass strandings, and UMEs.



4
5

6 **Figure 3-1. Nationwide Stranding Summary**

7 **This figure shows the stranding data for all regions combined over the 10 year period from 1995-2004,**
8 **and includes all marine mammals (all cetacean and pinnipeds except walrus) which were reported to the**
9 **stranding network and for which a Level A data sheet was completed.**

10

Pinniped Strandings Nationwide 2001-2004

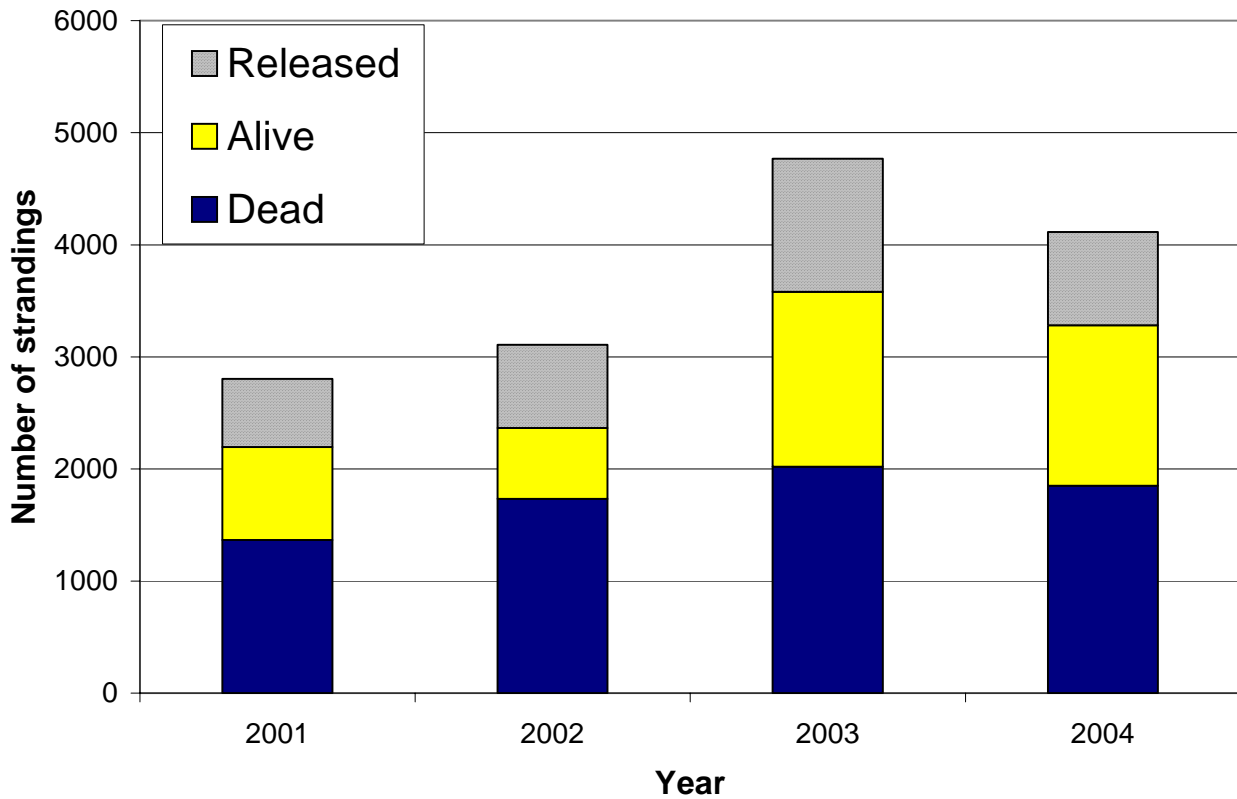
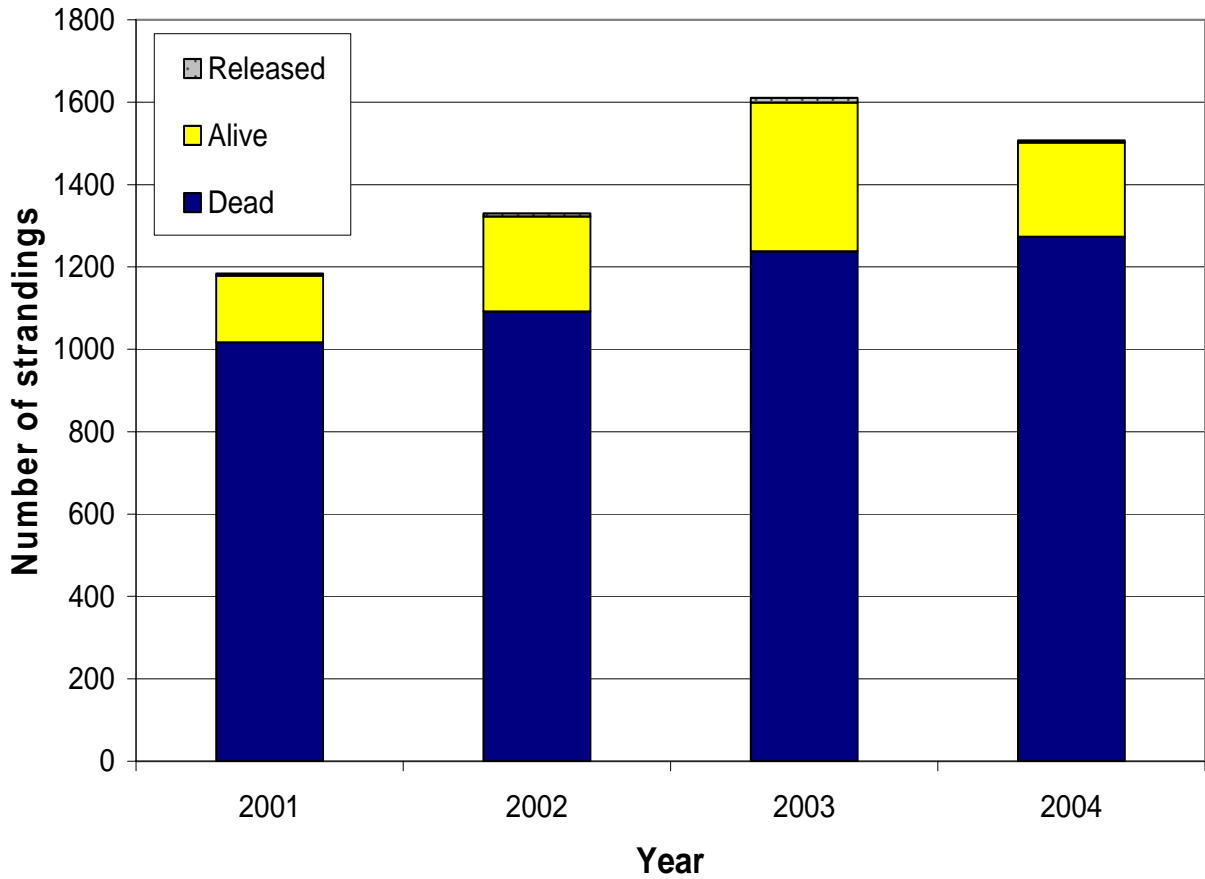


Figure 3-2. Pinniped Strandings Nationwide

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This figure combines data from all regions and includes all pinnipeds which were reported to the national stranding network and received a Level A data sheet. The shaded portions of the “live” strandings are those pinnipeds that were taken to a rehabilitation facility, successfully rehabilitated, and released back into the environment.

Cetacean Strandings Nationwide 2001-2004



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Figure 3-3. Cetacean Strandings Nationwide

This figure combines data from all regions and includes all cetaceans which were reported to the national stranding network and received a Level A data sheet. The shaded portions of the “live” strandings are those cetaceans that were taken to a rehabilitation facility, successfully rehabilitated, and released back into the environment.

1 **NMFS Northeast Region.** Thirty-eight species of marine mammals have the potential to occur in the
2 Northeast Region (Appendix E, Table E-14) (Geraci and Lounsbury 2005). Six of these species are
3 listed as endangered: the North Atlantic right whale, humpback whale, fin whale (*Balaenoptera*
4 *physalus*), blue whale (*Balaenoptera musculus*), sei whale (*Balaenoptera borealis*), and sperm whale
5 (*Physeter macrocephalus*). All threatened and endangered species are listed as depleted under the
6 MMPA. The Western North Atlantic coastal migratory stock of bottlenose dolphins, which range
7 from New Jersey to Florida, are also listed as depleted under the MMPA. Critical habitat for the right
8 whale is designated within this region in portions of Cape Cod Bay, Stellwagen Bank, and the Great
9 South Channel off the coast of Massachusetts (59 FR 28793-28834).

10 The most commonly stranded pinniped species in the Northeast region are harbor seals (*Phoca*
11 *vitulina*), harp seals (*Phoca groenlandica*), hooded seals (*Cystophora cristata*), and gray seals
12 (*Halichoerys grypus*). The number of stranded pinnipeds and particularly the ice seals (harp, hooded
13 and gray seals) has been increasing in recent years. This is believed to be due to growth in the overall
14 Northeast pinniped populations. Figure 3-4 depicts the number of reported pinniped strandings in the
15 Northeast Region from 2001-2004.

16 The most commonly stranded cetacean species in the Northeast region are bottlenose dolphins, harbor
17 porpoises (*Phocoena phocoena*), Atlantic white-sided dolphins (*Lagenorhynchus acutus*), common
18 dolphins (*Delphinus delphis*), pilot whales (*Globicephala melas* and *G. macrorhynchus*), and minke
19 whales. Other less common strandings include striped dolphins (*Stenella coeruleoalba*), Risso's
20 dolphins, pygmy sperm whales (*Kogia breviceps*), dwarf sperm whales (*Kogia sima*), sperm whales,
21 killer whales, humpback whales, right whales, and fin whales. Many of the large whale carcasses are
22 discovered floating many miles offshore by aerial survey and fishery spotter planes, and never land
23 on the beach unless towed in by the stranding network for sampling. Figure 3-5 shows cetacean
24 strandings in the Northeast Region from 2001-2004.

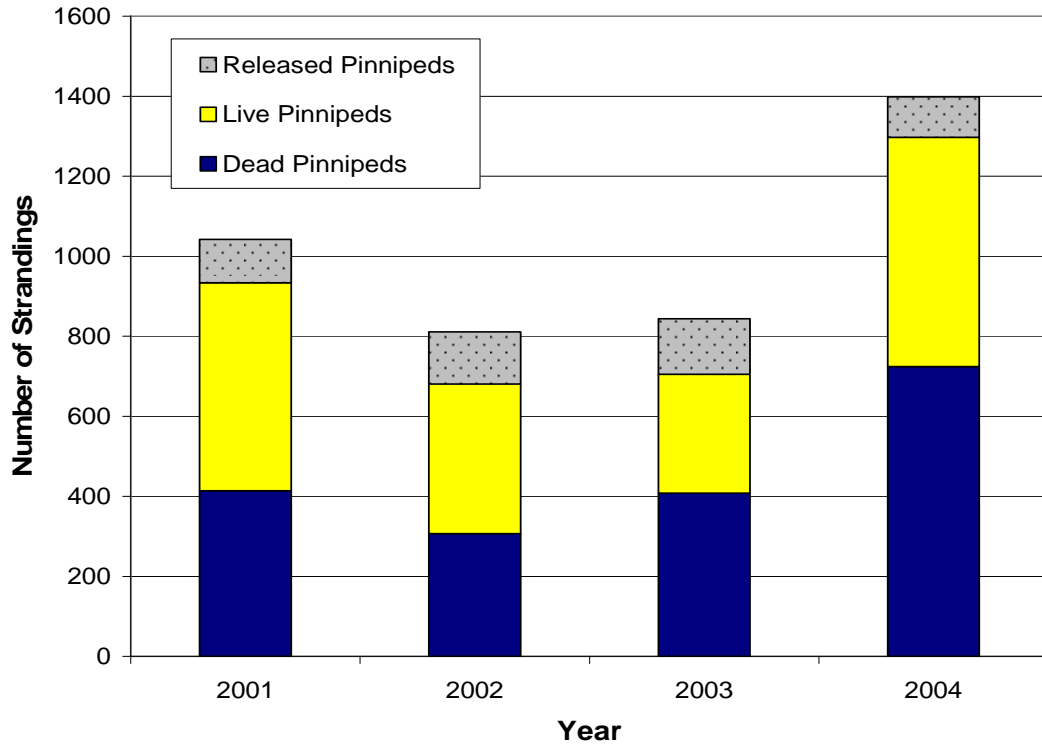
25 Mass Strandings. The Northeast Region, particularly Cape Cod, MA, has one of the highest
26 incidences of live single and mass strandings of small cetaceans in the U.S. Mass strandings occur an
27 average of once per year on Cape Cod and 6 to 10 live cetacean stranding events (single or mass
28 strandings) occur annually in the Northeast Region, most often in the winter. Each event may involve
29 single or multiple animals, resulting in the large proportion of live strandings in Figure 3-5.

30 Human Interactions. Approximately 25 fisheries interactions are documented annually. Bottlenose
31 dolphins and harbor porpoise are the small cetaceans most frequently impacted by human

1 interactions, primarily fishery interactions. Large whales also show evidence of fishery and other
2 human interactions. Approximately 61.6 percent of the overall right whale population shows physical
3 evidence of entanglements (such as scars) and between 10 to 28 percent experience entanglement
4 each year (Hamilton *et al.* 1998, Knowlton *et al.* 2001). According to the 2003 Stock Assessment, 60
5 percent of right whale mortalities and serious injuries reported from 1997 to 2001 resulted from
6 entanglements or fishery interactions (NMFS 2003). This number increased to approximately 69
7 percent from 1999 to 2003 (NMFS 2005b). Disentanglement activity reports to the MMHSRP have
8 verified entanglements of right, humpback, fin, and minke whales. Ship strikes of right whales have
9 also been documented in the region. More than half (56 percent) of the recorded right whale ship
10 strikes from 1975 to 2002 occurred off the coasts of the Northeast U.S. and Canada, and the mid-
11 Atlantic area accounted for 22 percent (Jensen and Silber 2003).

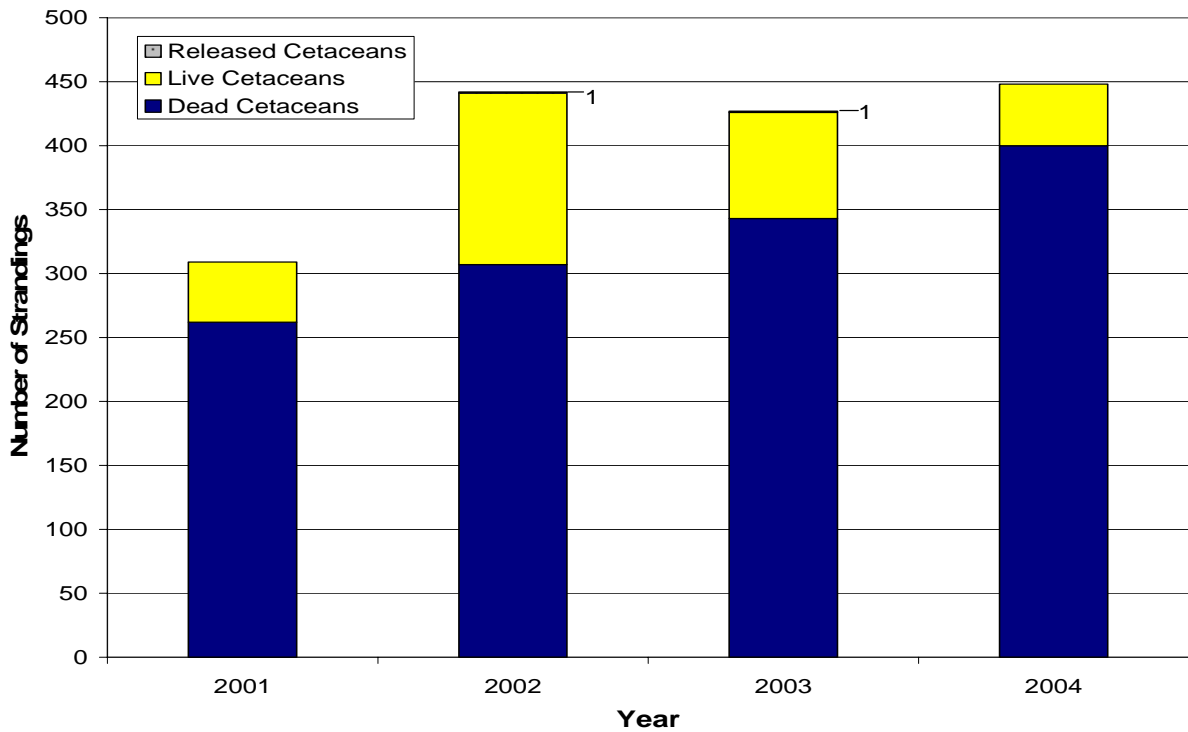
12 Temporal Changes. Stranding patterns vary temporally as marine mammal distribution changes with
13 the seasons. In the spring, strandings of gray seal pups and harbor porpoise are common, as well as
14 mass strandings of small cetaceans. Harbor seal pups, bottlenose dolphins, and large whale
15 strandings are common in summer. Ship strikes and entanglements are frequent in summer. Fall
16 strandings may include marine mammals in out of habitat situations. Common strandings in winter
17 include juvenile ice seals, as they fail to forage successfully. Ice seal populations have also been
18 increasing in Canada, leading to increasing numbers of animals in US waters.

19 UMEs. In 2003, UMEs included large whales in New England and Maine harbor seals and minke
20 whales (*Balaenoptera acutorostrata*). The Maine harbor seal UME continued into 2004. A Virginia
21 small cetacean UME and a Mid-Atlantic small cetacean UME occurred also occurred in 2004. A
22 large whale UME occurred in the Northeast Region in 2005. In October 2006, a humpback whale
23 UME and a pinniped UME were declared in the Northeast Region. The humpback whale UME was
24 declared due to the increase in humpback mortalities from March-October, 2006. The pinniped UME
25 was declared after morbillivirus was found in several pinnipeds in rehabilitation, and later detected
26 from carcasses. *Morbillivirus* is the highly contagious and lethal genus of virus (Family
27 Paramyxoviridae) that has been responsible for more significant marine mammal die-offs due to
28 infectious disease than any other pathogen to date. These *Morbillivirus* die-offs include several seal
29 epizootics in Northern Europe and Russia involving tens of thousands of seals, and dolphin
30 mortalities in the Mediterranean Sea and along the U.S. Atlantic and Gulf of Mexico coasts.



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Figure 3-4. Northeast Region Pinniped Strandings 2001-2004



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Figure 3-5. Northeast Region Cetacean Strandings 2001-2004

1 **NMFS Southeast Region.** Thirty-two species of marine mammals have been recorded to occur in the
2 Southeast Region (Appendix E, Table E-15) (Geraci and Lounsbury 2005). Six of these species are
3 listed as endangered: the West Indian manatee, North Atlantic right whale, humpback whale, blue
4 whale, sei whale, and sperm whale. All threatened and endangered species are also listed as depleted
5 under the MMPA. The Western North Atlantic coastal migratory stock of bottlenose dolphins are
6 also listed as depleted under the MMPA. Critical habitat for the right whale is designated from the
7 shoreline between the mouth of the Altamaha River, Georgia, to the Sebastian River Inlet, Florida,
8 seaward to 15 nautical miles (59 FR 28793-28834). Critical habitat for the West Indian manatee is
9 designated within several watersheds along the east and west coast of Florida (42 FR 47840–47845).

10 The most commonly stranded pinniped species in the Southeast region are harbor seals, representing
11 over 90 percent of stranded pinnipeds. The majority (80 percent) of these strandings are immediately
12 released back into the water. Other pinnipeds that strand in the Southeast region include small
13 numbers of hooded, harp, and gray seals. Recently there has been an increase in strandings of these
14 seal species, many of them in the Caribbean. Figure 3-6 depicts the number of reported pinniped
15 strandings in the Southeast Region from 2001-2004.

16 The Southeast region has the most stranded cetaceans of any region, and a variety of taxa are
17 represented (an average of 17 species of odontocetes annually). The most commonly stranded species
18 in the Southeast region are bottlenose dolphins, pygmy sperm whales, dwarf sperm whales, and
19 harbor porpoise. Other cetaceans that strand regularly, but in smaller numbers overall include: striped
20 dolphins, spinner dolphins (*Stenella longirostris*), Atlantic spotted dolphins (*Stenella frontalis*),
21 pantropical spotted dolphins (*Stenella attenuata*), Fraser’s dolphin (*Lagenodelphis hosei*), Risso’s
22 dolphin, rough-toothed dolphin, melon-headed whales (*Peponocephala electra*), pilot whales, and
23 several beaked whale species. Of mysticetes, the North Atlantic right whale is the most common
24 mysticete to strand, followed by humpback whales, sperm whales, minke whales, and rarely Bryde’s
25 whales (*Balaenoptera edeni*) and sei whales. Figure 3-7 depicts the number of reported cetacean
26 strandings in the Southeast Region from 2001-2004.

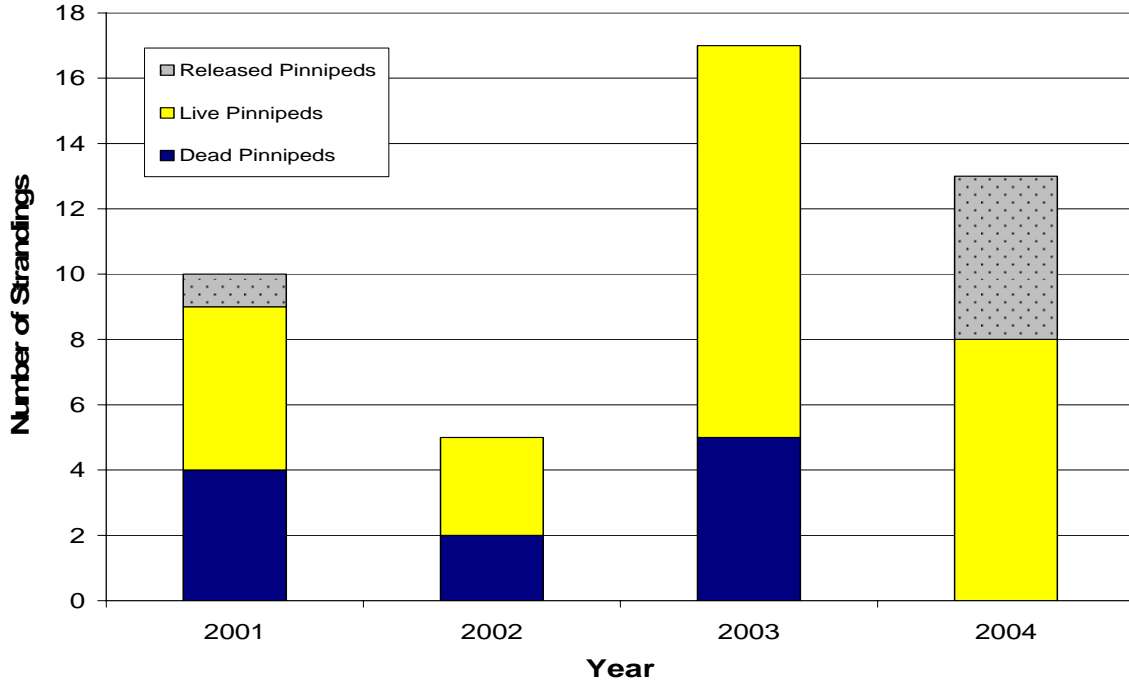
27 Mass Strandings. Mass strandings occur frequently in the Southeast Region. The majority of mass
28 strandings are either pilot whales or rough-toothed dolphins. Other species that have mass stranded
29 include bottlenose dolphins, Fraser’s dolphins, and pantropical spotted dolphins.

30 Human Interactions. Documented human interactions with odontocetes are primarily fisheries
31 interactions, although ship strikes do occur. Human interactions accounted for 12 percent of the total

1 number of strandings from 2001-2004. Of these, seven percent are fishery interactions including crab
2 pot and recreational hook and line, and the remaining five percent of human-related mortality
3 included boat strikes, gun shot wounds, and plastic ingestion. On average, approximately three
4 stranded right whales are reported each year in the Southeast Region. Reported right whale
5 strandings have been associated with boat strikes and entanglements more often than other causes.
6 Twenty-two percent of the recorded right whale ship strikes from 1975 to 2002 occurred off the coast
7 of the Southeast area (Jensen and Silber 2003). Right whale entanglements are described above under
8 the NMFS Northeast Region section.

9 Temporal Changes. Seasonal peaks are seen in many species in the Southeast Region, and are
10 generally related to migratory patterns, calving seasons, environmental conditions (including water
11 temperature and harmful algal blooms) and fishery activities. For example, bottlenose dolphin
12 strandings generally occur in the spring and summer in the more southern parts of the region, and in
13 the spring and fall towards the north. Right whale and humpback whale strandings are most common
14 during the migratory period from November through April.

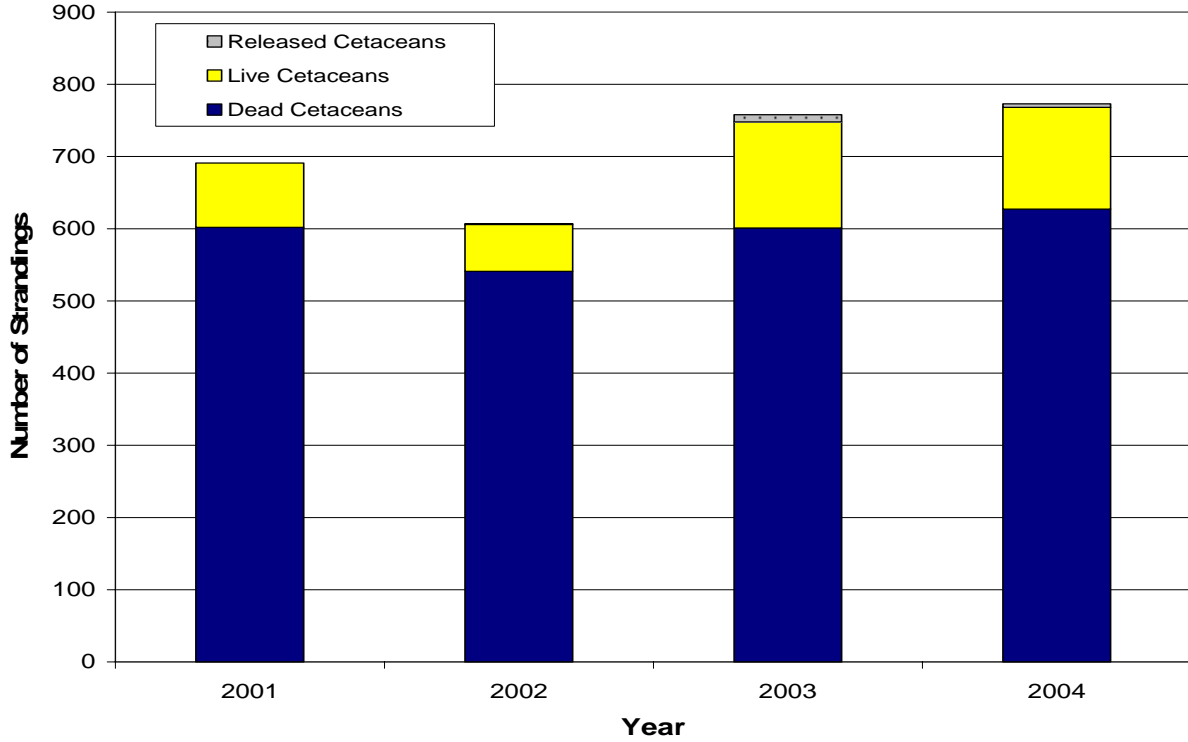
15 UMEs. Bottlenose dolphin UMEs have occurred in the Florida panhandle in 1999-2000, 2004, 2005,
16 and 2006. A multi-species UME (bottlenose dolphins and manatees) has been ongoing from 2005-
17 2006 on the west coast of Florida. Other manatee UMEs have occurred on the west coast of Florida
18 in 1996, 2002, and 2003. Small cetacean UMEs occurred in 2004 in North Carolina. A harbor
19 porpoise UME occurred in North Carolina in 2005. Bottlenose dolphin UMEs have occurred in
20 Texas in 1992 and 1994 (WGMMUME 2005).



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Figure 3-6. Southeast Region Pinniped Strandings 2001-2004



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Figure 3-7. Southeast Region Cetacean Strandings 2001-2004

1 **NMFS Southwest Region.** Thirty-seven species of marine mammals have the potential to occur in
2 the Southwest Region (Appendix E, Table E-16) (Geraci and Lounsbury 2005). The Steller sea lion,
3 southern sea otter (*Enhydra lutris nereis*), and Guadalupe fur seal (*Arctocephalus townsendi*) are
4 listed as threatened. Humpback, blue, sei, sperm, fin, and North Pacific right whales are listed as
5 endangered. All threatened and endangered species are listed as depleted under the MMPA. In
6 California, Steller sea lion critical habitat is designated as major rookeries and their associated air and
7 aquatic zones. The air zones extend 3,000 feet above rookery areas historically occupied by sea lions,
8 and aquatic zones extend 3,000 feet seaward from these areas (58 FR 45269–45285).

9 The most commonly stranded pinniped species in the Southwest region are California sea lions
10 (*Zalophus californianus*), followed by harbor seals and northern elephant seals (*Mirounga*
11 *angustirostris*). There are also infrequent strandings of Steller sea lions, Guadalupe fur seals, and
12 northern fur seals. Over half of all stranded otariids were reported alive when first observed. Figure
13 3-8 depicts the number of reported pinniped strandings in the Southwest Region from 2001-2004.

14 The most commonly stranded small cetaceans in the Southwest Region are long- and short-beaked
15 common dolphins (*Delphinus capensis* and *D. delphis*), harbor porpoise, bottlenose dolphins, Risso's
16 dolphins, Dall's porpoises (*Phocoides dalli*), and Pacific white-sided dolphins (*Lagenorhynchus*
17 *obliquidens*). The most commonly stranded large whales are gray whales, which in some years are
18 the most commonly observed stranded cetacean. Infrequently stranded cetacean species include
19 Northern right whale dolphins (*Lissodelphis borealis*), rough-toothed dolphins, pygmy and dwarf
20 sperm whales, sperm whales, short-finned pilot whales, beaked whales, humpback whales, and minke
21 whales. Most stranded cetaceans are dead when first observed and reported. Figure 3-9 depicts the
22 number of reported cetacean strandings in the Southwest Region from 2001-2004.

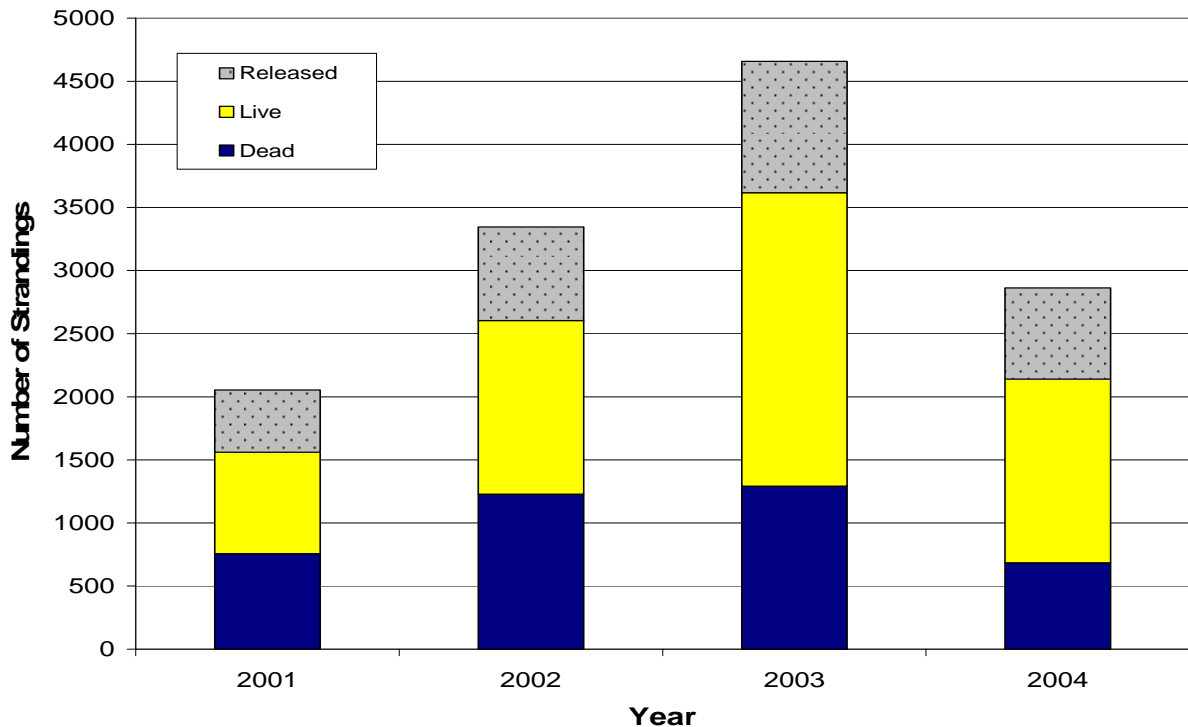
23 Mass Strandings. Mass strandings are rarely reported in the Southwest Region.

24 Human Interactions. Documented human interactions in the Southwest region include boat strikes,
25 fishery interactions, and deliberate shootings. Seventeen whales (10 gray whales and 7 humpback
26 whales) were reported entangled in fishing gear, and other animals were determined to have been hit
27 by ships. Each year some pinnipeds are documented to have been shot.

28 Temporal Changes. The majority of gray whale strandings in the Southwest Region occur from
29 March through May when the whales are found off the coast of California during their northern
30 migration. Several large stranding events, affecting both odontocetes and pinnipeds, have been

1 recorded in the spring coincident with the occurrence of large toxic phytoplankton blooms. Most
2 elephant seal strandings are pups and most occur from March-May during the fasting period between
3 the end of weaning and when the animals enter the open ocean to feed on their own. Most harbor seal
4 strandings occur from April-June, coinciding with the peak of pupping season.

5 UMEs. Multi-species UMEs occurred in 1995, 2002, and 2003. California sea lion UMEs occurred
6 in 1991, 1998, and 2000. The 1998 and 2000 UMEs were caused by domoic acid. A gray whale
7 UME occurred from 1999 to 2001 in California, Oregon, Washington, and Alaska, in addition to
8 Canada and Mexico (spanning the entire migration corridor). Other UMEs include pinnipeds (1993),
9 common dolphins (1994), and harbor seals (1997) (WGMMUME 2005).



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Figure 3-8. Southwest Region Pinniped Strandings 2001-2004

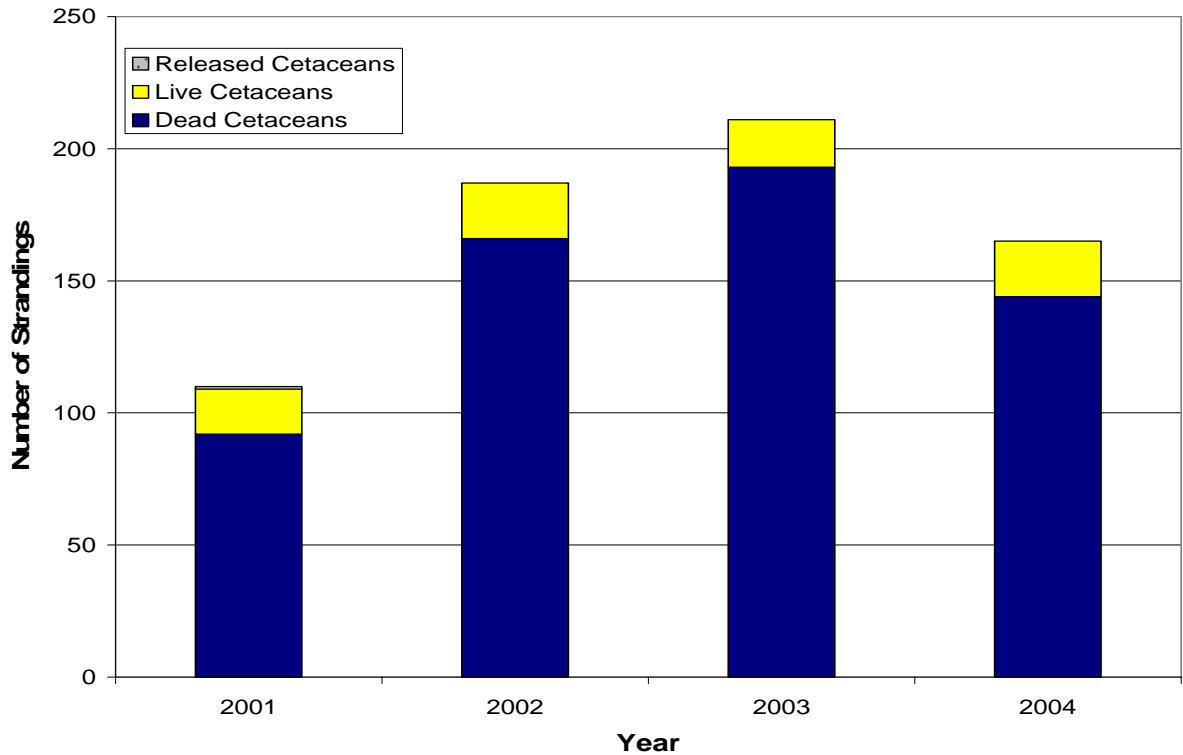


Figure 3-9. Southwest Region Cetacean Strandings 2001-2004

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4 **NMFS Northwest Region.** Twenty-eight species of marine mammals have the potential to occur in
 5 the Northwest Region (Appendix E, Table E-17) (Geraci and Lounsbury 2005). The Steller sea lion
 6 is the only threatened species in the region. Endangered species include the humpback, blue, sei,
 7 sperm, fin, and North Pacific right whales. The Southern Resident DPS of killer whales in
 8 Washington is also listed as endangered. Approximately 2,560 square miles of inland waters of
 9 Washington have been designated as critical habitat for the Southern Resident killer whale DPS (71
 10 FR 69054-69070). All threatened and endangered species are listed as depleted under the MMPA.
 11 The Eastern Pacific stock of the northern fur seal (*Callorhinus ursinus*) is also listed as depleted
 12 under the MMPA. In Oregon, Stellar sea lion critical habitat is designated as major rookeries and
 13 their associated air and aquatic zones. The air zones extend 3,000 feet (0.9 kilometers) above rookery
 14 areas historically occupied by sea lions, and aquatic zones extend 3,000 feet seaward from these areas
 15 (58 FR 45269–45285).

16 The majority of stranded animals in the region are harbor seals. Approximately 50 percent of
 17 stranded harbor seals are live when first observed and are predominantly pups. Other commonly
 18 stranded pinnipeds include California sea lions, Steller sea lions, and Northern fur seals. These

1 animals are usually dead when first reported. The number of elephant seals reported to the network
2 has recently been increasing, associated with recently colonized haul-out and breeding sites in
3 southern Oregon and the inland waters of Washington. The majority of elephant seals that are
4 reported to the network are not stranded, but are hauled out to molt. The network's response includes
5 posting signs to alert the public about the life history of the seals and to help prevent harassment of
6 the resting animals. Figure 3-10 depicts the number of reported pinniped strandings in the Northwest
7 Region from 2001-2004. The increasing trend in reported strandings, shown in Figure 3-10, may
8 reflect improved coverage by the stranding network combined with increased funding.

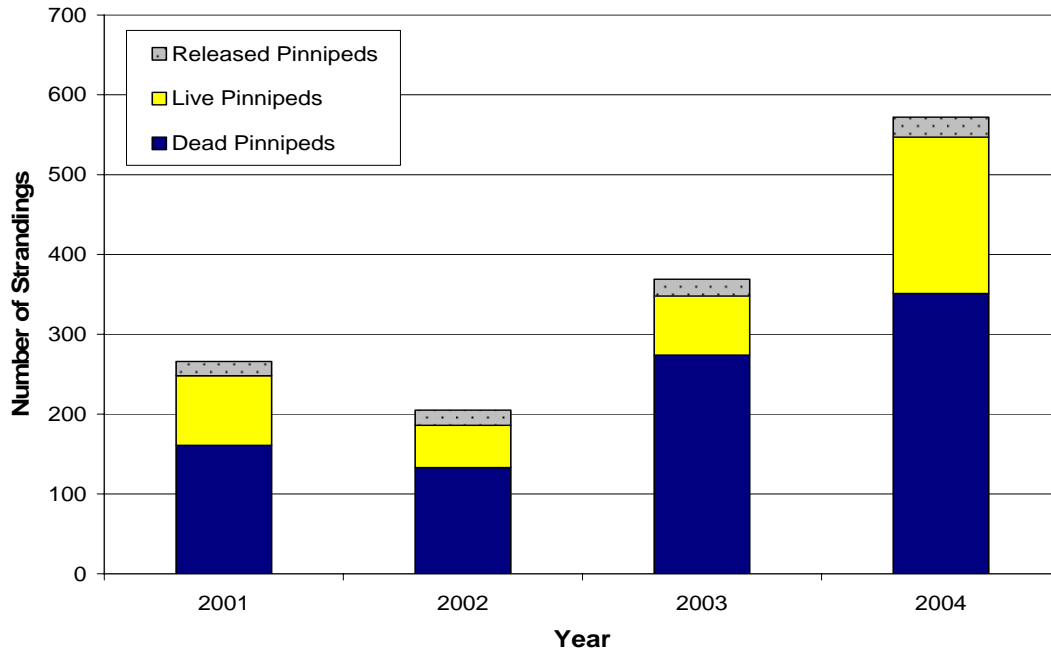
9 The most common stranded cetacean species are the gray whale, harbor porpoises, Dall's porpoises,
10 Pacific white-sided dolphins, killer whales, sperm whales, Risso's dolphin, minke, humpback, and fin
11 whales. Seventeen different odontocete species, including beaked whales, have been reported
12 stranded from 1989-2003. The majority of stranded odontocetes are dead when first observed.
13 Figure 3-11 depicts the number of reported cetacean strandings in the Northwest Region from 2001-
14 2004. The increasing trend in reported strandings, shown in Figure 3-11, may reflect improved
15 coverage by the stranding network combined with increased funding.

16 Mass Strandings. The occurrence of mass strandings in Oregon and Washington is rare. However, a
17 mass stranding of 41 sperm whales occurred in central Oregon in 1979.

18 Human interactions. Boat strikes and fisheries interactions with large whales have been documented.
19 Documented human interactions with phocids include fisheries interactions, vehicle collisions, and
20 shootings. Documented human interactions involving otariids are primarily shootings.

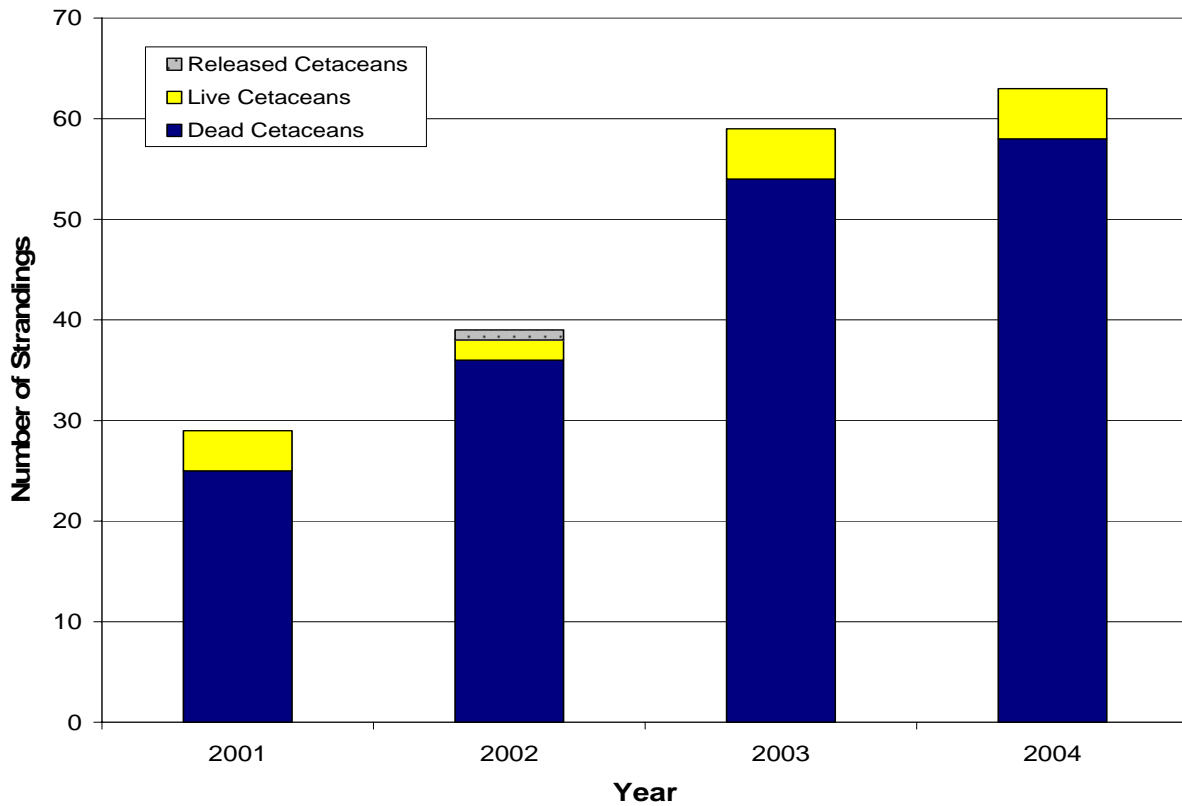
21 Temporal changes. Gray whales strand most frequently in the spring during their northward
22 migration.

23 UMEs. A gray whale UME occurred from 1999 to 2001 in Washington, Oregon, and California. A
24 pinniped UME occurred in Washington in 1993 due to human interaction (WGMMUME 2005).
25 After detecting a significant increase in the level of harbor porpoise strandings in 2006, a UME was
26 declared for harbor porpoises in the Pacific Northwest on October 31, 2006.



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Figure 3-10. Northwest Region Pinniped Strandings 2001-2004



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Figure 3-11. Northwest Region Cetacean Strandings 2001-2004

1 **NMFS Alaska Region.** Twenty-eight species of marine mammals have the potential to occur in the
2 Alaska Region (Appendix E, Table E-18) (Geraci and Lounsbury 2005). Threatened species include
3 the southwest Alaska DPS of the northern sea otter (*Enhydra lutris kenyoni*) and the eastern DPS of
4 the Steller sea lion. Endangered species include the western DPS of Steller sea lions, bowhead
5 (*Balaena mysticetus*), blue, humpback, fin, sei, sperm, and North Pacific right whales. All threatened
6 and endangered species are listed as depleted under the MMPA. The Cook Inlet stock of beluga
7 whales (*Delphinapterus leucas*) and the Eastern Pacific Stock of northern fur seals are also listed as
8 depleted under the MMPA. The AT1 group of transient killer whales is also listed as depleted.
9 Critical habitat for the Steller sea lion is designated within Alaska and is defined as major rookeries;
10 haul-outs; and associated terrestrial, air, and aquatic zones. There are also three special aquatic
11 foraging areas that are designated as critical habitat for the Steller sea lion: Shelikof Strait (in the
12 Gulf of Alaska), Bogoslof Island area and Seguam Pass (in the Bering Strait), and the Aleutian
13 Islands area (58 FR 45269–45285). Critical habitat for the North Pacific right whale has been
14 designated in the Gulf of Alaska and the Southeast Bering Sea (71 FR 38277-38297).

15 The Alaskan Regional Stranding Network coordinates with Alaska Native tribal governments and
16 villages, particularly for species that have co-management agreements, as mandated through Section
17 119 of the MMPA. Stranded animals are examined to determine if the death resulted from a struck-
18 but-lost situation. At times, Native villages request parts from an animal for subsistence use or
19 Native articles of handicrafts and clothing.

20 Stranding reports in Alaska are limited by the extensive and mostly rural coastline. Commonly
21 reported stranded pinniped species include harbor seal, Steller sea lion, ringed seal, bearded seal,
22 spotted seal, and elephant seal. On average, from 2001-2004, five harbor seal pups a year were
23 brought to the rehabilitation facility in Alaska. Figure 3-12 depicts the number of reported pinniped
24 strandings in the Alaska Region during from 2001-2004.

25 The most commonly stranded cetacean species in the Alaska Region are gray whales, beluga whales,
26 humpback whales, killer whales, Dall's porpoise, harbor porpoise, and Cuvier's (*Ziphius cavirostris*),
27 Baird's (*Berardius bairdii*), and Stejneger's (*Mesoplodon stejnegeri*) beaked whales. Infrequently
28 reported stranded species include Pacific white-sided dolphins, sperm whales, minke whales, and fin
29 whales. Most beluga whale strandings are from the Cook Inlet stock. On average, from 2001-2004,
30 two beaked whale strandings were reported each year. Figure 3-13 depicts the number of reported
31 cetacean strandings in the Alaska Region from 2001-2004.

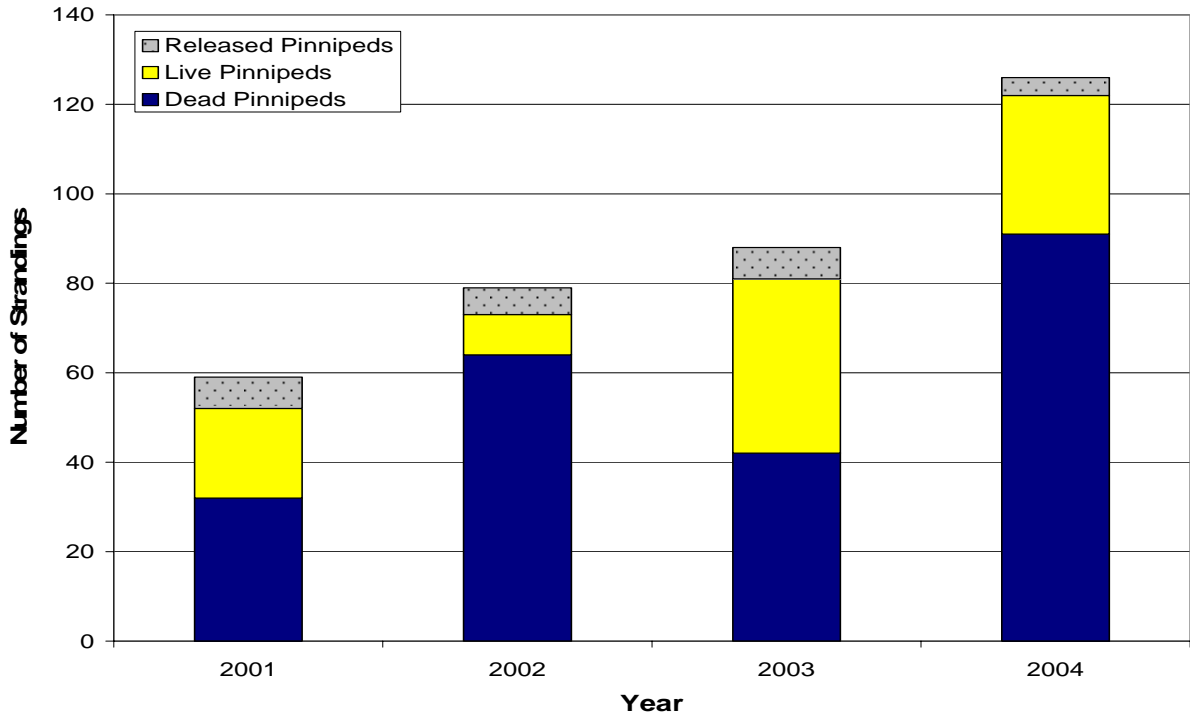
1 Mass Strandings. Cook Inlet beluga mass strandings, as related to tides, were reported three times in
2 2000 (two unconfirmed reports) and five times in 2003 (two unconfirmed reports), with a best
3 estimate of 20 animals per event.

4 Human Interactions. Documented human interactions for stranded animals include boat strikes and
5 fisheries interactions. From 2000-2004, an average of seven humpback whale entanglements were
6 reported annually. This number increased to approximately 22 in 2005 and 15 in 2006. Some of
7 these entanglement events may be the result of increased reporting awareness or re-sightings of the
8 same animal. However, the number of entangled humpback whale reports appears to be increasing.
9 During this time, several bowhead and gray whales were also reported entangled. Several boat strike
10 reports involving humpback whales are reported annually. From 2001-2004, approximately four
11 Steller sea lion strandings per year involved net entanglement or fishing lure/line in mouth.

12 Temporal Changes. Most stranding reports are received during the warmer months (May-October).
13 No reported strandings appear to be from temporal or ice changes.

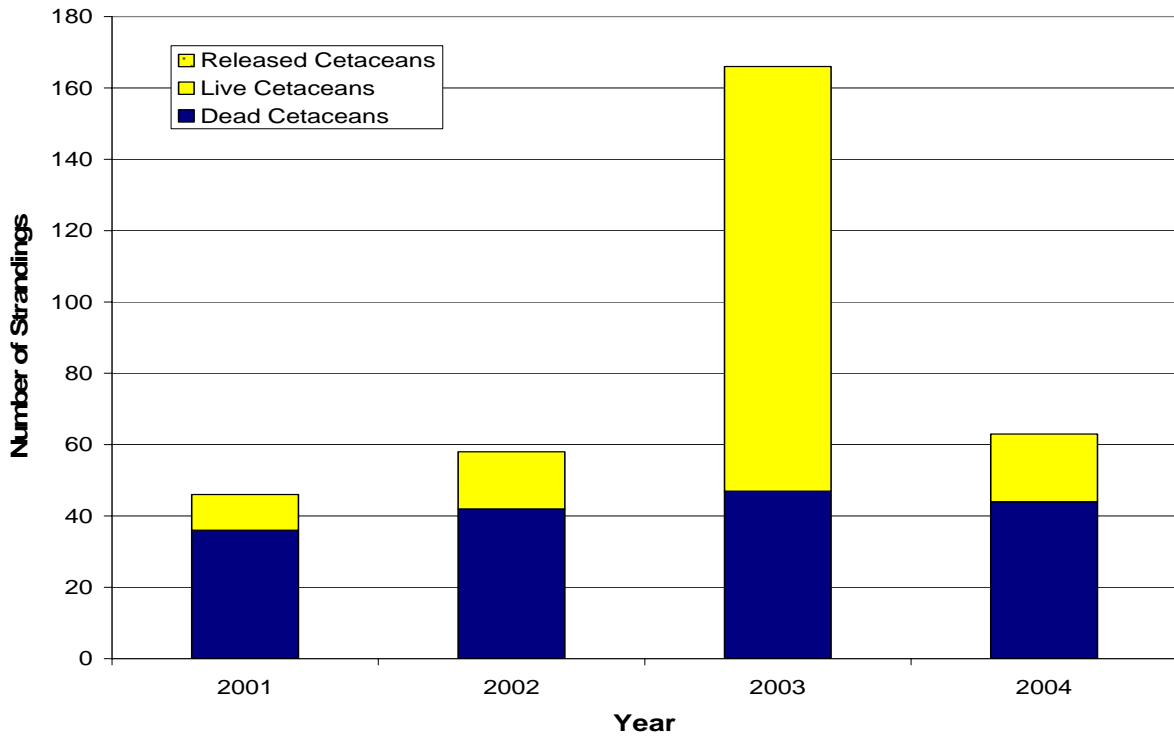
14 Marine Mammal Population Changes. Some marine mammal populations are increasing, including:
15 the Central North Pacific stock of humpback whales, bowhead whales, the eastern population stock of
16 Steller sea lions, and Bristol Bay beluga whales. Harbor seal populations have experienced declines
17 in parts of Alaska, notably the Aleutian Islands, Prince William Sound, and Glacier Bay. Cook Inlet
18 belugas were designated as depleted on May 31, 2000 (65 FR 34590) and have declined 5.6 percent a
19 year since 1994 (NMFS unpublished data). AT1 killer whales were designated as depleted on June 3,
20 2004 (69 FR 31321). Northern fur seals, which were designated as depleted on May 18, 1988 (53 FR
21 17888) are not recovering and continue to decline.

22 UMEs. A northern sea otter UME was declared in Alaska on August 24, 2006 for elevated levels of
23 sea otter mortality since 2002, with the majority of deaths in 2005 and 2006. A significant and
24 unusual pathology, *Streptococcus bovis* endocarditis/septicemia was reported in approximately 43
25 percent of these animals.



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Figure 3-12. Alaska Region Pinniped Strandings 2001-2004



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Figure 3-13. Alaska Region Cetacean Strandings 2001-2004

1 ***NMFS Pacific Islands Region.*** Twenty-three marine mammal species have the potential to occur in
2 the Pacific Islands Region (Appendix E, Table E-19) (Geraci and Lounsbury 2005). No threatened
3 species occur in the region. Endangered species include the Hawaiian monk seal and humpback,
4 sperm, and fin whales. All endangered species are listed as depleted under the MMPA. Critical
5 habitat for the Hawaiian monk seal is designated and is defined as all beach areas, sand spits, and
6 islets (including all beach crest vegetation to its deepest extent inland), lagoon waters, and inner reef
7 waters. Critical habitat also includes ocean waters out to a depth of 20 fathoms around Kure Atoll,
8 Midway Islands (except Sand Island and its harbor), Pearl and Hermes Reefs, Lisianski Island,
9 Laysan Island, Maro Reef, Gardner Pinnacles, French Frigate Shoals, Necker Island, and Nihoa
10 Island (53 FR 18998).

11 The only pinniped species to naturally occur in the Hawaiian Islands is the Hawaiian monk seal.
12 Hawaiian monk seals rest and pup on beaches in the main Hawaiian Islands, and may mistakenly be
13 reported as being stranded. However, a total of 10 sick and injured (stranded) monk seals were
14 reported from 2000-2004, and 8 of these animals were found dead. Rarely, elephant seals may also
15 be found stranded in the main Hawaiian Islands. Figure 3-14 depicts the number of reported pinniped
16 strandings in the Pacific Islands Region from 2001-2004.

17 The most common cetacean species to be reported stranded are humpback whales, sperm whales,
18 spinner dolphins, spotted dolphins, and striped dolphins. Infrequently reported cetacean species
19 include bottlenose dolphin, rough-toothed dolphin, pygmy sperm whale, dwarf sperm whales, pilot
20 whales, false killer whales (*Pseudorca crassidens*), melon-headed whales, beaked whales, and killer
21 whales. Approximately four large whales are reported stranded each year, with most of the strandings
22 occurring during the humpback whale mating and calving season (November to April). Figure 3-15
23 depicts the number of reported cetacean strandings in the Pacific Islands Region from 2001-2004.

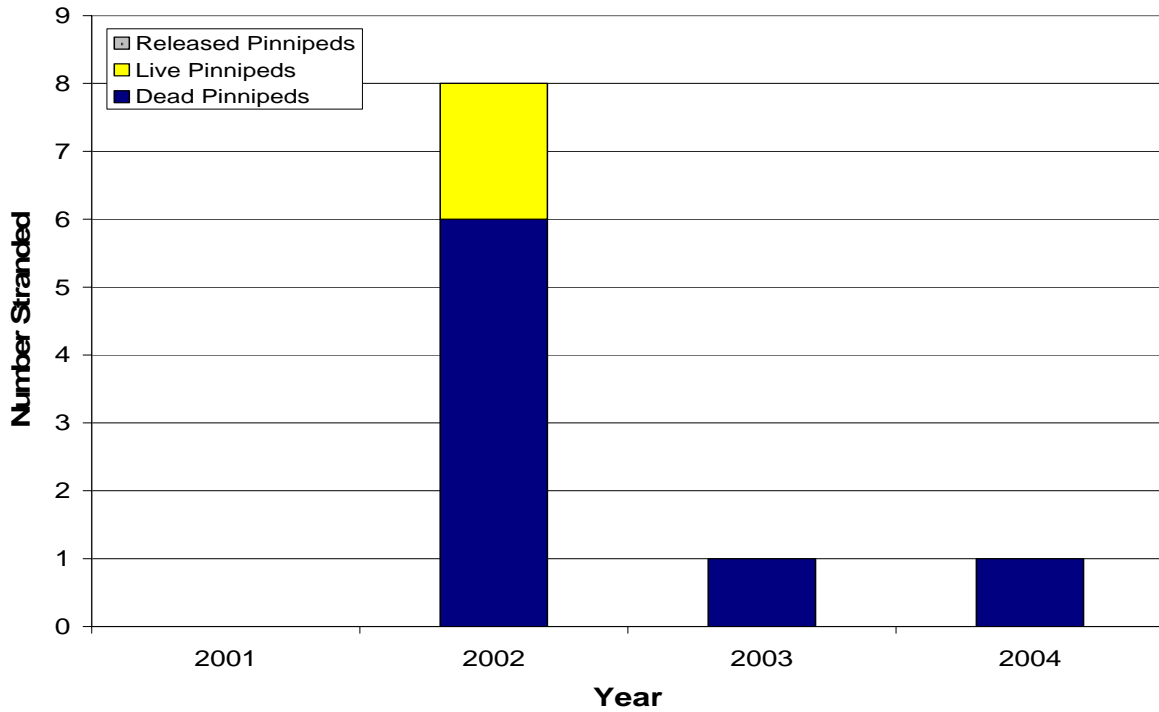
24 Mass Strandings. Mass strandings are rarely recorded in the Pacific Islands Region. However, in
25 2004 a group of 150-200 melon-headed whales were reported close to shore inside Hanalei Bay on
26 the island of Kaua'i. These animals milled in shallow water for several hours and only returned to
27 deep water after human intervention. The local citizens constructed a *lau* (a floating strand of woven
28 vines) and used it to herd the animals out of the Bay.

29 Human Interaction. On average, four monk seals are reported hooked or entangled in fishing gear or
30 marine debris. Documented human interactions with large whales include boat strikes and fisheries

1 interactions. Humpback whales have been reported entangled in fishing gear, with an average of four
2 entanglements per year.

3 Temporal Changes. No temporal changes have been noted in the Pacific Islands Region.

4 UMEs. A monk seal UME occurred from 2001 to 2002 due to starvation (WGMMUME 2005).



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Figure 3-14. Pacific Islands Region Pinniped Strandings 2001-2004

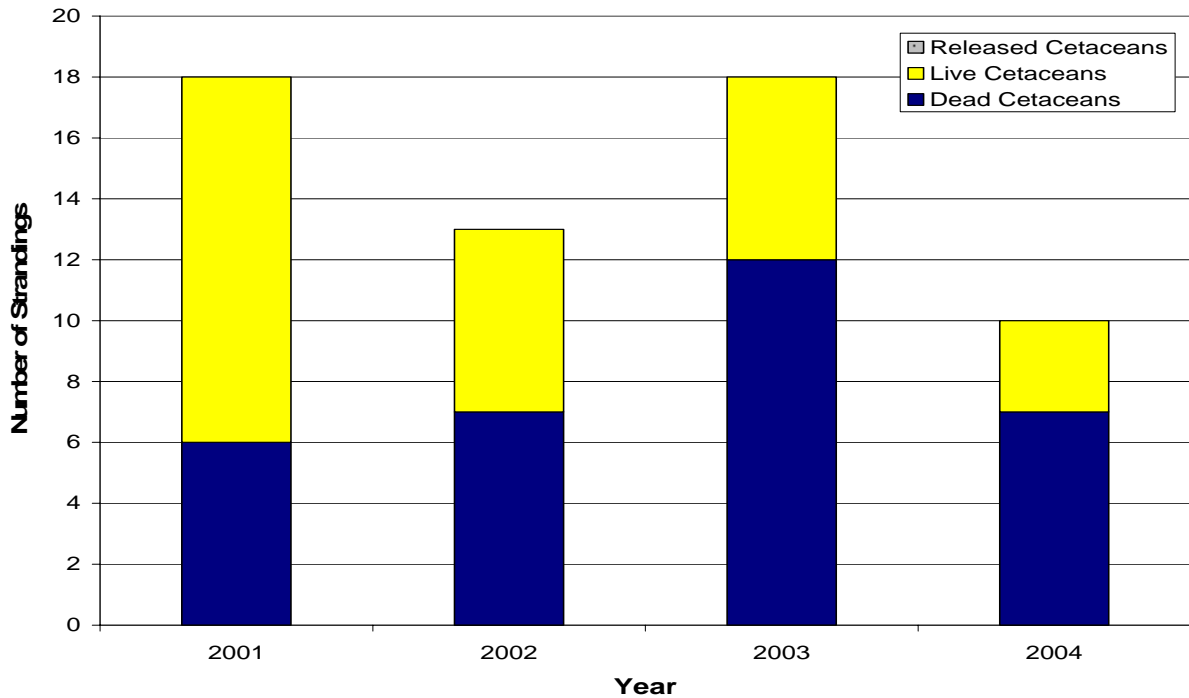


Figure 3-15. Pacific Islands Region Cetacean Strandings 2001-2004

3.3 Water and Sediment Quality

3.3.1 Definition of the Resource

Water quality is defined as the biological, chemical, and physical properties of a waterbody that determine its suitability for human use or for its role in the ecosystem. In coastal environments water quality is influenced by river drainage, erosion, and atmospheric deposition (e.g., precipitation and dust). Human activities affect water quality through nonpoint source runoff, pollutant discharges, dumping, hazardous material spills, and air emissions. Water quality is determined through a variety of indicators, including dissolved inorganic nitrogen (DIN), dissolved inorganic phosphorus (DIP), water clarity, and dissolved oxygen. Concentrations of DIN and DIP that indicate poor condition vary according to location. Water clarity is considered poor if less than 10 percent of surface light reaches 1 m. Dissolved oxygen is considered poor if concentrations less than 2 mg/L are present. Data on water quality are mainly taken from the Environmental Protection Agency (EPA) National Coastal Condition Report II (NCCR) (EPA 2004).

Sediment quality is the ability of sediment to support a healthy benthic population and it helps to determine the ecological health of aquatic systems. Sediments provide essential habitat and food for

1 many organisms. Activities affecting sediment quality are runoff, pollutant discharges, dumping,
2 hazardous materials spills, and air emissions. Typical sediment contaminants include heavy metals
3 and POPs. POPs include dioxin, Polychlorinated Biphenyls (PCBs), Polycyclic Aromatic
4 Hydrocarbons (PAHs), and pesticides. Most major harbors in the U.S. have moderate to severe
5 sediment contamination. Sediment toxicity can be measured by conducting static toxicity tests with
6 amphipods. Sediment contamination can be determined using Effects Range Median (ERM) and
7 Effects Range Low (ERL) guidelines. The ERM is the median concentration of a contaminant
8 observed to have adverse biological effects. The ERL is the 10th percentile concentration of a
9 contaminant demonstrating adverse biological effects. Sediment toxicity from organic matter can be
10 assessed by measuring the Total Organic Carbon (TOC) content. Data on sediment quality are
11 compiled in the NCCR (EPA 2004).

12 **3.3.2 Affected Environment**

13 The North Atlantic coast is the most densely populated coastal region in the U.S. The overall
14 estuarine ecological condition is rated as poor. Twenty-seven percent of the estuarine area is
15 impaired for aquatic life use. Thirty-one percent of the estuarine area is impaired for human use. The
16 water quality in estuaries is considered fair to poor. The DIN rating is fair, with 11 percent having
17 concentrations exceeding 0.5 mg/L. The DIP rating is good, with 5 percent having concentrations
18 exceeding 0.05 mg/L. The overall rating of water clarity is fair, with 23 percent of the estuarine area
19 in poor condition. Northeast estuaries dissolved oxygen concentrations are good. Hypoxia and
20 anoxia were apparent in 10 percent of the estuarine area, mainly in the isolated trenches of the
21 Chesapeake Bay (EPA 2004).

22 A poor sediment quality rating was given to 16 percent of estuaries on the Northeast coast
23 Unimpaired sediments are located in the Acadian Province (with the exception of Great Bay, NH),
24 eastern Long Island Sound, and open regions of the Delaware and Chesapeake Bays. Toxic
25 sediments were found in eight percent of Northeast estuaries. Sediments in Cape Cod Bay, New
26 York Harbor, and western Long Island Sound are impaired by toxicity. Sediment contamination is
27 considered fair. Sediment around major urban areas (New York Harbor, Narragansett Bay) exceeds
28 ERM guidelines for metals and other organic contaminants. Other contaminants exceeding ERL
29 guidelines included nickel, mercury, arsenic, chromium, Dichloro-Diphenyl-Trichloroethane (DDT),
30 and PCBs. The TOC for estuaries was good and elevated TOC levels corresponded to areas with high
31 sediment contamination (EPA 2004).

1 Water quality of the South Atlantic coast estuaries is affected by the increasing coastal population.
2 Estuarine areas are in fair to good ecological condition. Twenty-three percent of the estuarine area is
3 impaired for aquatic life and human uses. The water quality in estuaries is considered fair to good.
4 The DIN rating is good and no estuarine areas have a DIN concentration exceeding 0.5 mg/L. DIP is
5 considered fair, with 12 percent having concentrations exceeding 0.05 mg/L. The overall rating of
6 water clarity is fair, with 12 percent of the estuarine area in poor condition. Dissolved oxygen
7 concentrations are good, with only two percent of the area exhibiting hypoxia. Sediment quality in
8 the South Atlantic coast estuaries is fair to good. Sediment toxicity, contamination, and TOC are all
9 considered good (EPA 2004).

10 In Puerto Rico, the overall ecological condition of estuaries is poor. Seventy-seven percent of the
11 area is impaired for aquatic life use. The water quality in estuaries is considered fair. DIN is
12 considered good, with no estuaries exceeding concentrations greater than 0.1 mg/L. The DIP rating is
13 good, with only six percent exceeding concentrations greater than 0.01 mg/L. Water clarity is fair
14 and dissolved oxygen concentrations are good, with one percent of the areas exhibiting hypoxia.
15 Water quality in all of Puerto Rico's shoreline waters has been assessed. Twenty-one percent of
16 shoreline waters are impaired, 24 percent are threatened, and 55 percent are fully supporting
17 designated uses. Sediment quality is poor in Puerto Rico, with three percent of sediment considered
18 toxic. Sediment contamination criteria (ERM and ERL) were exceeded in 23 percent of sediments,
19 mostly for heavy metals, pesticides, and PCBs. Sediment TOC is poor, as 44 percent of sediment had
20 a high TOC level (EPA 2002).

21 The U.S. Virgin Islands surface water quality is generally good, but quality is declining due to an
22 increase in point and non-point source discharges into the marine environment. Vessel wastes and
23 uncontrolled runoff are major direct discharges into surface waters (VI DPNR 2001). Estuaries in the
24 Virgin Islands have not been assessed, as these waterbodies are not considered to be true estuaries.
25 Ninety-seven percent of the shoreline has been assessed. Four percent of shoreline waters are
26 impaired, 10 percent threatened, and 86 percent are fully supporting designated uses (EPA 2004).
27 Sediment quality information for the Virgin Islands is not available.

28 Water quality in the Gulf of Mexico is affected by the growing population along the coast. The Gulf
29 of Mexico estuarine area is in fair ecological condition. Thirty-five percent of the area is impaired for
30 aquatic life uses, and 14 percent are impaired for human use. The water quality in estuaries is
31 considered fair. DIN is considered good, with only two percent having concentrations greater than
32 0.5 mg/L. The DIP rating is fair, with 11 percent having concentrations exceeding 0.05 mg/L. The

1 overall rating of water clarity is fair, with 29 percent in poor condition. Dissolved oxygen
2 concentrations are good, with only one percent of the area exhibiting hypoxia. Coastal and deeper
3 waters of the Gulf are degraded from spills and dumping from vessels. An area of hypoxia, located
4 off of the Louisiana continental shelf, begins in late spring and disappears in the fall. Sediment
5 quality in the Gulf of Mexico is fair, with less than one percent exhibiting toxicity. However, the
6 toxicity percentage may be different, as data was missing from 38 percent of estuaries. Sediment
7 ERM guidelines were exceeded primarily in Texas estuaries and ERL guidelines were exceeded in
8 Mobile Bay, AL. Sediment TOC levels are considered good in the Gulf Coast (EPA 2004).

9 Ecological conditions in Pacific Coast estuaries are fair to poor. The water quality index for estuaries
10 is good to fair. Poor water quality is mainly concentrated in south Hood Canal (Puget Sound) and
11 San Francisco Bay. The DIN rating is good, with less than one percent exceeding concentrations of
12 0.5 mg/L. DIP is considered fair, with concentrations exceeding 0.1 mg/L in San Francisco Bay and
13 south Hood Canal. Water clarity is considered poor, especially in San Francisco Bay. Dissolved
14 oxygen concentrations are good and hypoxia was only exhibited in two subestuaries of Puget Sound
15 (EPA 2004). Sediment quality in Pacific Coast estuaries is fair to poor and toxicity is poor. There are
16 high metal concentrations in San Francisco Bay and high metal and organic contaminants in Puget
17 Sound and Los Angeles Harbor. ERM guidelines were exceeded in San Francisco Bay for chromium,
18 mercury, and copper. In Southern California, DDT levels exceeded ERM guidelines. One site on the
19 Columbia River exceeded ERM guidelines for either PAHs or PCBs. Three sites in Puget Sound also
20 exceed these contaminant criteria. Los Angeles Harbor had high concentrations of metals and PAHs.
21 Sediment TOC is considered good to fair. Los Angeles Harbor and Big Lagoon (in Northern
22 California) are areas with high TOC (EPA 2004).

23 Most of Alaska's vast coastline has not been monitored for water quality. The majority of water
24 resources are likely in pristine condition due to its size, sparse population, and remoteness. Water
25 quality may be impaired around urban areas and near seafood processing facilities in the Aleutian
26 Islands (EPA 2002). Only 0.1 percent of Alaska's estuaries water quality has been assessed. Of this
27 percentage, 89 percent are impaired and 11 percent are fully supporting designated uses. Only 0.1
28 percent of the Alaska shoreline has been assessed. Thirty-six percent of the assessed shoreline water
29 is impaired. Sixty-four percent of shoreline water is fully supporting designated uses (EPA 2004).
30 An overall assessment of Alaska's sediment quality has not been conducted. Harbors and bays have
31 the potential to contain toxic sediments contaminated with PCBs, lead, dioxin, and petroleum
32 products.

1 Hawaii does not have a comprehensive coastal monitoring program. Water quality in Hawaii is
2 variable, depending on storm water runoff. Storm water runoff decreases water quality as it carries
3 pollutants into estuaries and coastal waters. Most industrial facilities and wastewater treatment plants
4 discharge into coastal waters. Turbidity, nutrients, and pathogens from nonpoint source pollution
5 also affect Hawaii's water quality (EPA 2002). Water quality has been assessed in 99 percent of
6 Hawaiian estuaries. Of this percentage, 57 percent is impaired and 43 percent is fully supporting
7 designated uses. Eighty-three percent of shoreline waters have been assessed. Two percent of
8 shoreline waters are impaired, 1 percent is threatened, and 97 percent is fully supporting designated
9 uses (EPA 2004). An overall assessment of Hawaii's sediment quality has not been conducted.

10 Guam's marine waters and bay sediments are generally free of pollutants, except in areas of localized
11 pollutant runoff or where discharges from land or vessels occur. The deep surrounding seas rapidly
12 dilute pollutant discharges (GEPA 2000). Of the bays assessed for water quality, three percent
13 supported aquatic life and 65 percent supported swimming. Pollutants impacting water quality in
14 these areas include pathogens, metals, suspended solids, urban runoff, and municipal facilities. The
15 main cause of pollution in shoreline waters are microbial organisms (EPA 2002). Sediment quality
16 has been assessed for four of Guam's main harbors: Agana Boat Basin, Outer Apra Harbor, Agat
17 Marina, and Merizo Pier. Overall the sites were relatively clean, including deeper water sediments.
18 Most sites had high levels of copper, zinc, lead, and tin. Apra Harbor had the highest levels of these
19 contaminants as well as PCBs and PAHs (GEPA 2000).

20 Water quality in American Samoa is generally in good condition. Poor water quality conditions exist
21 in populated areas where nutrient enrichment from human and animal wastes occurs. Heavy rains can
22 bring sediments to coastal waters, a result of improper land use practices. Water and sediment quality
23 in Pago Pago Harbor are in poor condition. Fish and substrates are contaminated with heavy metals,
24 pesticides, and other pollutants. Previously, nutrient loading from cannery wastes caused algal
25 blooms and fish kills. Wastes are now being dumped beyond the inner harbor (Craig 2002). Of the
26 ocean shoreline assessed, 14 percent was impaired for aquatic life support. Fish consumption and
27 swimming uses were impaired in 100 percent of the assessed shoreline (EPA 2002). Sediment quality
28 information for the American Samoa is not available.

29 In the southern islands of CNMI, coastal water quality is impacted by sewage outfalls and overflows,
30 septic systems, dredging, excess nutrients, and urban runoff. Sedimentation from unpaved roads and
31 development increases turbidity in nearshore waters during heavy rains. High nutrient levels have
32 negatively affected coral reefs and lagoons. Water quality data was collected in 2005 on Saipan,

1 Tinian, Rota, and Managaha. In Saipan, 34 percent of coastal waters were non-supportive and 36
2 percent were fully supportive of recreational uses. In Tinian and Rota, 64 percent were fully
3 supportive of recreational uses, and no areas were non-supportive. All waters assessed on Managaha
4 were fully supportive of recreational uses. Water quality near coral reefs was also monitored in
5 2005. Twenty-eight percent of assessed waters were non-supportive of aquatic uses. Forty-eight
6 percent were fully supportive of aquatic uses (Castro *et al.* 2006). Sediment quality information for
7 CNMI is not available.

8 **3.4 Cultural Resources**

9 **3.4.1 Definition of the Resource**

10 Cultural resources are prehistoric or historic remains, artifacts, or indicators of past human activities
11 and accomplishments. They include “historic properties,” defined as prehistoric or historic sites,
12 buildings, structures, or objects listed or eligible for listing on the National Register of Historic Places
13 (NRHP). Artifacts, records, and physical remains associated with historic properties may be
14 considered cultural resources (NRCS 2006). Other types of cultural resources include cultural or
15 religious practices and Traditional Cultural Properties (TCPs). TCPs are properties associated with
16 cultural practices or beliefs of a living community that are important in maintaining the continuing
17 cultural identity of the community (Parker and King 1998). Examples of TCPs include: Native
18 American ceremonial locations; urban neighborhoods that are the traditional home of a particular
19 cultural group; and locations associated with the traditional beliefs of a Native American group.

20 NEPA and CEQ regulations require Federal agencies to consider potential impacts on the “human
21 environment,” which is defined as “the natural and physical environment and the relationships of
22 people to that environment” (40 CFR 1508.14). Therefore, a Federal action must be analyzed for
23 probable impacts on the cultural aspects of the human environment. The National Historic
24 Preservation Act (NHPA) requires Federal agencies to consider the effects of their actions on historic
25 properties (16 U.S.C. 470 et seq.). The Archeological and Historic Preservation Act requires Federal
26 agencies to report any perceived impacts their actions may have on historical or archaeological data
27 (including relics and specimens) (16 U.S.C. 469a et seq.). The Native American Graves Protection
28 and Repatriation Act requires the identification and appropriate disposition of human remains,
29 funerary objects, sacred objects, or objects of cultural patrimony that are excavated on purpose or
30 discovered inadvertently on Federal or tribal lands (25 U.S.C. 3001 et seq.).

1 **3.4.2 Affected Environment**

2 Prehistoric sites on land include shell middens, lithic scatters, habitation sites, burials, and ceremonial
3 sites and sacred sites of early Native American populations. Other Native American cultural remains
4 include domestic artifacts, stone tools, ivory objects, woven fishing nets, fiber-tempered pottery,
5 masks, pictographs, and petroglyphs. Petroglyphs have been found on prominent boulders along the
6 shoreline in Washington State (Stilson *et al.* 2003).

7 In some coastal areas of the U.S., Native American tribes and other aboriginal peoples maintain
8 strong cultural and subsistence ties to the environment and living natural resources, including marine
9 mammals. This rich heritage may be traced to pre-history through art, language, tradition, or social
10 customs. Native American villages located on the Pacific Coast depended on salmon, shellfish, and
11 marine mammals for subsistence and cultural purposes. Whaling and sealing played a large role in
12 the culture of tribes, including the Makah Tribe in Washington. The Makah hunted whales and used
13 drift or stranded whales for subsistence uses, including food, tools, and trade. In the Pacific
14 Northwest, Native American lands, trust resources, and tribal rights have been secured through
15 treaties, statutes, judicial decisions, and EOs. NMFS administers its trust responsibilities, with
16 respect to treaties, through government-to-government relationships with tribes. Present coastal tribes
17 in Washington continue to use coastal resources for subsistence, ceremonial, and commercial
18 activities. Important ceremonial resources include oysters, crabs, clams, salmon, bottomfish, kelp,
19 seaweeds, sea urchins, and sea birds (OCNMS 1993).

20 Alaska Natives use marine mammal parts for cultural handicrafts and harvest marine mammals for
21 subsistence. The Inuit people of Arctic Alaska currently hunt ribbon seals (*Phoca fasciata*), ringed
22 seals (*Phoca hispida*), bearded seals (*Erignathus barbatus*), spotted seals (*Phoca largha*), bowhead
23 whales, gray whales, walrus, and polar bears. Alaska natives also harvest beluga whales in the
24 Bering, Chukchi, and Beaufort Seas and Cook Inlet. Harbor seals are currently harvested throughout
25 their range by coastal Alaska Natives. Northern fur seals are hunted in the Pribilof Islands. There is
26 also a limited harvest of Steller sea lions and sea otters. Under the MMPA (Section 119), NMFS
27 enters into cooperative agreements with Alaska Native organizations to co-manage subsistence and
28 conserve marine mammals, including ice seals, harbor seals, fur seals, beluga whales, and bowhead
29 whales. Co-management agreements help meet species protection and recovery goals under the ESA
30 and MMPA, while sustaining the traditional livelihoods of Alaska Natives. Alaska Native
31 organizations also participate in marine mammal research and monitoring efforts.

1 Prehistoric sites are prevalent in the Pacific Islands. Guam coastal areas include latte stones and
2 ancient Chamorro artifacts. Latte stones were pillars which ancient Chamorro houses were built
3 upon. Latte stones are inserted in sand containing fragments of pottery, shells, fish bones, charcoal,
4 stone and shell tools. Burials in sand-lined pits have also been found near or under Latte stones. In
5 American Samoa, habitation sites are expected to be located in coastal areas. Material remains found
6 at these sites may include Lapita pottery, basalt flakes and tools, volcanic glass, shell fishhooks, shell
7 ornaments, and faunal remains. Archaeological evidence indicates that early sites may be found on
8 the shores of prehistoric embankments that have been filled in with sand. Remains of prehistoric
9 villages may be visible on the surface, but many are buried underground (ASHPO 2006).
10 Underground remains of prehistoric sites are also present in CNMI. Remains of Latte villages can be
11 found on CNMI coastal stretches and may include petroglyphs and Latte stones.

12 Archaeological sites in Hawaii include burial sites and TCPs. TCPs include volcanic cones,
13 landforms associated with deities, and submerged coral formations which were once fishing locations.
14 Habitation sites, burials, religious structures, and fishponds are present along the shoreline. Most
15 sites are above the high-water mark and may be buried underneath the sand of many beaches. The
16 largest known concentration of native Hawaiian burials is located on the Mokapu Peninsula, Oahu.
17 This dune complex has been listed on the NRHP. The site was excavated for military purposes from
18 1938-1940 and reburial efforts are being conducted (Cleghorn 2001). Archaeological historic sites
19 below the high-water mark are typically fishponds, but anchor holes and petroglyphs have been
20 documented. Most archaeological sites and TCPs in Hawaii have not been surveyed. It is likely that
21 most coastline areas contain historic sites and resources (USCG 1999). In the Northwestern Hawaiian
22 Islands, Nihoa and Necker Islands are both listed on the NRHP for their ceremonial and religious
23 usage by Native Hawaiians.

24 Many historic resources in the ROI are listed on, or eligible to be listed on, the NRHP. These include
25 lighthouses, ports, docks, coastal forts, and shipwrecks. The majority of historic sites in the Pacific
26 Islands are areas from World War II. In American Samoa, Guam, and CNMI Japanese pillboxes and
27 other coastal defenses can be found along the coastline. On CNMI, a mass grave of Japanese and
28 U.S. military forces killed during battle is located on the coast (Cabrera 2005). Many shipwrecks are
29 grounded on beaches throughout CNMI (CNMI 2001).

30 Submerged cultural resources include inundated archaeological sites, Native American artifacts,
31 shipwrecks, and aircrafts. Native American artifacts include canoe runs, canoes, fish weirs, and
32 petroglyphs (Stilson *et al.* 2003). Inundated archaeological sites found in nearshore areas include

1 fishing weirs, bowls, donut stones, prehistoric stone anchors, historic metal anchors, and the remains
2 of landings and wharfs. There is the potential for prehistoric sites offshore, where areas of the
3 continental shelf were once shoreline. Archaeological surveys have not been conducted in most of
4 these areas. American tanks that did not make landfall in CNMI sit in reef waters next to beaches
5 (Cabrera 2005).

6 **3.5 Human Health and Safety**

7 **3.5.1 Definition of the Resource**

8 A human health and safety risk is any hazardous, unhealthy, or unsanitary condition causing, or
9 capable of causing, an unreasonable threat to the health, safety, and welfare of persons living or
10 working in the vicinity of such condition. Human health and safety risks affect marine mammal
11 workers during response, rehabilitation, release, disentanglement, and research activities. Possible
12 concerns for workers include physical injury, illness, exposure to contaminants, and ocean conditions.
13 The Occupational Safety and Health Administration (OSHA) sets standards to assure safe and healthy
14 working conditions and prevent work-related injuries and illnesses. OSHA requires employers to
15 have health and safety plans. Employers must also maintain accurate records of employee work-
16 related injuries, illnesses, deaths, and exposure to toxic materials or harmful physical agents. OSHA
17 has laboratory standards for air contaminants and the risk of exposure to hazardous chemicals.

18 Human health and safety risks in the ROI may also affect the general public during normal beach and
19 ocean activities, such as swimming, boating, and surfing. Possible concerns are drowning, illness,
20 contact with marine animals, and exposure to contaminants. Human health and safety concerns on
21 the beach and in the ocean are similar in all of the ROIs.

22 **3.5.2 Affected Environment**

23 **3.5.2.1 Marine Mammal Worker Safety**

24 ***Stranding Response.*** For authorized persons responding to strandings, hazards include physical
25 injury, marine debris, zoonotic diseases, contaminant and toxin exposure, and exposure to the
26 elements. In a survey of marine mammal workers, over half (54 percent) of the 483 respondents
27 reported having at least one injury or illness believe to be the result of contact with marine mammals.
28 Most injuries were cuts, scrapes, bites, and rashes (Mazet *et al.* 2004). Physical injuries may occur
29 from the stranded marine mammal. Stranded whales may thrash their flukes or roll over onto a
30 person. Pinnipeds may attack and inflict serious bites that could become infected. Chemical

1 exposure may occur if personnel are in contact with euthanasia solutions or other drugs. Other
2 physical injuries include cuts from bone fragments and instruments. Lifting and rolling large animals
3 and the use of heavy equipment can cause strains and bruises. Wet conditions can lead to slips, trips,
4 falls, and possible drowning. Drowning is a risk during water rescues, especially if heavy surf
5 conditions, dangerous undertows, or rip currents exist. Rescuers can become entangled in lines and
6 nets used during water rescues, increasing the risk of drowning or other physical injury. The beach
7 composition (fine sand, mud, cobble, boulder, etc.) can increase the difficulty of responding to
8 strandings and may increase the risk of physical injuries.

9 Marine debris is a hazard during stranding responses. Workers may be injured by stepping on broken
10 glass, rusty metal, needles, or other litter. Workers could become entangled in derelict fishing gear
11 during water responses. Workers may also come into contact with contaminated debris, including
12 medical wastes and sewage.

13 Marine mammals may carry infectious zoonotic diseases that may be transmitted to humans.
14 Pathogens may be transmitted through direct contact with tissues, body fluids, or aerosols of the
15 infected animals. These pathogens include, but are not limited to, *Mycoplasma* spp. (seal finger),
16 *Mycobacterium* spp., *Erysipelothrix* sp., *Leptospira* sp., *Brucella* spp., seal poxvirus, and calicivirus.
17 Seal finger typically occurs after a pinniped bite and can cause swelling and severe pain, especially in
18 the joints of the hands. Seal poxvirus can cause painful skin lesions that may last up to a year.
19 *Leptospira* can produce chills, headaches, myalgia, and eye pain in humans. Other organisms that
20 infect marine mammals and could affect humans include *Salmonella* spp., *Vibrio* spp., *Clostridium*
21 sp., parasites, and fungi (Mazet *et al.* 2004, Cowan *et al.* 2001). Reports of human illnesses from
22 contact with marine mammals are rare, but have occurred. In the survey by Mazet *et al.* (2004),
23 respondents reported dangerous infections, including tuberculosis, leptospirosis, and brucellosis.

24 Marine animals in the water are a safety concern for marine mammal workers. Handling or stepping
25 on coral can lead to cuts which may become infected. Jellyfish, including Portuguese man o'war,
26 stings may cause minimal damage or fatal injuries. The defense mechanism of venomous fish (rays,
27 scorpionfish, lionfish, etc.) can lead to bite or puncture wounds. Shark attacks are possible during
28 response activities if workers are entering the water. Shark attacks are prevalent in U.S. coastal
29 waters, with over 490 attacks since 1990. Of this number, 322 attacks have occurred in Florida; 53 in
30 Hawaii; and 35 in California (FLMNH 2005).

1 Stranding responders may also be exposed to biotoxins from HABs. Most biotoxins are only a risk if
2 contaminated seafood is consumed, except for brevetoxins. Aerosolized brevetoxins may be inhaled
3 by humans and can cause respiratory problems, nausea, vomiting, and neurological symptoms.
4 Responding to marine mammals contaminated with oil or other materials may cause lightheadedness;
5 nausea; and eye, skin, and respiratory irritation (Geraci and Lounsbury 2005).

6 Stranding responders are exposed to the elements and may suffer from sunburn, heat exhaustion, and
7 heatstroke. Symptoms of heat exhaustion and heatstroke include profuse sweating, muscle cramps,
8 nausea, dizziness, fever, and unconsciousness. Hypothermia may occur in cold weather and if
9 responders are in cold water for long periods of time. Symptoms of hypothermia include weakness,
10 drowsiness, confusion, uncontrollable shivering, and cold, pale skin.

11 ***Disentanglement.*** Safety issues that may arise during disentanglement activities on water are related
12 to aircraft operations, boating operations, the entanglement, physical and chemical restraint of the
13 animal, and weather conditions. Safety hazards during aerial surveys to locate animals include
14 collisions with another aircraft or a fixed object, mechanical failure, and crashes due to inclement
15 weather conditions.

16 During disentanglement operations, boating accidents may include collisions with another vessel or a
17 fixed object, capsizing, a person falling overboard, and drowning. The risk of an accident may
18 increase if boats come too close to the tail of the whale or if nets and lines foul the boat's propeller.
19 Pursuit of an entangled animal, rough seas, inclement weather conditions, and nightfall all increase
20 the risk of a boating accident. Persons onboard have the potential to become entangled in nets, ropes,
21 or buoys attached to the animal, increasing the risk of falling overboard.

22 Physical injuries from disentanglement activities, both in water and on land, include bites from
23 entangled animals, bruises, dislocations, and broken bones. Cuts may occur from instruments used to
24 disentangle the animal. Other physical injuries may occur from contact with marine debris.
25 Chemical exposure is possible during the administration of drugs for restraint, treatment, or
26 euthanasia.

27 ***Rehabilitation.*** Safety risks relative to rehabilitation include physical injury; zoonotic diseases; and
28 contaminant, toxin, and chemical exposure. Rehabilitation personnel may incur physical injuries such
29 as slips, trips, and falls from wet conditions around animal pools and pens. Lifting or moving animals
30 may cause strains and bruises. Injuries to personnel working with animals in pools and pens include

1 bites, bruises, and drowning. Exposure to zoonotic diseases, contaminants, and toxins are potential
2 risks to all personnel handling animals. Animal handlers in pools would be exposed to water
3 contaminated with urine and feces. Chemical exposure is possible during the administration of drugs,
4 including euthanasia solutions.

5 **Release.** Release activities may cause strains, bruises, animal bites, or more severe physical injuries
6 from moving animals for transport. Exposure to liquid nitrogen may occur during freeze branding
7 procedures. During vessel releases, physical injuries could occur as a result of vessel collisions,
8 capsizing, inclement weather, and rough waters. Sunburn, heat exhaustion, heat stroke, and
9 hypothermia are possible, if release activities require people to be outside for extending periods of
10 time. Physical injuries may occur from contact with marine debris.

11 **Research.** Research activities conducted under the MMHSRP may occur in a laboratory and in or on
12 the water. Safety issues in research laboratories include exposure to hazardous chemicals, flammable
13 solvents, cryogenic liquids, air contaminants, biological agents, and UV radiation. Physical injuries
14 such as cuts, punctures, bruises, and burns may occur while using laboratory equipment and
15 materials.

16 Research activities conducted in the water would typically be health assessment captures and releases.
17 Risks include entanglement in nets, drowning, exposure to zoonotic diseases, cuts from instruments,
18 accidental needle sticks, and injuries from freeze branding. Sunburn, heat exhaustion, and heatstroke
19 may also occur, with symptoms including profuse sweating, muscle cramps, nausea, dizziness, fever,
20 and unconsciousness. Hypothermia may occur in cold weather and if researchers are in cold water for
21 long periods of time. Symptoms of hypothermia include weakness, drowsiness, confusion,
22 uncontrollable shivering, and cold, pale skin. Jellyfish, sting rays, other venomous fish, and sharks
23 all pose threats to researchers in water. Physical injuries could occur as a result of vessel collisions,
24 capsizing, inclement weather, rough waters, and contact with marine debris. Slips, trips, and falls
25 would also be hazards during research activities.

26 **3.5.2.2 Public Safety**

27 Public health and safety issues during recreational activities in the ROI include pollution, marine
28 debris, HABs, marine animals, marine debris, surf conditions, exposure to the elements, and boating
29 operations.

1 A major public health concern in recreational waters is pollution. Pollutants entering the water
2 include sewage, trash, medical wastes, oil or chemical spills, stormwater runoff, and boating waste.
3 In 2004, sewage spills and overflow closed beaches for a total of 1,319 days. Stormwater runoff
4 closed beaches for 4,144 days. These pollutants can contaminate the water with toxins, heavy metals,
5 pesticides, bacteria, and viruses. Microbial infections include gastroenteritis, salmonellosis,
6 shigellosis, giardiasis, skin rashes, and pinkeye. In 2004, beach advisories or closures occurred for
7 approximately 14,615 days due to elevated bacteria levels. Viral infections can cause hepatitis;
8 gastroenteritis; respiratory illness; and ear, nose, and throat problems (NRDC 2005). Marine debris is
9 often found on beaches and the ocean floor. Beachgoers may be injured by stepping on broken glass,
10 rusty metal, needles, or other litter or come in contact with contaminated debris. Swimmers and
11 divers may get entangled in derelict fishing gear.

12 Beaches may also be closed during a HAB event. Typically biotoxins from HABs are only hazardous
13 if contaminated seafood is consumed. Inhalation of aerosolized brevetoxins can cause respiratory
14 irritation, nausea, and neurological problems.

15 Human interactions with stranded marine mammals are public health risks. As mentioned above,
16 stranded animals can thrash around, roll onto, and attack humans. Consumption of marine mammals,
17 which currently occurs in Alaska, may also be hazardous if animals have environmental contaminants
18 or diseases. Zoonotic diseases can be passed if a person comes into contact with the animal or its
19 body fluids. Coral, jellyfish, venomous fish, and sharks are marine animals that humans may
20 encounter during recreational activities.

21 Surf conditions include strong currents, rip currents, dangerous shorebreaks, and large and/or high
22 waves. Hazardous surf conditions can cause injuries and drowning. Exposure to the elements can
23 lead to sunburn, heat exhaustion, heatstroke, or hypothermia.

24 Boating operations include motorboats, sailboats, personal watercraft (jet skis), and kayaks. In 2004,
25 the top five types of recreational boating accidents were: collision with a vessel; collision with a fixed
26 object; falls overboard; capsizing; and skier mishap. The causes of boating fatalities are drowning,
27 trauma, and hypothermia. Contributing factors to accidents are reckless operations, excessive speeds,
28 hazardous waters, alcohol use, operator inexperience, and machinery system failure. Most accidents
29 occurred during fishing activities and waterskiing or tubing activities (USCG 2005).

1 **3.6 Socioeconomics**

2 **3.6.1 Definition of the Resource**

3 Socioeconomics are defined as the basic attributes and resources associated with the human
4 environment, particularly population and economic activity. Population levels are determined by
5 regional birth and death rates, as well as immigration and emigration. Economic activity typically
6 encompasses employment, personal income, and industrial or commercial growth. The alternatives
7 are not expected to affect population levels within the ROI; therefore this information will not be
8 discussed. Important economic activities in the coastal regions of the U.S. include commercial,
9 recreational, and subsistence fisheries; tourism; and other recreational activities. Other recreational
10 activities conducted in the ROI include clamming, beachcombing, surfing, boating, and planned
11 events (festivals, sport tournaments, etc.). The alternatives have the potential to economically impact
12 the MMHSRP rehabilitation facilities. Therefore, current costs of maintaining these facilities will be
13 discussed.

14 EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income*
15 *Populations*, requires Federal agencies to identify and address any disproportionately high and
16 adverse human health or environmental effects their actions may have on minority and low-income
17 populations. The alternatives are largely based upon marine mammal strandings and entanglements.
18 Strandings and entanglements cannot be predicted and may occur anywhere on the coasts or in waters
19 of the U.S. Potential effects of the alternatives would not occur with greater frequency for minority
20 and low-income populations than for the general population as a whole. No environmental justice
21 impacts would be expected from the alternatives and therefore will not be discussed further.

22 **3.6.2 Affected Environment**

23 Economic activities in coastal regions likely to intersect with one or more activities covered under
24 this PEIS include industries encompassing stranding network participants (e.g., zoos and veterinary
25 services) and tourism industries. Basic information for the relevant industries was obtained through
26 the U.S. Economic Census. The information provided includes revenues, number of establishments,
27 and number of employees by coastal states and territories (or if data was available at the county level,
28 by aggregating data by coastal counties). Tabulations of this information are provided in Appendix
29 M.

1 Existing and potential members of the stranding network (and those who provide services to the
2 network) are likely to fall into either two categories: zoos/botanical gardens and veterinary services.
3 The zoos and botanical gardens industry category is comprised of establishments primarily engaged
4 in the preservation and exhibition of live plant and animal life and animal life displays, including
5 aquaria. Since numerous SA holders are non-profits, statewide information for zoos and botanical
6 gardens were also provided for those facilities with federal tax-exempt status. The veterinary services
7 industry category is comprised of establishments of licensed veterinary practitioners primarily
8 engaged in the practice of veterinary medicine, dentistry, or surgery for animals, as well as
9 establishments primarily engaged in providing testing services for licensed veterinary practitioners.
10 Summary information by state for these two industry categories are contained in Appendix M. The
11 information for these industry categories include activities for the entire state, since some stranding
12 activities related to those covered under the PEIS may occur further inland.

13 Tourism industries which may be affected by the various activities in this PEIS include lodging and
14 restaurants located adjacent to stranding activities. Since marine mammal stranding events occur in
15 the water or on the beach, tourism-related businesses that are likely to be affected are those located on
16 or near the ocean; therefore summary statistics for lodging and restaurants located in coastal counties
17 are reported. Appendix M contains combined summary information for lodging and restaurant
18 industries located in coastal counties. Lodging includes hotels, motels, bed and breakfasts,
19 recreational vehicle parks, campgrounds, recreational camps and vacation camps. The restaurant
20 category includes full-service restaurants, limited-service restaurants, cafeterias, snack bars, and bars.

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4. Environmental Consequences

4.1 Introduction

This section evaluates the potential direct and indirect environmental and socioeconomic impacts of the alternatives. Table 4-1 lists the alternatives considered in detail and their descriptions. Direct effects are caused by an action and occur at the same time and place as the action. Indirect effects are reasonably foreseeable effects caused by an action, but occur later in time or farther removed in distance from the action. CEQ regulations define the significance of impacts in terms of context and intensity. Context refers to the geographic area of effect, which varies with the setting of the alternatives and with each resource area being analyzed. Intensity refers to the severity of the impact and considers whether the effect would be negligible, minor, moderate, or major. Negligible impacts would not be detectable and would have no discernible effect. Minor impacts would be slightly detectable and would not be expected to have an overall effect. Moderate impacts would be clearly detectable and could have an appreciable effect. Major impacts would be clearly detectable and would have a substantial, highly noticeable effect. Duration, short-term or long-term, must be considered in the assessment of the environmental impacts. Short-term impacts are temporary and would generally end once the proposed activities have stopped. Long-term impacts are typically those effects that would last several years or more or would be permanent. Impacts were also evaluated in terms of whether they would be beneficial and/or adverse.

Mitigation measures are methods to avoid, minimize, rectify, or reduce the adverse environmental impacts of an action. Mitigation measures are discussed in Section 5. These are measures that would be taken, if necessary, to alleviate any adverse environmental effects.

1

Table 4-1. Alternatives Considered in Detail

Alternative	Description
<i>Stranding Agreements and Response</i>	
Alternative A1	No Action- SAs expire, stranding response would end.
Alternative A2	Status Quo- Current SAs would be renewed, current stranding response activities continue. Final SA criteria would not be issued.
Alternative A3	SAs issued to any applicants after review, new SA template would not be utilized. Final SA criteria would not be issued. Current and future activities included.
Alternative A4 (Preferred)	Final SA criteria would be implemented, new SA template would be utilized, current and future activities included.
Alternative A5	Final SA criteria would be implemented, new SA template would be utilized, and response to threatened, endangered or rare animals would be required.
<i>Carcass Disposal</i>	
Alternative B1	No Action- SAs expire, no carcass disposal would occur, carcasses would be left where stranded.
Alternative B2	Status Quo- Current methods of carcass disposal continue.
Alternative B3 (Preferred)	Recommendation to transport chemically euthanized animal carcasses off-site.
<i>Rehabilitation Activities</i>	
Alternative C1	No Action- Current SAs would expire, stranding response would cease, and animals would not be rehabilitated.
Alternative C2	Status Quo- Current rehabilitation activities would continue. Final Rehabilitation Facility Standards would not be implemented.
Alternative C3 (Preferred)	New SAs would be issued, rehabilitation activities continue. Final Rehabilitation Facility Standards would be implemented.
Alternative C4	New SAs would be issued, rehabilitation activities would continue. Rehabilitation of threatened, endangered, and rare animals would be required; response to other animals would be optional. Final Rehabilitation Facility Standards would be implemented.
<i>Release of Rehabilitated Animals</i>	
Alternative D1	No Action- Current SAs would expire, stranding response and rehabilitation would cease, and therefore there would be no animals to release.
Alternative D2	Status Quo- Current release activities would continue. Adaptive changes to release activities would not be permitted. Final release criteria would not be implemented.
Alternative D3 (Preferred)	New SAs would be issued, release activities continue. Final Release criteria would be implemented.
<i>Disentanglement Activities</i>	
Alternative E1	No Action- No disentanglement network.
Alternative E2	Status Quo- Disentanglement network would continue current activities, no modifications or new members added.

Table 4-1. Alternatives Considered in Detail (continued)

Alternative	Description
<i>Disentanglement Activities</i>	
Alternative E3 (Preferred)	Disentanglement network would continue current activities on East Coast with modifications to West Coast network. The Disentanglement Guidelines and training prerequisites would be implemented.
<i>Biomonitoring and Research Activities</i>	
Alternative F1	No Action- Biomonitoring and research activities would not occur.
Alternative F2	Status Quo- New ESA/MMPA permit would continue current biomonitoring and research activities.
Alternative F3 (Preferred)	New ESA/MMPA permit would be issued to include current and future biomonitoring and research activities.

1

2 **4.2 Biological Resources**

3 This section evaluates the potential impacts on biological resources as a result of the alternatives.
 4 Impacts on biological resources are evaluated in context and intensity on a population or species-wide
 5 scale. Therefore, while more significant impacts may occur on individual animals, the overall impact
 6 on the population or species may still be considered minor.

7 **4.2.1 Stranding Agreements and Response Alternatives**

8 **4.2.1.1 Alternative A1- No Action**

9 Moderate, long-term, adverse effects on marine mammals would be expected to occur under
 10 Alternative A1. Stranding response from current SA (formerly LOA) holders would end once all
 11 agreements have expired. Federal (not including NMFS), state, and local agencies authorized under
 12 MMPA 109(h) would still be able to conduct emergency response to non-ESA listed species, and
 13 those ESA-listed species for which response is part of the 4(d) rule (see 50 CFR 223.202(b)(2)).
 14 However, response activities would likely be limited and localized in extent, and would consist
 15 mostly of carcass disposal for the protection of public health and safety. The authorized level of
 16 stranding response would greatly decrease, ESA-listed marine mammals would not be responded to,
 17 animals in peril would not be hazed away from hazards, and more animals would likely perish. These
 18 animals would be removed from the population, which might have an adverse affect on species,
 19 especially those that are depleted, threatened, or endangered. There would be a lack of detection and
 20 notification of morbidity and mortality. The valuable information on marine mammal populations,
 21 such as biology, health, and disease detection, collected during the examination of stranded animals

1 would no longer occur. Scientists would not be able to study why strandings occur, which could
2 indirectly affect future marine mammal populations.

3 In addition, the ability of the stranding network to act as a surveillance network would be eliminated.
4 This could result in the emergence and spread of marine mammal diseases, or the use and spread of
5 fishery practices that were harmful to marine mammals, without any possibility for human
6 intervention or mitigation until population-level effects were observed. At that point, it would likely
7 be too late for any quarantine, vaccination, or translocation program to halt the spread of disease or
8 for a fishery modification to occur. This could have adverse impacts on marine mammal populations,
9 particularly those that are threatened or endangered, where the loss of a relatively small number of
10 individuals represents a greater proportion of the species. One example would be the early detection
11 of a disease such as *Morbillivirus* in the highly endangered Hawaiian monk seal (a naïve population).
12 This outbreak could be mitigated by a large-scale vaccination campaign or
13 isolation/translocation/captivity of affected individuals, but only if it was detected early in the spread
14 of the disease, when few individuals had contracted the virus.

15 In addition, other environmental conditions have been first detected in marine mammals or beach-cast
16 seabirds, including oil spills and HABS. Early detection of these circumstances also allows the
17 potential for human intervention (finding the source of the oil spill) and reducing the overall number
18 of affected biological resources. When a significant number of strandings occur that share the same
19 findings of fishery interaction, this information can be used to manage the fishery to reduce the
20 impacts on marine mammals. Gear modifications, geographic changes (area closures), and temporal
21 changes (season dates) may all be changed so that the probability of fishery interactions with marine
22 mammal populations (particularly those that are threatened or endangered) is reduced. The stranding
23 network provides critical information about potential issues when first observed, which allows for
24 response and management before the problem becomes widespread and costly or impossible to
25 ameliorate.

26 No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other
27 invertebrates, and birds would be expected to occur under this alternative. Effects from leaving a
28 carcass on the beach are described in Section 4.2.2.1, Carcass Disposal.

29 **4.2.1.2 Alternative A2- Status Quo**

30 Potential minor, short-term, adverse effects on all biological resources could occur from vessel and
31 vehicle uses, but these impacts are expected to be negligible when compared to other inputs of

1 hazardous materials from vessels, sewage outfalls, runoff, industrial operations, and other beach
2 vehicle uses. Spills of hazardous materials or wastes from vessels or a vessel accident during
3 response to free-swimming animals could impact biological resources. Some materials could be
4 diluted quickly by currents, only causing temporary impacts. Other materials could linger in the
5 water column or adhere to sediment particles, causing slightly longer impacts. As with any activity,
6 vehicular transport, heavy equipment, or medical equipment used during beach response activities
7 could leak oil or other materials into sand and nearshore waters. These would likely be small
8 amounts that would be flushed out and/or diluted rapidly, causing a minor and temporary impact.

9 Minor, short- and long-term adverse effects on protected and sensitive habitats could occur during
10 response activities. Equipment used for transport or response may traverse protected habitats to
11 access a stranded animal. An animal may be stranded in a protected habitat and equipment might be
12 needed for the response. Response activity could damage sand dunes and associated vegetation.
13 Equipment may also cause compaction of the beach. Response equipment could also disturb or injure
14 nesting sea turtles, depending on the location and time of year. Disturbance of a nesting sea turtle
15 would likely be a short-term, minor impact. Injuring a nesting sea turtle and/or their eggs could
16 produce minor, long-term effects, as all sea turtles are endangered species.

17 Minor, short-term adverse effects on shellfish and other invertebrates living in the beach and intertidal
18 environment could occur during response activities. The traversing of heavy equipment over shellfish
19 beds could damage or kill shellfish. Digging with a shovel or spade to allow room for an animal's
20 flukes and flippers could also damage shellfish.

21 Minor to moderate, short-term adverse effects on coastal and marine birds could occur during
22 response activities. The use of equipment and the presence of people could disturb birds nesting or
23 roosting in trees or small bushes, and may cause them to temporarily leave the area. Ground nesting
24 birds could be adversely affected by response activities. Heavy equipment could crush nests and
25 response personnel could disturb or damage a nest. Response activities conducted in shallow waters
26 could disturb foraging birds. This impact would be minimal, as birds could forage in nearby areas
27 and would likely return once response activities ended.

28 Live stranded animals would most likely experience stress and pain due to the stranding event itself
29 that could be decreased or increased by stranding response activities. The effects of stranding
30 response activities on cetaceans would depend on the condition, species, and history of the animal.
31 An alert and responsive animal may panic when responders approach. Mothers separated from their

1 calves may become aggressive, and members of social species may experience negative effects from
2 being separated from conspecifics. Debilitated animals that are weakly responsive or non-responsive
3 animals may not physically, but may physiologically, react to responders.

4 Healthy animals may be released immediately from the stranding site. Tagging may occur before the
5 release in order to monitor the animal's movements. Roto-tags would most commonly be used, but
6 radio tags could be attached if available. During the attachment of the roto-tag, pain would only last
7 during the application, and sedatives or local anesthetic would be used. The tag site could become
8 infected, causing pain to the animal. Tissue damage or infection could occur when the tag is shed.
9 For pinnipeds, animal movement may prolong or prevent healing by producing repetitive stress on the
10 tag site. Epoxy would be used to attach radio tags to pinnipeds and should not cause pain if done
11 properly. However, it may result in discomfort if the placement of the instrument causes pulling of
12 the hair or skin during animal movement. In addition, if the ratio of resin and hardener is not
13 correctly measured, the resulting heat-producing reaction could burn the animal's skin. Both the resin
14 and hardener could cause skin irritation, such as itching, rashes, hives, and dermatitis. The instrument
15 could be knocked or torn off, pulling out hair and possibly some of the underlying skin, which would
16 then be open to infection.

17 During mass strandings, animals may be marked with a grease pen, crayon, or zinc oxide to keep
18 track of each animal. These materials would not cause an impact on marine mammals.

19 Handling, lifting, and moving an animal may cause injuries to the animal, including stress and
20 increased shock. Flippers may be crushed or the animal may overheat if stretchers do not have
21 openings for them. Creases or seams in stretchers and transport equipment may press into the skin,
22 causing discomfort, pain, and possible temporary or permanent injuries. Chemical immobilization of
23 a cetacean can be life threatening, if not administered and monitored correctly. When anesthetized,
24 an animal may go into a dive reflex, which would include breath holding, slowing of the heart rate,
25 and the pooling of blood from peripheral vessels. While under anesthesia, a cetacean may develop
26 hypothermia. If the animal is not in water, improper body support could compromise cardiac and
27 respiratory functions (Haulena and Heath 2001). During transport to a rehabilitation facility, animals
28 may overheat in direct sun and heat without protection. Depending on body condition, cetaceans may
29 overheat (hyperthermia) or develop hypothermia during transport. Body surfaces may be exposed to
30 the drying effects of air. Animals may also be knocked around, causing muscle damage or they may
31 inhale exhaust fumes. Improper transport of cetaceans may cause abrasions, pressure necrosis,
32 thermoregulatory problems, and respiratory problems. Muscular stiffness may occur from transport,

1 but most accepted transport methods try to minimize or avoid this entirely. Stiffness would disappear
2 within a few hours to a few days, unless there was permanent muscle damage (Antrim and McBain
3 2001).

4 Beach response activities for live stranded pinnipeds would require physical capture of the animal.
5 Captures may disrupt other animals, including conspecifics, if the capture occurs at a haul-out site or
6 any other area where animals were located. Impacts would be expected, as non-target animals may
7 flee into the water. Pups and young animals may be trampled or abandoned. Juvenile and adult
8 animals may be trampled and killed during stampedes or injured on rocks and cliff faces. If animals
9 were not injured, impacts would be minor and short-term as animals would likely return once
10 responders have left. Handling and restraint, if not properly executed, may further injure or kill a
11 pinniped (*e.g.* suffocation under the weight of a handler). Chemical immobilization (anesthesia or
12 sedation) of a pinniped has risks, especially in ill or injured animals, if not administered and
13 monitored correctly. When anesthetized or sedated, an animal may go into a dive reflex, which
14 would include breath holding, slowing of the heart rate, and the pooling of blood from peripheral
15 vessels. Pinnipeds may develop hypo- or hyperthermia while anesthetized. Transport to a
16 rehabilitation facility may cause muscular stiffness or damage. Stiffness would disappear within a
17 few hours to a few days, unless there was permanent muscle damage (Antrim and McBain 2001).
18 Without protection, animals may overheat in direct sun and heat or develop hypothermia or frostbite
19 in freezing temperatures. Inhalation of exhaust fumes and jolting during transport could injure
20 pinnipeds.

21 Response may also include the harassment and/or capture of free-swimming animals that are trapped,
22 out of habitat, extralimital, or exhibiting abnormal behavior. Reactions to vessel close approaches
23 and hazing activities from cetaceans may include swimming faster, breaching, diving, tail and fin
24 slapping, or moving away from the vessel. Pinniped reactions to vessels are highly variable,
25 depending on the species (Calkins and Pitcher 1982). Behaviors in response to close approaches by
26 vessel would generally be short-term, with a minimal effect on the animal.

27 Any capture and/or restraint procedure would likely have some effect on the behavior or activities of
28 marine mammals. The method(s) of restraint, as well as the age and general condition of the animal
29 are all factors that would affect an animal's response to capture. Animals could incur contusions,
30 concussions, lacerations, nerve injuries, hematomas, and fractures in their attempts to avoid capture or
31 escape restraint (Fowler 1978). The stress response could change an animal's reaction to many
32 drugs, including those commonly used for chemical restraint, which could have lethal consequences.

1 Stress could also alter an animal's immune system. It may also lead to behavioral changes including
2 increased aggressive and antisocial tendencies (Fowler 1986). Stress from capture and restraint could
3 cause capture myopathy, which occurs when an animal cannot cool itself (Fowler 1978). Capture
4 myopathy is characterized by degeneration and necrosis of striated and cardiac muscles and usually
5 develops within 7 to 14 days after significant trauma, stranding, transport, or capture. Animals could
6 also become entangled in the capture net, which may result in injuries or death. Animals may become
7 stressed during handling and restraint. Signs of stress in cetaceans include reduced respiration,
8 prolonged struggling while being held, and arching. Impacts on pinnipeds from capture and restraint
9 are described above.

10 Response would include hazing an animal(s) when necessary to move it away from a possible health
11 hazard. Potential adverse effects of hazing would likely be from the close approach of vessels, either
12 used to deploy hazing methods or as a method itself. The intent of the activities would be to cause
13 the animal to change their behavior and move away from a potential threat. No significant, long-term
14 impacts to behavior would be expected. Acoustic deterrents may cause temporary physical
15 discomfort, but would not cause long-term injuries. Exclusion devices used for pinnipeds would not
16 have a significant impact, as animals would not become trapped or entangled. A beneficial impact
17 would be expected from hazing because it would likely prevent an animal from being harmed.

18 Biological samples may be collected from a stranded animal to help determine the medical and
19 physiological condition of the animal, assess the best course of action, and monitor progress and
20 appropriateness of treatment. Samples would include blood, swabs, biopsies, etc. Sample collection
21 would likely cause minor stress to the animal, beyond the actual stranding event. Response activities
22 would be conducted in an attempt to save an animal's life, to reduce pain and suffering, or to
23 humanely euthanize an animal, which would be deemed in the best interest of the animal. Most
24 adverse impacts on stranded animals would be outweighed by the potential beneficial impacts of
25 saving an animal and/or reducing their pain and suffering.

26 Response activities would also include euthanasia, when deemed necessary. Euthanasia procedures
27 would be performed by the attending veterinarian or a person acting on behalf of the attending
28 veterinarian. Chemical euthanasia agents may cause hyperexcitability or violent reactions in some
29 species. Intraperitoneal administration of a euthanasia solution may lead to the prolonged onset of
30 action due to differential or slow absorption rates. It may also cause irritation in the surrounding
31 tissues. Improperly administered chemical euthanasia agents or methods of delivery may prolong the
32 pain and suffering of an animal. When done correctly, the use of ballistics should cause

1 instantaneous unconsciousness followed by respiratory and cardiac arrest. However, improper uses,
2 such as inappropriate caliber of the firearm or untrained personnel, may not cause unconsciousness
3 before death and would then not be considered humane under the American Veterinary Medical
4 Association (AVMA) guidelines. During mass strandings, the use of ballistics may stress and
5 exacerbate fear in the surviving animals. The incorrect charge placement of explosives may not cause
6 instantaneous unconsciousness and may cause tissue destruction (Greer *et al.* 2001). Exsanguination
7 (bleeding) may prolong pain and suffering if done incorrectly.

8 Minor to moderate, adverse effects on marine mammals would be expected to occur if new SAs are
9 not issued. Issuance of SAs only to current SA holders limits the activities of the stranding network
10 to the geographic area that is currently covered. Animals may strand in areas where response is
11 limited or non-existent. Limited response may increase the pain and suffering of stranded animals,
12 and animals would likely die without response from the stranding network. Limiting the issuance of
13 SAs would not allow for new rehabilitation facilities to be added and would affect the amount of
14 animals that could be accepted for rehabilitation. If current rehabilitation facilities do not have space
15 for an animal, the animal would be euthanized or left on the beach during response activities.
16 Prohibiting new activities could reduce the success of a response, as new tools and techniques would
17 not be available for use.

18 Minor to moderate, adverse effects on marine mammals would be expected to occur if SA criteria
19 were not implemented. The criteria would ensure that only those individuals, organizations, or
20 institutions qualified and trained to conduct response, assessment, rehabilitation, and/or release of
21 marine mammals would be given SAs. This would reduce the likelihood of increased risks to wild
22 populations with release. Without using the criteria during the review of SA applicants,
23 inexperienced personnel could be issued a SA to respond to and/or rehabilitate stranded animals.
24 Inexperienced personnel could put the animal's health in jeopardy, increase their pain and suffering,
25 and increase the adverse impacts on other biological resources. The potential for an appropriate
26 response (immediate release, animal to rehabilitation, or euthanasia) would decrease. Without a
27 nationwide set of criteria, SA holders in different NMFS regions may not be held to the same
28 standards or require the same minimum experience and qualifications. This would include working
29 with a licensed veterinarian for live animal response and rehabilitation to ensure animals receive
30 adequate and humane care.

1 **4.2.1.3 Alternative A3**

2 Effects on biological resources from stranding response activities under Alternative A3 would be the
3 same as those described under Alternative A2. Effects of not implementing the SA criteria would
4 also be the same as those described under Alternative A2. Under Alternative A3, new techniques and
5 tools would be permitted for use during response activities. This would likely have a beneficial
6 impact on marine mammals as response efforts would be conducted using the best available
7 equipment and methods.

8 Minor, adverse effects on marine mammals would be expected to occur if new SAs are issued to any
9 applicant after they were reviewed by the appropriate NMFS Regional Office. Some beneficial
10 impacts could come from allowing new SA holders to be added, given that they have the proper
11 experience with marine mammal response, as geographic coverage would increase and new
12 rehabilitation facilities may be added to the Stranding Network.

13 **4.2.1.4 Alternative A4- Preferred Alternative**

14 Effects on biological resources from stranding response activities under Alternative A4 would be the
15 same as those described for Alternative A2. Under Alternative A4, new techniques and tools would
16 be permitted for use during response activities. This would likely have a beneficial impact on marine
17 mammals as response efforts would be conducted using the best available equipment and methods.

18 Long-term beneficial effects on marine mammals would be expected to occur with the
19 implementation of the SA template and criteria. The template contains the requirement for periodic
20 review and reapplication in order to stay in the stranding network. Reviews would occur by the
21 Regional NMFS Office after the first year for new (probational) network members, every 3 years for
22 members doing live animal response and rehabilitation, and every 5 years for organizations
23 responding solely to dead animals. In addition, the new agreement provides NMFS with the option to
24 place organizations on probation or suspension, or to terminate the SA, for noted deficiencies or
25 failure to comply with the terms and conditions of the SA. The SA criteria would make certain that
26 SA holders in every NMFS region were held to the same standards and require the same minimum
27 experience and qualifications. A licensed veterinarian would be highly recommended during all
28 emergency response activities and during the transport of cetaceans. A licensed veterinarian would
29 be required at all rehabilitation facilities. This attending veterinarian would meet qualifications as set
30 forth in the Minimum Criteria and Rehabilitation Facility Guidelines, including: 1) having an active
31 veterinary license in the U.S. (has graduated from a veterinary school accredited by the AVMA

1 Council on Education, or has a certificate issued by the American Veterinary Graduates Association's
2 Education Commission for Foreign Veterinary Graduates) or has received equivalent formal
3 education as determined by NMFS; and 2) having the appropriate registrations and licenses (*e.g.*, for
4 handling controlled substances, including registering with the Drug Enforcement Administration
5 [DEA]) to obtain the necessary medications for marine mammal response. This would likely increase
6 the potential for an appropriate response, rehabilitation, and/or release, and may minimize the
7 negative impacts associated with stranding response on biological resources. New SA holders could
8 be added under the alternative, which would be a beneficial impact on marine mammals.

9 **4.2.1.5 Alternative A5**

10 Effects on biological resources from stranding response activities under Alternative A5 would be the
11 same as those described under Alternative A2. Effects on biological resources from the
12 implementation of SA criteria would be the same as those described under Alternative A4.

13 Requiring response to threatened, endangered, or rare animals would be a positive effect on those
14 populations. However, making response to other animals optional could adversely affect those
15 populations as they could become threatened or endangered in the future. It may also indirectly affect
16 ESA-listed species, as non-listed species often serve as models for other animals. Limiting response
17 to non-listed species would decrease the information gained from strandings that could be beneficial
18 to the survival of threatened and endangered species. Responding to other species allows the
19 detection of new diseases or hazardous conditions in the ocean, which may reduce impacts on
20 threatened and endangered species or species of concern.

21 **4.2.2 Carcass Disposal Alternatives**

22 **4.2.2.1 Alternative B1- No Action**

23 Potential adverse effects on biological resources could occur from Alternative B1. Carcasses would
24 remain on the beach to naturally decompose. Federal (not including NMFS), state, and local agencies
25 authorized under MMPA 109(h) would still be able to conduct carcass disposal of non-ESA listed
26 species. Carcass disposal activities would likely be limited and localized, and would likely be
27 removed for the protection of public health and safety, when appropriate and feasible. Animal
28 carcasses may contain POPs, toxic metals, pathogens, and/or biotoxins. Contaminant levels would
29 likely be higher in species that feed at higher trophic levels and/or in areas where prey may be more
30 contaminated. A literature review has been conducted to determine the persistent contaminants found
31 in selected marine mammal species (see Appendix J). Species addressed in the review were based

1 upon the frequency and patterns with which they strand. The review concluded that there is a limited
2 amount of information on most species and their contaminants. Therefore, the evaluation of the
3 potential toxicological environmental hazards posed by a decomposing carcass cannot be determined
4 at this time. However, the potential does exist for the decay products of carcasses to be released into
5 the surrounding environment or recycled into the food web, with subsequent negative impacts. Decay
6 products could have a minor adverse effect on protected and sensitive habitats, SAV and macroalgae,
7 sea turtles, fish, shellfish, other invertebrates, and birds. Scavengers that consume carcasses may also
8 be adversely affected. Scavengers would bioaccumulate POPs and other toxic chemicals over time,
9 with the potential for serious injuries or death.

10 Uncontaminated carcasses left on-site would be a beneficial impact. Carcasses would provide food
11 for scavengers and recycle nutrients back into the food web.

12 **4.2.2.2 Alternative B2- Status Quo**

13 Current carcass disposal methods under Alternative B2 include on-site burial, transport off-site (for
14 burial, rendering, or composting), disposal at sea, and natural decomposition (left on-site). Spills of
15 hazardous materials or wastes from vessels or a vessel accident during at-sea carcass disposal
16 activities could impact biological resources. Some materials could be diluted quickly by currents,
17 only causing temporary impacts. Other materials could linger in the water column or adhere to
18 sediment particles, causing slightly longer impacts. Biological resources could be injured or killed if
19 they are in the vicinity of a spill or an accident. Equipment used during carcass disposal activities
20 could leak oil or other materials into sand and nearshore waters. Hazardous material leaks from
21 equipment could impact shellfish, other invertebrates, and nearshore fish. However, these would
22 likely be small amounts that would be flushed out and/or diluted rapidly, causing a minor, short-term
23 impact. However, all of these impacts would be negligible when compared to other inputs of
24 hazardous materials from vessels, sewage outfalls, runoff, industrial operations, and other beach
25 vehicle uses.

26 Minor to moderate, short- and long-term adverse effects on protected and sensitive habitats would be
27 expected from on-site burial operations. Digging may physically alter and disrupt the site. However,
28 these effects would be negligible as on-site burial would not be conducted in these habitats, unless
29 necessary, and not without consulting the proper authorities (see Section 5.2). Potential damage
30 could occur as equipment may need to traverse sensitive habitats to access the carcass for disposal.

1 Equipment used for disposal at sea and the carcass itself could hit and damage submerged sensitive
2 habitats, such as coral reefs.

3 Animal carcasses may contain POPs, toxic metals, pathogens, and/or biotoxins. Contaminant levels
4 would likely be higher in species that feed at higher trophic levels and/or in areas where prey may be
5 more contaminated. The evaluation of the potential toxicological environmental hazards posed by a
6 decomposing carcass cannot be determined at this time (see Appendix J). However, the potential
7 does exist for the decay products of carcasses to be released into the surrounding environment or
8 recycled into the food web, with subsequent negative impacts.

9 Animals may also contain chemical residues from substances administered by stranding response
10 personnel, including chemical euthanasia solution and sedatives. If the animal is a rehabilitated
11 animal that has restranded, it may also contain antibiotics, antifungals, and other medicine. These
12 chemicals persist in the carcass at different concentrations and for different amounts of time. They
13 would not likely create a large-scale environmental hazard, as the levels would be negligible
14 compared to levels found in runoff and sewer discharge, and the compounds are not likely to
15 bioaccumulate through the food web.

16 Contaminants from toxic carcasses left on site or buried could leach into groundwater and flow into
17 nearshore water, harming sensitive areas in and around the carcass. This impact would be minor and
18 short-term. If contaminants enter groundwater, they would likely be flushed out quickly by tidewater
19 and/or precipitation. Higher concentrations of contaminants may occur in nearshore waters down site
20 from the carcass. These concentrations would be diluted and flushed out by the currents; therefore
21 the impact on biological resources would be temporary and minor. Sediment quality would not likely
22 be impacted by contaminants, as they would be flushed out or diluted before they could adhere to the
23 substrate. Therefore, any organisms using sediment would not be impacted.

24 SAV and macroalgae could be indirectly affected by on-site burial. Contaminants from chemically
25 euthanized carcasses could leach into groundwater and impact waters used by SAV and macroalgae.
26 Carcass disposal at sea could cause minor, short-term, adverse effects. Equipment used for disposal
27 at sea and the carcass itself could potentially damage SAV and macroalgae or remove SAV from
28 sediment. Impacts would be minor, as SAV and macroalgae would grow back and organisms that use
29 them as habitat would be able to utilize surrounding areas.

1 On-site carcass burial could adversely affect sea turtles nesting on beaches, depending on the location
2 and time of year. However, carcass burial sites would not be sited near nesting sea turtles,
3 eliminating the potential for adverse effects.

4 Minor, short-term adverse effects on coastal and marine birds could occur during carcass disposal.
5 The use of equipment and the presence of people could disturb birds nesting or roosting in trees or
6 small bushes, and may cause them to temporarily leave the area. These birds would likely return to
7 the area once response activities ended and impacts would be temporary, as response activities would
8 occur for a short period. Ground nesting birds could be adversely affected by transport and burial
9 activities. Heavy equipment could crush nests and digging for burial could completely remove a nest.
10 Personnel helping with disposal could disturb or damage a nest. Towing a carcass out to sea may
11 disturb birds foraging in nearshore waters. This impact would be minimal, as birds could forage in
12 nearby areas and would likely return once disposal activities ended.

13 Minor, short-term adverse effects on shellfish and other invertebrates could occur during response
14 activities. The traversing of heavy equipment over shellfish beds to access a carcass could damage or
15 kill shellfish. Shellfish would not be negatively impacted during digging for carcass burial, as burial
16 sites would be chosen well above the high tide line. Other invertebrates could be disturbed and
17 negatively impacted during burial activities. Contaminants from toxic carcasses could leach into
18 groundwater and nearshore waters and impact shellfish. Potential effects on fish may result from
19 contaminants in nearshore waters. Impacts on shellfish and fish from contaminants would be minor,
20 as contaminants would be flushed out and/or diluted rapidly.

21 Scavengers may be adversely affected if carcasses of chemically euthanized or toxic animals are left
22 to decompose on the beach. Euthanasia solution is toxic and may injure or kill animals feeding on
23 these carcasses, known as secondary toxicosis. In addition, scavengers may consume POPs, other
24 toxic chemicals, and biotoxins which may bioaccumulate over time, with the potential for serious
25 injuries or death. Diseased animal carcasses may also cause serious injuries or death if consumed by
26 scavengers. Likewise, disposal of these carcasses at sea could also affect scavengers, such as sharks
27 and seabirds. Negligible, short-term, adverse effects on scavengers would be expected to occur from
28 the removal of carcasses from beaches. Carcasses provide food many animals, including foxes,
29 coyotes, birds, and polar bears. Threatened bald eagles may feed on marine mammal carcasses left on
30 beaches. California condors, an endangered species recently reintroduced in California, may also
31 feed on marine mammal carcasses. California condors would not be significantly impacted, as most
32 carcasses (mainly pinnipeds that have not been chemically euthanized) are left on beaches in

1 California where the condors are located. Effects of carcass removal are expected to be negligible
2 because scavengers are not solely dependent on marine mammal carcasses for survival. In most
3 areas, strandings are rare and not a major component of scavengers' diets.

4 Minor, indirect benefits may occur from carcasses towed out to sea. Disposal at sea of carcasses may
5 create food for other organisms. However, this may lead to recycling of contaminants. Large whale
6 carcasses have been known to become habitat and food for a variety of organisms, such as those as
7 seen on natural whale falls (Smith and Baco 2003). Some stranding network members have
8 coordinated carcass disposal efforts with research groups studying whale falls and the transitory
9 benthic invertebrate communities surrounding them.

10 **4.2.2.3 Alternative B3- Preferred Alternative**

11 Effects from Alternative B3 would be the same as those described under Alternative B2, except for
12 the effects from chemically euthanized animal carcasses. Under Alternative B3, these carcasses
13 would be transported off-site to a proper landfill whenever possible, removing the risk of
14 contamination. This would be a positive effect on protected and sensitive habitats, SAV and
15 macroalgae, fish, shellfish, other invertebrates, and scavengers.

16 **4.2.3 Rehabilitation Activities Alternatives**

17 **4.2.3.1 Alternative C1- No Action**

18 Moderate, long-term, adverse effects on marine mammals would be expected to occur under
19 Alternative C1. Under this alternative, no marine mammals would be taken into rehabilitation, and
20 most would likely die from injuries or disease. For populations that are threatened, or endangered,
21 this could greatly affect the survival of the species. No effects on protected and sensitive habitats,
22 SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, or birds would be expected to
23 occur from this alternative.

24 **4.2.3.2 Alternative C2- Status Quo**

25 Minor, short- and long-term, beneficial and adverse effects on marine mammals would be expected to
26 occur under Alternative C2. No effects on protected and sensitive habitats, SAV and macroalgae, sea
27 turtles, fish, shellfish, other invertebrates, or birds would be expected to occur from rehabilitation
28 activities under this alternative.

1 Stranded animals would be taken into rehabilitation with the intent to release them back to the wild, if
2 possible, once they are healthy. Biological samples may be collected from a stranded animal to help
3 determine the medical and physiological condition of the animal, assess the best course of action, and
4 monitor progress and appropriateness of treatment. Samples would include blood, swabs, biopsies,
5 etc. Sample collection would likely cause minor stress to the animal, beyond the actual stranding
6 event. Handling, lifting, and restraining an animal could cause injuries. When anesthetized or
7 sedated, an animal may go into a dive reflex, which would include breath holding, slowing of the
8 heart rate, and the pooling of blood from peripheral vessels. Anesthetized animals could develop
9 hypothermia or hyperthermia. Administration of drugs and surgical procedures could cause injuries
10 or death. However, all rehabilitation activities would be conducted in an attempt to help sick and
11 injured animals. Rehabilitation would be conducted with proper veterinary oversight and the use of
12 established and accepted methods. Most adverse impacts on animals in rehabilitation would be
13 outweighed by the potential beneficial impact of saving an animal and returning it to the wild.

14 Animal euthanasia may occur, when deemed necessary by the attending veterinarian. Euthanasia
15 procedures would be carried out by, or under the direction of, the attending veterinarian. Chemical
16 euthanasia agents may cause hyperexcitability or violent reactions in some species. Intraperitoneal
17 administration of a euthanasia solution may lead to the prolonged onset of action due to differential or
18 slow absorption rates. It may also cause irritation in the surrounding tissues. Improperly administered
19 chemical euthanasia agents or methods of delivery may prolong the pain and suffering of an animal.

20 Minor, long-term, adverse effects on marine mammals would be expected to occur if new
21 rehabilitation facilities cannot join the stranding network. Current facilities may not have enough
22 space or resources to accommodate a stranded animal or may only rehabilitate certain animals. If no
23 rehabilitation facility can take an animal, the animal may be euthanized. Standards for the human
24 treatment of marine mammals would constantly be developed, applied, and re-examined. Practices
25 currently acceptable may not be acceptable in the future. If adaptive changes are not allowed, the
26 success of rehabilitation would not increase. Animals may not be able to return to the wild, which may
27 mean the animal would be euthanized or placed into permanent captivity in a public display or
28 research facility. Removal of marine mammals from the wild would negatively effect populations
29 that are depleted, threatened, or endangered.

30 The Rehabilitation Facility Standards would not be implemented, compromising animal health, the
31 success of rehabilitation, and the potential for release to the wild. Inadequate care may increase pain
32 and suffering of a marine mammal. Pool and pen sizes could be inadequate or contain too many

1 animals, which would restrict animal movement and may cause aggressive behaviors between
2 animals. New animals may not be placed into quarantine, which could introduce new pathogens to
3 other animals currently in the rehabilitation facility, which are already compromised. Pathogens may
4 also be introduced and spread through contaminated supplies, equipment, and personnel, by mixing of
5 marine mammal species within the rehabilitation setting (particularly species that do not interact or
6 whose ranges do not overlap in the wild), or by encounters between marine mammals and terrestrial
7 mammals (particularly canids, felids, and raccoons). Any pathogen within a rehabilitation “hospital”
8 setting has the potential to mutate or evolve into a novel organism (including those with drug resistant
9 properties), creating a new (or drug-resistant) disease which could then be introduced into the naïve
10 wild population upon the release of an infected animal following rehabilitation, particularly if the
11 animal is not thoroughly evaluated prior to release.

12 Water temperature may not be adequate for the species of marine mammals in rehabilitation.
13 Animals kept in outdoor pools may not be properly sheltered from weather conditions, which could
14 lead to hypothermia, frostbite, or overheating. Poor water quality could increase the risk of disease
15 transmission between animals or may cause other health problems. Proper salinity levels are
16 dependent on the species and unacceptable levels may cause eye and skin problems. Otariids may
17 develop an ophthalmic injury if they do not have access to salt water (Arkush 2001). Improper
18 sanitation, food handling, and food preparation techniques could cause bacterial and chemical
19 contamination of food. Diets may not contain the amount or types of food necessary for the health of
20 the animal. Improper diets could lead to vitamin deficiencies, hyponatremia (low blood sodium), or
21 other nutritional disorders (Worthy 2001). Without the implementation of veterinary care and
22 program standards, veterinarians and other personnel may not have the appropriate knowledge and
23 experience to properly care for and treat marine mammals.

24 **4.2.3.3 Alternative C3- Preferred Alternative**

25 The effects on marine mammals from rehabilitation activities under this alternative would be the
26 same as those described under Alternative C2. No effects on protected and sensitive habitats, SAV
27 and macroalgae, sea turtles, fish, shellfish, other invertebrates, or birds would be expected to occur
28 from rehabilitation activities under this alternative.

29 The Rehabilitation Facility Standards would be implemented, requiring current and future facilities to
30 adhere to the minimum standards as part of their SA. The standards would ensure a healthy
31 environment for animals, maximize the success of rehabilitation, and increase the potential for release

1 to the wild. The standards cover facilities, housing, space, water quality, quarantine, sanitation
2 practices, food handling and preparation, and veterinary medical care. Long-term beneficial impacts
3 would be expected, as these standards would ensure that safe, healthy, and humane conditions are in
4 place at all facilities. The standards would decrease the risk of disease transmission within the facility
5 with the requirements for quarantine facilities and quarantine protocols for all incoming animals.
6 Minimum quarantine and biosecurity standards include, but are not limited to: having separate
7 filtration and water flow systems; providing sufficient space or solid barriers between animal
8 enclosures to prevent direct contact; and maintaining equipment and tools strictly dedicated to the
9 quarantine area. Additional quarantine standards are described under mitigation in Section 5.2.3.

10 Veterinary medical care standards (Sections 1.7 [for cetaceans] and 2.7 [for pinnipeds] in the
11 standards) would ensure that veterinarians and other personnel have the appropriate knowledge and
12 experience to properly care for and treat marine mammals. An attending veterinarian would be
13 required to work with staff at all rehabilitation facilities and be involved in making decisions
14 regarding medical care and husbandry of current and incoming animals. Veterinary care standards,
15 including recommended standards, are described under mitigation in Section 5.2.3.

16 Standards for open ocean/bay net pens reduce the probability of disease transmission to other healthy
17 animals in the pens or the wild population and ensure that good water quality would be maintained.
18 Even with these standards, adverse impacts from the use of net pens may occur. Animals in net pens
19 are still exposed to conditions that cannot be controlled, such as water temperature, HABs, and the
20 elements. The recommended placement of net pens may not always be feasible due to geography,
21 currents, proximity to protected areas, or proximity to economic interests (*e.g.*, aquaculture). The use
22 of temporary pools may adversely affect animal health. Proper water quality and temperature may
23 not be maintainable and disease transmission may occur if more than one animal is housed in a pool.
24 Animals in outside temporary pools would also be exposed to the elements.

25 **4.2.3.4 Alternative C4**

26 The effects on marine mammals from rehabilitation activities under this alternative would be the
27 same as those described under Alternative C2. No effects on protected and sensitive habitats, SAV
28 and macroalgae, sea turtles, fish, shellfish, other invertebrates, or birds would be expected to occur
29 from rehabilitation activities under this alternative.

30 Moderate, long-term, beneficial and adverse effects on marine mammals from the implementation of
31 the Rehabilitation Facility Standards would be expected to occur under this alternative. These effects

1 would be the same as those described under Alternative C3. Adverse impacts would also be expected
2 for animals that are not rare, threatened, or endangered. Rehabilitation of all other animals would not
3 be required, but would be optional depending on facility resources. Animals not taken into
4 rehabilitation would be euthanized on the beach. These animals often serve as models for other
5 species and provide valuable information that could be used during rehabilitation. For example,
6 through the treatment and care of California sea lions (a commonly stranded pinniped along the West
7 Coast) husbandry practices have been refined and are used to the benefit of Steller sea lions (a
8 threatened species), including nutrition; stress reduction; animal monitoring; and veterinary
9 techniques including drugs, sedatives, and anesthetics. Similarly, rehabilitation practices refined on
10 Northern fur seals from the non-listed San Miguel stock off the California coast benefit Northern fur
11 seals from the depleted Eastern Pacific stock, as well as endangered Guadalupe fur seal. Information
12 obtained from California sea lions regarding impacts of disease and environmental conditions, such as
13 domoic acid, provide valuable data regarding food web transfer and exposure routes, possible
14 treatment options, and population-impacts. Due to similar physiology, much of this information may
15 be extrapolated to other otariid species including Steller sea lions and Northern fur seals to determine
16 how these animals may be exposed (via the food web) and affected, as well as treated. In addition,
17 animals from the “common” species are frequently placed with rare, threatened or endangered animal
18 to provide adequate non-human socialization. Absence of common animals, and lack of experience
19 treating them, would lead to difficulties in adequately treating rare, threatened and endangered
20 species. This would be an indirect adverse affect on rare, threatened, and endangered species.

21 **4.2.4 Release of Rehabilitated Animals Alternatives**

22 **4.2.4.1 Alternative D1- No Action**

23 Beneficial and adverse effects on marine mammals would be expected to occur under Alternative D1.
24 Animals would not be released back to the wild, which adversely impacts all populations of species,
25 but especially those that are threatened or endangered. However, this alternative would have a
26 beneficial impact on wild populations, as there would no longer be the risk of introducing a diseased
27 animal that could potentially infect other marine mammals. No effects on protected and sensitive
28 habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, or birds would be
29 expected to occur from release activities under this alternative.

1 **4.2.4.2 Alternative D2- Status Quo**

2 Minor, short- and long-term adverse effects on protected and sensitive habitats, SAV and macroalgae,
3 sea turtles, fish, shellfish, and birds could occur from release activities under this alternative. Spills
4 of hazardous materials or wastes from release vessels or a vessel accident could impact these
5 resources. Some materials could be diluted quickly by currents, only causing temporary impacts but
6 others could linger in the water column or adhere to sediment particles, causing slightly longer
7 impacts on sensitive habitats, SAV, and macroalgae. Hazardous materials could injure or kill sea
8 turtles or marine mammals in the vicinity of a spill or accident. Equipment used for beach release
9 activities could leak oil or other materials into sand and nearshore waters. Sea turtles and birds could
10 be injured and their nests may be damaged. These materials would likely be flushed out and/or
11 diluted rapidly, causing a minor, short-term impact to sensitive habitats, SAV and macroalgae, fish,
12 shellfish, and other invertebrates.

13 Minor to moderate, short- and long-term, adverse and beneficial effects on marine mammals would
14 be expected to occur under Alternative D2. As required under regulations at 50 CFR 216.27, all
15 animals would be tagged or marked prior to release. Commonly used methods of tagging delphinids
16 include freeze branding on or below the dorsal fin (both sides of the body) and/or the attachment of a
17 roto-tag (cattle ear tag) to the dorsal fin. Freeze branding may cause little or momentary pain during
18 application, which would require 15-20 seconds per brand. Initial discomfort or pain would be
19 relieved by the appropriate anesthetic or analgesic. Discomfort may persist for some time after the
20 procedure, but is expected to be minor. Therefore, impacts would be considered negligible and not
21 significant. However, liquid nitrogen could spill onto an animal during the process, causing more
22 than momentary pain. During the attachment of the roto-tag, pain would only last during the
23 application, and sedatives or local anesthetic would be used. However, the tag site could become
24 infected, causing pain to the animal. When the tag is shed, tissue damage may occur and the site
25 could become infected. NMFS must be contacted if other additional tagging methods may be used,
26 including radio, satellite, or microchip (Passive Integrated Transponder [PIT] tags) (see Section
27 4.2.6.2 for impacts from other tagging methods). For cetaceans other than delphinids, NMFS must be
28 contacted to determine the appropriate identification method(s).

29 Pinnipeds would be given flipper tags (roto-tags), with placement dependent on the species. Tags
30 would be attached to the hind flipper of phocids and the foreflipper of otariids (Geraci and Lounsbury
31 2005). Flipper tagging would cause temporary pain during attachment and the tag site may become
32 infected. The tag may also be ripped out and the site could become infected. Animal movement may

1 prolong or prevent healing by producing repetitive stress on the wound. Additional tagging may
2 include radio, satellite, or microchip (PIT) tags with a variety of attachment methods (see Section
3 4.2.6.2 for impacts from other tagging methods).

4 Tagging allows an individual animal to be monitored after being released and evaluate its success in
5 returning to the wild (Lander *et al.* 2001). If released animals appear to be compromised (*e.g.*, not
6 feeding, ill, or interacting with people) based on tag data, animals could potentially be recaptured for
7 further rehabilitation or permanent captivity. This would be beneficial to the individual animal and
8 may also protect the wild population by preventing disease transmission or transfer of negative
9 behaviors, such as human interaction. Conversely, if the tag data indicates that the animal is behaving
10 “normally” (diving to depths indicative of feeding, swimming in normal patterns, in geographic
11 association with other animals of the same species, avoiding people), the rehabilitation may be
12 deemed a success, and the tag can provide basic biological data about the animal and species. For
13 instance, the first rehabilitation and release of a Risso’s dolphin occurred at the Riverhead Foundation
14 for Marine Research and Preservation in New York (DiGiovanni *et al.* 2005). After release, this
15 animal was tracked for 67 days. Aerial overflights showed that it was in the vicinity of other Risso’s
16 dolphins and that it was diving up to a maximum of 600 m depth for a maximum duration of 15
17 minutes. This rehabilitation effort was deemed to be a success, based on this follow-up information.
18 This is also some of the first information that has been collected on a free-ranging Risso’s dolphin, so
19 it is beneficial to basic scientific inquiries about marine mammals. For some marine mammal
20 species, particularly those that are offshore or cryptic, tagging may be the only way to monitor these
21 animals and gather necessary life history data (Wilson and McMahon 2006). Over time, data may be
22 collected from a significant number of released animals (particularly those that commonly strand) that
23 can provide population-level insights into species movement and behavior patterns.

24 Tagging and post-release monitoring is also beneficial in the evaluation and improvement of
25 response, rehabilitation, and release procedures. For example, cetaceans that mass strand in the
26 Northeast U.S. (particularly Cape Cod) are not typically rehabilitated, and are either euthanized or
27 refloated and released off the beach. While animals that are pushed out are not generally observed
28 re-stranded in the area, their ultimate fate has been unknown. Recently, satellite transmitters were
29 deployed on two beach-released Atlantic white-sided dolphins that were part of separate mass
30 stranding events (Rice and Cooper 2005). Both animals were tracked for over 30 days, and the tracks
31 indicated survivorship as well as vigorous swim and dive behavior following return to offshore
32 habitats. Some studies are also being done on classes or groups of animals that strand due to a

1 common etiology (cause), such as domoic acid in California pinnipeds. California sea lions that have
2 been deemed successfully rehabilitated (passed all of the pre-release screening tests) have been
3 tracked post-release and determined to have long-term medical and behavioral problems that persist
4 from the domoic acid intoxication, including seizures, disorientation, isolation, and not reacting to
5 approach from humans and dogs (Thomas and Harvey 2005). Several animals restranded, and the
6 behavior of others made survivability questionable. As a result, rehabilitation decisions are being re-
7 examined for this and other species, including the definition of a “successful” rehabilitation.

8 Transport of animals to release sites could cause stress or injuries to an animal. During transport to
9 the release site, animals may overheat in direct sun and heat without protection. Cetaceans may
10 overheat (hyperthermia) or develop hypothermia during transport. Body surfaces may be exposed to
11 the drying effects of air. Animals may also be knocked around, causing muscle damage or they may
12 inhale exhaust fumes. Improper transport of cetaceans may cause abrasions, pressure necrosis,
13 thermoregulatory problems, and respiratory problems. Muscular stiffness may occur from transport,
14 but most accepted transport methods try to minimize or avoid this entirely. Stiffness would disappear
15 within a few hours to a few days, unless there was permanent muscle damage (Antrim and McBain
16 2001).

17 The release of pinnipeds on rookeries or haul-out sites could disrupt other animals. When pinnipeds
18 are startled and disperse from rookeries, pups may be trampled or abandoned. Juvenile and adult
19 animals may be trampled during stampedes or injured on underwater rocks and cliff faces.

20 Animals deemed releasable after rehabilitation would be returned to the wild, which may have a
21 positive or negative impact on marine mammal populations. Without the use of release criteria,
22 animals that are not medically, developmentally, or behaviorally cleared for release could be released.
23 Releasing unhealthy animals could increase their pain and suffering. An animal that is not healthy or
24 has behavioral issues could re-strand or die, which would counteract the care it received in
25 rehabilitation. Animals that are not healthy could transmit diseases to wild populations (Cunningham
26 1996, Measures 2004). An animal that is not behaviorally ready for release may not have the skills
27 needed to survive in the wild. The animal may not be able to forage or avoid predators. An animal
28 may have abnormal breathing and may be unable to swim or dive properly. Animals with behavioral
29 issues could also approach, interact, and be aggressive with people, creating hazard to themselves and
30 public safety.

1 **4.2.4.3 Alternative D3- Preferred Alternative**

2 Effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, birds, and
3 marine mammals from release activities under Alternative D3 would be the same as those described
4 under Alternative D2, except for the impacts on marine mammals. Beneficial effects would be
5 expected for marine mammals because adaptive changes would be permitted and the release criteria
6 would be implemented. Adaptive changes would allow future use of new procedures and technology
7 that may increase the success of a release and the survival of an animal.

8 Under the release criteria, animals would be medically cleared by the attending veterinarian and their
9 assessment team before a release determination is made. The medical assessment would include a
10 hands-on physical examination and a review of the animal's complete history, diagnostic test results,
11 and medical and husbandry records. These procedures would minimize the risk of disease
12 introduction or transmission to the wild population.

13 Animals would also be developmentally and behaviorally cleared before release occurred, enhancing
14 their chance for survival. Developmental clearance would ensure that the animal has attained a
15 sufficient age to be nutritionally independent, including the ability to forage and hunt. Behavioral
16 clearance would include an assessment of an animal's breathing, swimming, diving, locomotion on
17 land (pinnipeds) foraging, and hunting abilities. An evaluation of an animal's visual and auditory
18 functions would be conducted. For cetaceans, any behavioral conditioning would be eliminated prior
19 to release such that the association of food rewards with humans is diminished.

20 **4.2.5 Disentanglement Alternatives**

21 **4.2.5.1 Alternative E1- No Action**

22 No significant effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish,
23 shellfish, or birds would be expected to occur from Alternative E1. However, gear on an entangled
24 animal may be shed and become marine debris, which could potentially harm biological resources.
25 The amount that may be shed would be negligible compared to the amount of gears already in the
26 ocean.

27 Major, long-term, adverse effects on marine mammals would be expected to occur as a result of
28 ending the disentanglement network. Lines and gear may cause serious injuries to animals and
29 restrict their ability to move, dive, and feed. If an animal cannot free itself from the entangling
30 material it would most likely die. Without disentanglement efforts, animals would likely suffer a

1 slow, painful death. North Atlantic right whales would be greatly affected if disentanglement efforts
2 ceased, as entanglements are known to be a significant source of mortality. The North Atlantic right
3 whale population is estimated at 300 animals (NMFS 2005c). Recent models indicate that this
4 population is likely declining, rather than remaining static or increasing (Caswell *et al.* 1999). The
5 loss of one individual, especially a female, from an entanglement would be a major impact on the
6 species. For biological reasons, the number of reproductive-age females is more essential to a
7 species' ability to maintain itself or grow than the number of males. The premature death of a single
8 mature female could make recovery of the species untenable. Humpback whales and other large
9 endangered whales would also be negatively affected if disentanglement activities ended.

10 **4.2.5.2 Alternative E2- Status Quo**

11 Minor, short-term adverse effects on protected and sensitive habitats, SAV and macroalgae, sea
12 turtles, fish, shellfish, other invertebrates, and birds could occur from this alternative. Spills of
13 hazardous materials or wastes from vessels or a vessel accident could impact these biological
14 resources. Some materials could be diluted quickly by currents, only causing temporary impacts.
15 Other materials could linger in the water column or adhere to sediment particles, causing slightly
16 longer impacts. No impacts would be expected to occur during pinniped disentanglements on land.

17 Moderate, short- and long-term, beneficial and adverse effects on marine mammals would be
18 expected under Alternative E2. The disentanglement network would continue to disentangle or
19 attempt to disentangle animals. Removal of life-threatening gear would not only increase the chance
20 of survival for the individual animal, but would have a positive impact on those species that are
21 threatened and endangered.

22 Adverse effects on marine mammals could occur during disentanglement activities. Takes of
23 entangled animals would occur during close approaches by aircraft (to locate entangled animals or for
24 photo-identification) or by vessel (for documentation, general assessment, photo-identification, and
25 disentanglement attempts). Incidental takes from close approaches are likely if other animals are in
26 the vicinity of the entangled animal. Aerial surveys to locate entangled animals would be of a short-
27 duration and aircraft would circle at an altitude ranging from 300-1,000 feet (91-305 m) above the
28 animal. Harassment of marine mammals could occur if the aircraft operated below a certain altitude.
29 Aerial surveys may cause an animal to change its behavior, such as diving rapidly. However, this
30 change in behavior would be short-term, with a minimal effect on the animal. Responders have

1 reported that whales they have encountered have not exhibited evasive behavior in response to aerial
2 approaches for the purpose of photo-identification and basic sighting data.

3 Animal reactions to close approaches may include swimming faster, breaching, diving, tail and fin
4 slapping, or moving away from the vessel. Responders have reported that some whales encountered
5 for assessment and documentation have not exhibited evasive behavior. Whales encountered closely
6 (within 30 m) for the purpose of tagging and disentanglement efforts did exhibit evasive behavior in
7 response to vessel approaches. These behaviors would generally be short-term, with a minimal effect
8 on the animal. Response of the entangled animal to disentanglement attempts depends upon the
9 species. Humpback whales are relatively easy to handle, especially if they have been entangled for a
10 prolonged period of time. Experience has indicated that humpbacks are unlikely to be evasive or
11 aggressive during disentanglement efforts, however there are always exceptions. Right whales tend
12 to respond with aggressive behavior and are uncooperative. To decrease reactions from animals,
13 approaches would be slow and from the side or behind, with minimal noise. Standby vessels
14 maintain some distance to minimize potential whale disturbance.

15 During attempts to physically restrain whales, floats, buoys, and control lines would be attached.
16 Right whales have been known to tow numerous floats and drag moderate-sized vessels. Physical
17 restraint of the animal may increase stress or pain. Physical restraint of a pinniped may also cause
18 injuries or death. Chemical restraint may lower a free-swimming whale's respiratory rate, slow their
19 breaching, and decrease their swimming strength. Sedatives may be delivered through a blow-dart
20 style syringe, which may startle the animal and cause it to react. Chemical restraint of a pinniped
21 may initiate the dive reflex, which would include breath holding, slowing of the heart rate, and the
22 pooling of blood from peripheral vessels. The short-term effects from physical and chemical
23 restraints would be outweighed by the potential beneficial outcomes.

24 Potential injuries may occur when cutting line and gear off the animal. Unintentional injuries may
25 occur as an animal moves while cutting or if control of the equipment is lost. Responders may
26 intentionally injure an animal, when no options to safely remove gear exist and only after
27 consideration of the possible damage. The potential for a positive outcome outweighs the short-term
28 effects of these injuries. Potential injuries could also occur if there are hazardous material spills from
29 vessels or vessel accidents, including stand-by vessels, during disentanglement activities. These
30 occurrences could cause injury or death to marine mammals in the vicinity.

1 During large whale disentanglement, biopsy sampling may occur via remote dart. Animal reactions
2 to remote biopsy darting are discussed under Section 4.2.6.2, biopsy sampling. Responders report
3 that while there is typically a low level of evasive response to the close approach for the biopsy
4 sample, there have not been obvious reactions to the biopsy dart itself. Samples of skin or other
5 tissue may be recovered from removed fishing gear and would have no impacts on animals.

6 During small cetacean disentanglement, the animal typically must be captured utilizing in-water
7 capture techniques, such as encirclement via hoop net, followed by physical restraint. Additional
8 animals may be captured or harassed during the rescue attempt. During pinniped capture and
9 disentanglement activities, non-entangled animals may be disturbed off a haul-out site.

10 Potential adverse effects could occur, as the addition of new network members would not be allowed.
11 Without the addition of new members, entangled animals may not be responded to, decreasing their
12 chance of survival and increasing their pain and suffering. Modifications are not allowed, including
13 new techniques and tools which could increase the success of disentanglement. Guidelines and
14 training prerequisites which are currently utilized on the East Coast would not be implemented
15 nationwide, which may mean inexperienced people could be conducting disentanglement activities on
16 the West Coast. This would likely increase risks to already vulnerable entangled animals and the
17 surrounding environment, as well as decrease the success of a disentanglement attempt.

18 **4.2.5.3 Alternative E3- Preferred Alternative**

19 Effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, and birds
20 from Alternative E3 would be the same as those described under Alternative E2. Effects on marine
21 mammals from close approaches, physical restraint, chemical restraint, and cutting of lines would be
22 the same as those described under Alternative E2.

23 Major, long-term beneficial effects on marine mammals would be expected under Alternative E3.
24 The disentanglement network would continue to disentangle or attempt to disentangle whales.
25 Removal of life-threatening gear would not only increase the chance of survival for the individual
26 animal, but would have a positive impact on those species that are threatened and endangered. New
27 members could be added to the network which would increase the number of animals responded to.
28 Modifications are allowed, including new techniques and tools which could increase the success of
29 disentanglement. Guidelines and training prerequisites would be implemented nationwide, helping
30 ensure that only experienced and qualified individuals are engaged in disentanglement activities.

1 This would likely increase the success of disentanglement and decrease the potential risk to entangled
2 animals and the surrounding environment.

3 **4.2.6 Biomonitoring and Research Activities Alternatives**

4 **4.2.6.1 Alternative F1- No Action**

5 No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, or
6 birds would be expected to occur from Alternative F1. Both beneficial and adverse effects on marine
7 mammals would be expected. Biomonitoring and research activities would end and therefore takes of
8 marine mammals would also end. This would be beneficial to animals, as they would no longer
9 experience any negative impacts from these activities. However, without these research activities,
10 important health and exposure data on marine mammal populations would no longer be collected.
11 This would limit information on exposure of marine mammals to chemical and biological toxins. It
12 would also hinder some research on the adverse health effects of toxin exposure for marine mammals
13 and would restrict investigations into factors for UMEs. This could impede future conservation and
14 management actions and ultimately result in detrimental impacts on marine mammal populations,
15 especially those that are threatened and endangered.

16 **4.2.6.2 Alternative F2- Status Quo**

17 Potential minor, short-term, adverse effects on all biological resources could occur from vessel and
18 vehicle uses. Spills of hazardous materials or wastes from vessels or a vessel accident could impact
19 biological resources. Some materials could be diluted quickly by currents, only causing temporary
20 impacts. Other materials could linger in the water column or adhere to sediment particles, causing
21 slightly longer impacts. Equipment used during beach research activities could leak oil or other
22 materials into sand and nearshore waters during beach releases. These would likely be small amounts
23 that would be flushed out and/or diluted rapidly, causing a minor, short-term impact. However, all of
24 these impacts would be negligible when compared to other inputs of hazardous materials from
25 vessels, sewage outfalls, runoff, industrial operations, and other beach vehicle uses.

26 Potential minor, short-term, adverse effects on protected and sensitive habitats could include damage
27 from vessels or researchers in the water or on the beach. Coral reefs and other habitats may be
28 damaged from contact with a vessel or a person.

29 Negligible, short-term adverse effects on SAV and macroalgae could occur during research activities.
30 Vessels used during research activities conducted in shallow waters may damage SAV and

1 macroalgae with their propellers. Vessel operators would be aware of this potential impact and would
2 avoid these areas, where feasible. Any damage to SAV and macroalgae would be negligible and
3 short-term, as only a minimal amount would be disturbed and would grow back.

4 Minor to major, short- and long-term adverse effects on sea turtles could occur during research
5 activities. Activities conducted on beaches could disrupt nesting sea turtles or damage their nests.

6 Negligible, short-term adverse effects on fish could occur during research activities. Fish may be
7 disturbed by research vessels or the presence of researchers in the water. Impacts would be short-
8 term and negligible, as fish would be able to use surrounding areas and would likely return to the area
9 once vessels and researchers have left. There would be a small possibility that larger fish species may
10 get caught in the net during capture activities. This fish would likely be released by researchers back
11 into the water without any long-term impacts.

12 Minor, short-term adverse effects on coastal and marine birds could occur during research activities.
13 The close approach by vessels or aircraft, the use of equipment, or the presence of researchers on
14 beaches could disturb birds nesting or roosting in trees or small bushes, and may cause them to
15 temporarily leave the area. Ground nesting birds could be adversely affected by research activities.
16 Equipment could crush nests and research personnel could disturb or damage a nest. Research
17 conducted in nearshore waters could disturb foraging birds. This impact would be minimal and
18 temporary, as birds could forage in nearby areas and would likely return once research activities
19 ended.

20 Beneficial and adverse effects on marine mammals would be expected to occur from Alternative F2.
21 Indirect beneficial effects would occur because valuable information on marine mammals and marine
22 mammal health trends would be collected. This information would be used to understand stranding
23 events, UMEs, and basic biological processes. Under this alternative, new research activities could
24 not be conducted. This would limit the ability to collect information in areas not currently studied or
25 to utilize new technologies and techniques during research activities. This would likely have a
26 negative impact on marine mammals.

27 Adverse effects on marine mammals from biomonitoring and research activities would be expected to
28 occur under this alternative. Takes of marine mammals would occur from close approaches,
29 euthanasia, capture and restraint, tagging, marking, and biological sampling. General methodologies

1 used for biomonitoring and research are described in Appendix H and their impacts are described
2 below. The numbers of estimated takes are listed in Appendix I.

3 ***Close Approach.*** Takes of animals would occur during close approaches by vessel or aircraft. Close
4 approaches would occur during numerous research activities such as health assessment, biopsy
5 sampling, breath sampling, tagging, photo identification, and collection of sloughed skin and feces.
6 Incidental takes of non-targeted animals from close approaches are likely if they are in the vicinity of
7 the targeted animal(s). Reactions from cetaceans may include swimming faster, breaching, diving,
8 tail and fin slapping, or moving away from the vessel. Cetacean reactions to aerial surveys depend on
9 the aircraft's altitude, length of pass, and species or individual behaviors. Approaches to marine
10 mammals below certain altitudes may harass marine mammals and cause a change in behavior, or
11 elicit behaviors, such as diving rapidly. Behaviors in response to close approaches by vessel and
12 aircraft would generally be short-term, with a minimal effect on the animal or the population.

13 Pinniped reactions to vessels and aircraft are highly variable, depending on the species (Calkins and
14 Pitcher 1982). In Steller sea lion studies, reactions ranged from none to complete and immediate
15 departure from the haul-out site. In most cases, the potential impact to the animal is limited to
16 disturbance; with the animal remaining at the haul-out site. When pinnipeds are startled and disperse
17 from rookeries, pups or young may be trampled or abandoned. Juvenile and adult animals may be
18 trampled during stampedes or injured on underwater rocks and cliff faces. The incidence of
19 stampedes in response to aerial surveys at specific altitudes is unknown. Disturbance from aerial
20 surveys would be dependent on plane specifications, flight patterns, and the altitude.

21 ***Capture and Restraint.*** Any capture and/or restraint procedure would likely have at least some
22 short-term effect on the behavior or activities of marine mammals. The number of times an animal
23 would be captured, the method(s) of restraint, as well as the age and general condition of the animal
24 are all factors that would affect an animal's response to capture. Animals could incur contusions,
25 concussions, lacerations, nerve injuries, hematomas, and fractures in their attempts to avoid capture or
26 escape restraint (Fowler 1978). The stress response could change an animal's reaction to many drugs,
27 including those commonly used for chemical restraint, which could have lethal consequences. Stress
28 could also alter an animal's immune system. Stress from capture and restraint could cause capture
29 myopathy, which occurs when an animal cannot cool itself (Fowler 1978). Capture myopathy is
30 characterized by degeneration and necrosis of striated and cardiac muscles and usually develops
31 within 7 to 14 days after significant trauma, stranding, transport, or capture.

1 Potential effects from anesthesia used for chemical restraint are described above. Physical restraint of
2 a pinniped, if not properly executed, may injure or kill an animal (*e.g.* suffocation under the weight of
3 a handler). Mechanical restraint methods may pose some risk to pinnipeds. Excessive pressure is
4 possible using squeeze cages, which may cause trauma or interfere with adequate ventilation.
5 Restraint boards may use a hinged guillotine to secure an animal's neck, which could obstruct the
6 airway (Gulland *et al.* 2001).

7 During health assessments animals could become entangled in the capture net, which may result in
8 injuries or death. During a health assessment study in St. Joseph Bay, FL (July 2006), a bottlenose
9 dolphin became entangled deep in capture net and was found dead during the extrication of other
10 dolphins from the net. Animals may also become stressed during handling and restraint. Signs of
11 stress include reduced respiration, prolonged struggling while being held, and arching.

12 ***Tagging/Attachment of Scientific Instruments- Cetaceans.*** No tagging would occur on young of
13 the year animals. Mothers accompanying these animals would not specifically be targeted. However,
14 they may be tagged if accidentally captured during health assessments. Tagging would include
15 reactions to the close approach and the physical attachment of the tag. Reactions to close approaches
16 are described above. Free-swimming cetaceans often react when hit by tags delivered by remote
17 devices, such as tagging guns and crossbows. Cetaceans may also react when tags miss the animal
18 and hit the water nearby. In most cases, the reactions of the remotely tagged animal and non-target
19 animals last little more than a few minutes, after which behavior appears to return to normal (Watkins
20 and Tyack 1991, Goodyear 1993, Hooker *et al.* 2001). The physical presence of a tag may lead to an
21 alteration in the normal behavior of tagged animals, including a temporary disruption of feeding or
22 mating activities. The hydrodynamic drag created by the presence of the tag on the animal should not
23 cause an adverse impact. The proportion of the hydrodynamic drag from the tag package to the
24 animal's size and weight is such that the energetic demand on the animal would likely be
25 insignificant. Potential adverse effects would be minimized by using the smallest possible instrument
26 package and the smallest spear tip practicable. Therefore, animal disturbance would only occur
27 during the close approach and the moment of attachment.

28 Suction cup tagging procedures have been analyzed by NMFS PR1 in several environmental
29 assessments (EAs) and biological opinions, where findings resulted in no significant impact on the
30 animals (NMFS 2004). The possibility of injury to an animal comes from the remote risk of the
31 suction cup landing in or striking a sensitive part of the animal, such as the eye, mouth, or blowhole.
32 However, given the skills of the experienced researchers, this risk would be minimal or non-existent.

1 The non-invasive nature of suction cup tags eliminates the threat of infection, but not inflammation.
2 The suction cup would not remain attached to the whale for any significant length of time (typically
3 not longer than 48 hours), and likely releases within a few hours. The animal can easily dislodge the
4 tag by rolling, breaching, or rubbing. An animal could sustain injuries while trying to remove the tag
5 by rubbing against the sea floor or other animals. The tag may migrate along the skin of the animal
6 but would not cover the blowhole, as drag would move it away from the blowhole. The ease and
7 speed with which some animals can remove a tag indicates that it is unlikely that an animal would
8 endure long-term stress from the attachment. Vessel strikes pose a risk with suction cup tagging, as
9 the animal must be followed for the duration of attachment. Vessels would be close to animals and
10 may strike both target and non-target animals.

11 Implantable tags are have a greater potential for disturbance in application and would be more
12 invasive than suction cup tags. NMFS PR1 concluded, after review of annual reports of this type of
13 research, that the effects of implantable tags are insignificant (NMFS 2004). Implantable tags
14 typically penetrate the surface of the blubber layer. Tags generally work their way out of the blubber
15 after weeks or months (Watkins *et al.* 1981), but some new satellite tags may remain implanted for
16 over a year. Disturbance of the animal would mainly occur during the close approach and attachment
17 of the tag. Humpback whales in Alaska exhibited a sudden startle response with tag implantation.
18 The response was a rapid vertical wave of the flukes in the air, as if the whales were trying to hurry
19 their dive (Watkins *et al.* 1981). This disturbance would not likely injure individuals. The implanted
20 tag would not be expected to alter the behavior of the whale, particularly with regard to feeding,
21 reproduction, or migratory behavior. Potential adverse effects are minimized by using the smallest
22 possible instrument package, a smaller spear tip to minimize penetration into the blubber, and
23 minimizing the velocity of the package at impact. Inflammation would be expected to occur after tag
24 implantation and infection would be possible. There would be a low potential for an abscess or
25 septicemia to occur after implantation. Post-tagging swelling or indentations may occur after the tags
26 are lost, extruded, or migrate out. However, there is no evidence that these swellings are signs of
27 infection of the epidermis or poor health (NMFS 2006b). A NMFS PR1 EA (NMFS 2006b) states
28 that past research and permit annual reports have shown that the chance of infection from the break in
29 the epidermis from an implantable tag is likely to be extremely low and therefore not significant.

30 During health assessment captures, animals would be tagged with either a roto-tag or radio tag on the
31 trailing edge of the dorsal fin. No tagging would occur on young of the year animals. Mothers
32 accompanying these animals would not specifically be targeted. However, they may be tagged if

1 accidentally captured so that they may be monitored and/or more readily identified and avoided for
2 future net sets. The attachment of the roto-tag or radio tag would not be considered significant, as
3 pain would only last during the application, and local anesthesia may be used. Little tissue damage to
4 the trailing edge of the dorsal fin would occur when the tag is released.

5 ***Tagging/Attachment of Scientific Instruments- Pinnipeds.*** Tagging of pinnipeds would cause
6 temporary stress during capture and restraint to attach the tag. Invasive tags would cause temporary
7 pain during attachment or implantation. Animal movement may prolong or prevent healing of flipper
8 tags by producing repetitive stress on the wound. Infection of the wound site would be possible. The
9 tag may pull out of the flipper during swimming or moving on a rookery or haul-out site. The site
10 where the tag was could become infected. There is no quantitative information on the rate of
11 infection caused by flipper tagging (NMFS 2004). Incision sites from implanted tags could become
12 infected. Animals may have some discomfort after intra-abdominal implantation. These tags have
13 been used in sea otters for over 20 years, and the typical reactions to the tag, both behaviorally and
14 physically, are innocuous (Lander *et al.* 2001).

15 Attachment of scientific instruments to pinnipeds may have both short- and long-term adverse effects,
16 in addition to the effects of capture and restraint. Possible short-term impacts can include a reduction
17 in foraging activity or an increase in grooming, at the expense of other behaviors (Kenward 1987).
18 These types of impacts would likely be present after most tagging events and may be as much a
19 delayed result of the capture and handling as of the tag's presence. Some pinnipeds fitted with
20 crittercams reacted during deployment (tagging) and for a short period after deployment. Few
21 pinnipeds exhibited curiosity about the crittercam or had aggressive reactions toward it for short
22 periods (Marshall 1998). The hydrodynamic drag created by the instrument could exert an additional
23 energetic demand on an animal. Over time, this drag may result in reduced foraging success,
24 increased metabolic load, and stress to the animal.

25 The attachments of instruments to the hair with epoxy should not cause pain if done properly.
26 However, it may result in discomfort if the placement of the instrument causes pulling of the hair or
27 skin during animal movement. In addition, if the ratio of resin and hardener is not correctly
28 measured, the resulting heat-producing reaction could burn the animal's skin and pelage (Lander *et*
29 *al.* 2001). Both the resin and hardener could cause skin irritation, resulting in itching, rashes, hives,
30 and dermatitis. The instrument could be knocked or torn off, pulling out hair and possibly some of
31 the underlying skin, which would then be open to infection.

1 **Marking.** Freeze branding may cause little or momentary pain to cetaceans during application, which
2 would require 15-20 seconds per brand (typically six brands per animal). Initial discomfort or pain
3 would be relieved by the appropriate anesthetic or analgesic. Discomfort may persist for some time
4 after the procedure, but is expected to be minor. Therefore, impacts would be considered negligible
5 and not significant. However, liquid nitrogen could spill onto an animal during the process, causing
6 more than momentary pain.

7 Marking pinnipeds with paint applied remotely using a paint gun may stun an animal and cause
8 momentary stress and a startle reaction. If the target animal is hit or missed, other non-target animals
9 may be temporarily disturbed. Capturing and restraining animals for marking with paint, bleach, or
10 dye would likely involve more stress than remote marking and may cause incidental disturbance of
11 nearby animals. A pinniped may also be marked by gluing a tag to their fur. The epoxy could cause
12 burns, skin irritation, or an allergic reaction. Infection would be possible if the tag was torn off.

13 **Biopsy Sampling.** The effects of close approaches needed to conduct biopsy sampling are discussed
14 above. A careful approach generally elicits, at most, a minimal and short-lived response from whales;
15 even those subjected to invasive biopsy procedures (NMFS 1992). A NMFS PR1 EA (NMFS 2004)
16 concluded that, based on existing data and published research, biopsy sampling on large cetaceans
17 (via crossbow, compound bow, dart guns, or pole spears) would not have long-term adverse effects
18 on the target species. Published research has shown that short-term effects of biopsy darting on
19 cetaceans would be startling or momentarily painful to the animal. No evidence of infection at the
20 sight of penetration or elsewhere has been seen among whales resighted in days following biopsy
21 sampling (NMFS 1992).

22 Minke, fin, blue, and humpback whales showed no behavioral reactions to about 45 percent of
23 successful biopsies, taken with punch-type tips fired from crossbows (Gauthier and Sears 1999).
24 Behavioral responses in the remainder of the biopsies ranged from tail flicks, hard tail flicks,
25 submerging below the water surface, or some combination of these responses. Most individuals of
26 these species resumed their normal behavior within a few minutes of the sample collection. A study
27 by Clapham *et al.* (1993) noted that studies on biopsy procedures showed no evidence of short- or
28 long-term significant impacts on cetaceans.

29 Surgical biopsy sampling of epidermis and blubber also occur during health assessment captures.
30 Animals may exhibit signs of stress due to capture and restraint, as discussed above. Animals may
31 experience momentary pain during the administration of local anesthesia. In rare occurrences, the

1 biopsied area may become infected. Animals may have some soreness or pain with healing, but other
2 adverse impacts would not be expected from blubber biopsies (Wells *et al.* 2005).

3 Effects of skin and blubber biopsy samples on pinnipeds would include the effects of the capture and
4 restraint necessary for obtaining these samples are described above. In addition, there would be the
5 potential for an infection after any of these procedures, given the unsanitary environment of
6 rookeries. Healthy animals should be able to heal and recover from a properly performed procedure.
7 Animals with compromised immune systems may develop major complications. The procedures may
8 also cause more than momentary pain.

9 ***Breath Sampling/Ultrasound Sampling.*** Breath and ultrasound sampling activities on free-
10 swimming cetaceans would include close approaches by vessels. Impacts from close approaches are
11 described above. The use of the extended pole and the quick physical contact of the ultrasound
12 device or vacuum cylinder may affect an animal. The reaction of cetaceans to physical contact for
13 breath sampling and ultrasound sampling has not been adequately studied. However, the contact of
14 either apparatus on animals is very brief, lasting only a few seconds. This physical contact is not
15 likely to disrupt the behavior of marine mammals and would not have a significant effect on an
16 individual.

17 Ultrasound sampling may occur on animals captured for other research, such as health assessments.
18 These impacts are described above. The ultrasound procedure itself would pose minimal to no risk of
19 injury to an animal.

20 ***Other Sampling.*** Other sampling that could occur includes tooth extraction in cetaceans; blood
21 sampling; swabs; and the collection of feces, sloughed skin, urine, and other bodily fluids. Hair,
22 nails, and vibrissae (whiskers) could be collected from pinnipeds. Potential adverse effects from
23 tooth extraction relate to the risks of capture, restraint, anesthesia, and the possibility of infection
24 following the extraction. The procedure may result in more than momentary pain, which could
25 temporarily interfere with foraging.

26 The risks of blood collection would be largely incidental to capture and restraint. Multiple attempts
27 to obtain a blood sample would not only be stressful and cause some degree of pain; they may result
28 in damage to the vein, clotting, and an abscess. Removing a volume of blood too large relative to the
29 animal's mass and ability to replace the amount can result in fatigue, anemia, weakened immunity,
30 and problems with clotting. It is important to note that stress from capture may change some blood

1 chemistry parameters, raising questions about the validity of the test results gained from wild animal
2 capture. However, this data is crucial to examination of the health of wild, free-ranging (presumably
3 healthy) marine mammals. It may be compared to samples collected from captive animals or
4 stranded and rehabilitated animals to aid in interpretation.

5 The close approach of free-swimming cetaceans to collect feces and sloughed skin would have a
6 minor impact on the animals. The collection of pinniped feces may disturb animals on haul-out sites
7 or rookeries. Animals may rapidly depart the area, which could result in injury or death. Skin swabs,
8 feces, urine, and other bodily fluids may be collected from animals during health assessments.
9 Potential adverse effects from this sampling would likely result from capture and restraint and not
10 from sampling itself. Efforts would be made to reduce the animal holding time.

11 Clipping hair, nails, and whiskers would not likely result in pain. The effects on the animal from
12 clipping are probably incidental to the effects of capture and restraint. Pulling a whisker may cause
13 more than momentary pain, due to the highly sensitive nature of the snout and because the hair bulb is
14 surrounded by blood and neurons.

15 ***Auditory Brainstem Response (ABR)/Auditory Evoked Potential (AEP).*** Potential adverse effects
16 from ABR and AEP procedures would be as a result of capture, restraint, and holding described
17 above. The maximum sound levels presented would be lower than sound levels produced by animal
18 whistles and echolocation clicks. Sounds may be quieter than those animals are normally exposed to
19 on a daily basis. Therefore, impacts from the procedures themselves would not be considered
20 significant. Short-term impacts, including inflammation and hyperemia, would be expected from the
21 suction cups used to attach electrodes to the animal.

22 ***Diagnostic Testing and Analysis of Specimens.*** Diagnostic testing and the analysis of specimens
23 would have no impact on marine mammals. Specimens would be archived in the NMMTB or other
24 authorized laboratory and would not have any adverse impacts.

25 ***Import/Export of Marine Mammals or Marine Mammal Parts.*** Import and export of specimens
26 would not have an impact on marine mammals. All specimens would be collected legally in the U.S.
27 or other foreign countries and meet the other conditions required by the MMPA, and may be subject
28 to additional requirements and evaluation under the Animal Welfare Act. Potential adverse effects of
29 importing or exporting marine mammals in rehabilitation would be the result of restraint and
30 transport. Handling, lifting, and moving an animal could cause injuries. Cetacean flippers may be

1 crushed or overheat if stretchers do not have openings for them. Creases or seams may press into the
2 skin, causing discomfort and possible injury. Transport of animals could cause stress or injuries to an
3 animal. Depending on the mode of transportation, animals may overheat in direct sun and heat
4 without protection. Animals may develop hypothermia and frostbite if transport occurs during
5 freezing temperatures. Cetaceans may be exposed to the drying effects of air. Animals may also be
6 knocked around in the vehicle or vessel or inhale exhaust fumes. Improper transport of cetaceans
7 may cause abrasions, pressure necrosis, thermoregulatory problems, and respiratory problems.
8 Cetaceans transported on airplanes are susceptible to the effects of high-altitude sickness. Most
9 impacts during transport would be minor and temporary and would end once the animal reached its
10 destination.

11 The impacts of restraint and transport would also apply to import and export of permanently captive
12 marine mammals (for instance, from a foreign public display facility) for health research purposes
13 under the ESA/MMPA permit. However, the care and handling of captive animals falls under the
14 purview of the USDA/APHIS. Any import/export activities for captive marine mammals would meet
15 the conditions for import or export under the MMPA and would be subject to additional requirements
16 and evaluation under the Animal Welfare Act.

17 **4.2.6.3 Alternative F3- Preferred Alternative**

18 Effects on biological resources from Alternative F3 would be the same as those described under
19 Alternative F2, with some exceptions for new research activities.

20 ***Passive Acoustic Recording.*** Passive acoustic recording would not have an adverse effect on marine
21 mammals. The actual presence of the hydrophone in the water would not be expected to have any
22 impact on marine mammals. A NMFS EA (NMFS 2004) noted that, on some occasions, researchers
23 have noted instances of animals investigating the hydrophone. However there is no known
24 documentation of the presence of a hydrophone, or a similar recording device, resulting in any
25 adverse impact.

26 ***Active Acoustic Playbacks.*** Active acoustic playbacks would involve close approaches by one or
27 more vessels and would have negligible adverse behavioral impacts on marine mammals, as
28 described in Section 4.2.6.2. The source levels of the sounds produced under the proposed activities
29 would be sufficiently low and produced at a large enough distance from the animal (minimum 100 m)
30 to not result in levels that would be painful or overly disruptive to the animals. Previous tests indicate
31 that sounds produced by these proposed playback equipment would be less powerful and attenuate

1 more rapidly than other anthropogenic sources in the ROI (*i.e.* cruise ships, fishing vessels, and large
2 pleasure craft) (NMFS 2004).

3 ***Vaccination Program.*** Adverse and beneficial effects on marine mammals could be expected during
4 vaccination trials on captive and wild populations. Vaccination trials could result in the serious injury
5 or death of captive and wild animals. The use of a vaccine in a species for which it was not
6 developed initially may not be effective and may result in side effects and possibly disease. Risks to
7 the vaccinated individual include: the introduction of disease where none existed; immunosuppression
8 and increased risk of secondary infection; local tissue reactions; and stress or disturbance caused by
9 close approach, capture, restraint, and/or handling. Immunosuppression can increase an animal's
10 susceptibility to other diseases. Risks to the wild population include: vaccine virus shedding from
11 vaccinated animals and the spread of the virus via fomites (substances that absorb, hold, and transport
12 infectious disease agents). Potential risks to non-targeted species include fomites, vaccine virus
13 shedding, and cross-species infections (HSWRI 2006).

14 Beneficial effects on marine mammals could occur if successful vaccines were developed. The
15 vaccines could be used to protect wild populations and prevent the spread of disease, enhancing the
16 survival of all marine mammals.

17 **4.3 Water and Sediment Quality**

18 This section evaluates the potential impacts on water and sediment quality as a result of the
19 alternatives. Impacts on water and sediment quality are evaluated in context and intensity on a wide
20 geographic scale. Therefore, while more significant impacts may occur in localized areas, the overall
21 impact on the watershed, beach, coastline, ocean, etc. would be considered minor.

22 **4.3.1 Stranding Agreements and Response Alternatives**

23 **4.3.1.1 Alternative A1- No Action**

24 No effects on water and sediment quality would be expected to occur under Alternative A1, as
25 stranding response activities would end.

26 **4.3.1.2 Alternative A2- Status Quo**

27 Minor, short-term adverse effects on water and sediment quality could occur under Alternative A2.
28 Equipment used for transport could leak oil or other materials into sand and nearshore waters. This
29 would likely be localized and flushed out and/or diluted rapidly, causing a minor impact. Tissue,

1 blood, and other body fluids may contain euthanasia solution, other drugs, POPs, toxic metals,
2 pathogens, and/or biotoxins. Chemical residues from euthanasia solution and other drugs persist in
3 the carcass at different concentrations and for different amounts of time. They would not likely create
4 an environmental hazard, as they would be broken down quickly and would not persist in the
5 surrounding environment. Contaminants would also be localized and flushed out of the sand and
6 groundwater by the tides and/or precipitation. Any contaminants entering the nearshore waters would
7 be diluted quickly by the currents, and impacts would be minor and temporary.

8 Animals may also contain chemical residues from substances administered by stranding response
9 personnel, including chemical euthanasia solution and sedatives. If the animal is a rehabilitated
10 animal that has restranded, it may also contain antibiotics, antifungals, and other medicine. These
11 chemicals persist in the animal at different concentrations and for different amounts of time. They
12 would not likely create an environmental hazard, as they would be broken down quickly and would
13 not persist in the surrounding environment.

14 **4.3.1.3 Alternative A3**

15 Effects on water and sediment quality from stranding response activities under Alternative A3 would
16 be the same as those described under Alternative A2.

17 **4.3.1.4 Alternative A4- Preferred Alternative**

18 Effects on water and sediment quality from stranding response activities under Alternative A4 would
19 be the same as those described under Alternative A2.

20 **4.3.1.5 Alternative A5**

21 Effects on water and sediment quality from stranding response activities under Alternative A5 would
22 be the same as those described under Alternative A2.

23 **4.3.2 Carcass Disposal Alternatives**

24 **4.3.2.1 Alternative B1- No Action**

25 Minor, short-term adverse effects on water and sediment quality could be expected to occur under
26 Alternative B1, as carcasses would be left on the beach to naturally decompose. Carcasses left on the
27 beach to naturally decompose would not cause an impact, unless the animal contained contaminants.
28 Body fluids may contain POPs, toxic metals, pathogens, and/or biotoxins could seep into the sand
29 beneath the animal or leach into groundwater and flow into nearshore waters. If contaminants enter

1 groundwater, they would likely be flushed out quickly by tidewater and/or precipitation. The impact
2 on water quality would likely be temporary and minor. Sediment quality would not likely be
3 impacted by contaminants, as they would be localized and flushed out or diluted before they could
4 adhere to the substrate.

5 **4.3.2.2 Alternative B2- Status Quo**

6 Minor, short-term adverse effects on water and sediment quality would be expected to occur under
7 Alternative B2. Potential effects depend on the method of carcass disposal and if the carcass was
8 toxic from the use of euthanasia solution. Carcasses left on the beach to naturally decompose would
9 not cause an impact, unless the animal had been chemically euthanized or contains contaminants.
10 The evaluation of the potential toxicological environmental hazards posed by a decomposing carcass
11 cannot be determined at this time (see Appendix J). Additionally, the types and levels of
12 contaminants in a carcass are generally not known at the time of disposal because of the time delay in
13 processing analytical lab tests. However, the remote potential does exist for decay products of
14 carcasses to be released into the surrounding environment or recycled into the food web, with
15 subsequent negative impacts. Chemical residues from euthanasia solution and other drugs persist in
16 the carcass at different concentrations and for different amounts of time. They would not likely create
17 an environmental hazard, as they would break down quickly and would not persist in the surrounding
18 environment. Body fluids containing POPs, toxic metals, pathogens, and/or biotoxins could seep into
19 the sand beneath the animal or leach into groundwater and flow into nearshore waters. If
20 contaminants enter groundwater, they would likely be localized and flushed out quickly by tidewater
21 and/or precipitation. Higher concentrations of contaminants may occur in nearshore waters down site
22 from the carcass. These concentrations would be diluted and flushed out by the currents. The amount
23 of time for contaminants to flush out of groundwater would depend upon the amount of precipitation,
24 tides, and the permeability of the sand/sediment. The size and number of carcasses would also factor
25 into the amount of time for contaminants to disperse. The impact on water quality would likely be
26 localized, temporary, and minor. Sediment quality would not likely be impacted by contaminants, as
27 they would be flushed out or diluted before they could adhere to the substrate.

28 Burial of carcasses could increase erosion, but this would be a negligible impact. The burial site
29 would only be disturbed for a short-period of time and would be refilled with sand to match the
30 surrounding ground level. Burial does not inactivate all pathogens in the carcass. Some carcasses
31 may contain POPs, toxic metals, pathogens, and/or biotoxins; however the specific types and levels of
32 contaminants are typically not known at the time of burial. As these carcasses decay, body fluids may

1 leach into the sand and groundwater, potentially impacting the adjacent coastal waters and sediments.
2 As described above, contaminants would be flushed out of groundwater and diluted in nearshore
3 waters by the currents. Carcasses containing euthanasia solution or other drugs would not likely
4 persist in the environment. Impacts to water and sediment quality would be temporary and minor.

5 Disposal of carcasses at sea may negatively impact water and sediment quality. Carcasses of
6 euthanized animals could release POPs, toxic metals, pathogens, and/or biotoxins into the water or
7 food web during decomposition. However, the impact would be minor as the contaminants would
8 dilute rapidly in the water. The material used to sink the carcass may have an adverse effect, if it
9 could be considered a contaminant. However, Jersey (concrete) barriers would generally be used to
10 sink a carcass and these would have no impact on water or sediment quality. Transport of the carcass
11 offsite could temporarily increase erosion, due to the use of heavy equipment. This would be a
12 negligible impact as equipment would only be used for a short time period (hours). Spills of
13 hazardous materials or wastes from transport vessels or a vessel accident could impact water and
14 sediment quality. Impacts would be considered minor to major, depending on the material, type of
15 accident, size of spill, location, and/or vicinity of these resources. Some materials could be diluted
16 quickly by currents, causing localized, temporary impacts. Other materials could linger in the water
17 column or adhere to sediment particles, causing slightly longer but still localized impacts.

18 Heavy equipment or vehicles may be necessary to transport a carcass off-site. Equipment used to
19 transport animals could leak oil or other materials into sand and nearshore waters during operations.
20 These would likely be small amounts that would be localized, flushed out and/or diluted rapidly,
21 causing a minor, short-term impact. Other materials could linger in the water column or adhere to
22 sediment particles, causing slightly longer but still localized impacts.

23 Burial in a landfill would not create any negative impacts for non-toxic carcasses. If carcasses are
24 known or assumed (based upon test results or prior knowledge of the species) to have contaminant
25 levels that meet or exceed the local definition of hazardous waste, they would be taken to a hazardous
26 waste landfill for proper disposal. Carcasses may be taken to a licensed rendering or incineration
27 facility. Because the landfill, rendering, or incineration facilities have been previously licensed, all
28 environmental impacts from these facilities have already been considered. Any impacts from these
29 activities would be covered by the individual rendering or incinerating facility and their permits, not
30 the MMHSRP or stranding network members.

1 By-products and finished products from composting a carcass would have little or no adverse effects
2 on water quality or the surrounding environment (Mukhtar *et al.* 2004). Temperatures during the
3 composting process are high enough to kill pathogens and breakdown contaminants and euthanasia
4 solution (Geraci and Lounsbury 2005).

5 **4.3.2.3 Alternative B3- Preferred Alternative**

6 The effects on water and sediment quality under Alternative B3 would be the same as those described
7 under Alternative B2.

8 **4.3.3 Rehabilitation Activities Alternatives**

9 **4.3.3.1 Alternative C1- No Action**

10 No effects on water or sediment quality would be expected to occur under Alternative C1.
11 Rehabilitation would no longer occur and therefore potential risks to water and sediment quality
12 would be removed.

13 **4.3.3.2 Alternative C2- Status Quo**

14 Minor adverse effects could occur under Alternative C2. Rehabilitation facilities that discharge
15 directly to surface waters would have the required National Pollutant Discharge Elimination System
16 (NPDES), state, and local permits for facility discharges. Any wastewater effluent discharged to a
17 publicly owned treatment works (POTWs) would be required to meet municipal wastewater treatment
18 standards and have any necessary effluent discharge permits under the Clean Water Act. Impacts
19 from permitted discharges would already be accounted for under the respective Federal, state, and/or
20 local regulations. Facilities discharging to POTWs would have a pretreatment plan in place if
21 necessary, as POTWs do not remove toxic organics or metals.

22 Net pens could pose minimal adverse impacts to water quality because they are open to ocean and bay
23 waters. Water and sediment near the pen would be exposed to any medicines, materials, or
24 equipment used in rehabilitation. There would also be an increase in pathogen and fecal exposure.
25 Temporary pools would not have any means to treat effluent. Temporary pools could leak water
26 containing wastes, pathogens, or other contaminants into the soil and groundwater. Temporary pools
27 could also contaminate water and sediment when they are emptied, if the water is discharged into
28 surface waters.

1 **4.3.3.3 Alternative C3- Preferred Alternative**

2 Effects on water and sediment quality from rehabilitation activities under Alternative C3 would be the
3 same as those described under Alternative C2.

4 **4.3.3.4 Alternative C4**

5 Effects on water and sediment quality from rehabilitation activities under Alternative C4 would be the
6 same as those described under Alternative C2.

7 **4.3.4 Release of Rehabilitated Animals Alternatives**

8 **4.3.4.1 Alternative D1- No Action**

9 No effects on water or sediment quality would be expected to occur under Alternative D1. Release of
10 rehabilitated animals would not take place and there would be no risks to water and sediment quality.

11 **4.3.4.2 Alternative D2- Status Quo**

12 Minor, short-term, adverse effects on water and sediment quality could occur under Alternative D2.
13 Release of rehabilitated animals would not intentionally generate any pollutants or disturb sediment.
14 However, spills of hazardous materials or wastes from release vessels or a vessel accident could
15 impact water and sediment quality. Some materials could be diluted quickly by currents, causing
16 temporary impacts. Other materials could linger in the water column or adhere to sediment particles,
17 causing slightly longer impacts. Equipment to transport animals could leak oil or other materials into
18 sand and nearshore waters during beach releases. These would likely be small amounts that would be
19 localized, flushed out, and/or diluted rapidly, causing a minor, short-term impact. Other materials
20 could linger in the water column or adhere to sediment particles, causing slightly longer but still
21 localized impacts.

22 **4.3.4.3 Alternative D3- Preferred Alternative**

23 Effects on water and sediment quality from Alternative D3 would be the same as those described
24 under Alternative D2.

1 **4.3.5 Disentanglement Alternatives**

2 **4.3.5.1 Alternative E1- No Action**

3 No effects on water or sediment quality would be expected to occur under Alternative E1, as
4 disentanglement activities would no longer occur.

5 **4.3.5.2 Alternative E2- Status Quo**

6 Minor, short-term, adverse effects water or sediment quality could occur under Alternative E2.
7 Disentanglement activities would not intentionally generate any pollutants or disturb sediment.
8 However, spills of hazardous materials or wastes from disentanglement vessels or a vessel accident
9 could impact water and sediment quality. Some materials could be diluted quickly by currents,
10 causing localized, temporary impacts. Other materials could linger in the water column or adhere to
11 sediment particles, causing slightly longer but still localized impacts.

12 **4.3.5.3 Alternative E3- Preferred Alternative**

13 Effects on water or sediment quality from Alternative E3 would be the same as those described under
14 Alternative E2.

15 **4.3.6 Biomonitoring and Research Activities Alternatives**

16 **4.3.6.1 Alternative F1- No Action**

17 No effects on water and sediment quality would be expected to occur under Alternative F1.
18 Biomonitoring and research activities would no longer occur and therefore potential risks to water
19 and sediment quality would be removed.

20 **4.3.6.2 Alternative F2- Status Quo**

21 Minor, short-term, adverse effects on water and sediment quality could occur under Alternative F2.
22 Biomonitoring and research activities would not intentionally generate any pollutants or disturb
23 sediment. Spills of hazardous materials or wastes from vessels, the loss of research materials
24 overboard, or a vessel accident could impact water and sediment quality. Some materials could be
25 diluted quickly by currents, only causing localized, temporary impacts. Other materials could linger
26 in the water column or adhere to sediment particles, causing slightly longer but still localized impacts.
27 Equipment used for beach research activities could leak oil or other materials into sand and nearshore

1 waters. These would likely be small amounts that would be flushed out and/or diluted rapidly,
2 causing a minor, short-term impact.

3 Any hazardous or non-hazardous wastes from laboratories used for diagnostic testing and analyses
4 would be covered under those laboratories and their hazardous wastes and wastewater permits, not the
5 MMHSRP.

6 **4.3.6.3 Alternative F3- Preferred Alternative**

7 Effects on water and sediment quality from Alternative F3 would be the same as those described
8 under Alternative F2.

9 **4.4 Cultural Resources**

10 This section evaluates the potential impacts on cultural resources as a result of the alternatives.

11 **4.4.1 Stranding Agreements and Response Alternatives**

12 **4.4.1.1 Alternative A1- No Action**

13 No effects on cultural resources would be expected to occur from Alternative A1. Stranding response
14 activities would end, removing any potential risk to cultural resources.

15 **4.4.1.2 Alternative A2- Status Quo**

16 Minor, adverse effects on cultural resources could be expected to occur under this alternative. The
17 use of equipment and vehicles on the beach, as well as digging, may affect cultural resources buried
18 in sand or dunes. Equipment used in nearshore waters may affect submerged cultural resources.
19 However, the potential for impact would be minor, as stranding events are scattered along the entire
20 U.S. coastline. The probability that these events, and therefore response activities, may be located on
21 a beach or in water containing cultural resources is small.

22 Stranding response on Native American/Alaska Native lands would be coordinated with Native
23 American tribes, Alaska Natives, or other aboriginal peoples to accommodate cultural uses of marine
24 mammals. Responders would also be sensitive to the fact that tribal cultures often involve
25 ceremonial, medicinal, or subsistence uses or plants, animals (including marine mammals), and
26 specific geographic locations. There would not be any effects on Alaska Natives, Native American
27 tribes, or other aboriginal people's cultural uses of coastal resources.

1 **4.4.1.3 Alternative A3**

2 The effects on cultural resources from Alternative A3 would be the same as those described under
3 Alternative A2.

4 **4.4.1.4 Alternative A4- Preferred Alternative**

5 The effects on cultural resources from Alternative A4 would be the same as those described under
6 Alternative A2.

7 **4.4.1.5 Alternative A5**

8 The effects on cultural resources from Alternative A5 would be the same as those described under
9 Alternative A2.

10 **4.4.2 Carcass Disposal Alternatives**

11 **4.4.2.1 Alternative B1- No Action**

12 No effects on cultural resources would be expected to occur from Alternative B1. Carcass disposal
13 activities would end, removing any potential risk to cultural resources.

14 **4.4.2.2 Alternative B2- Status Quo**

15 Minor, adverse effects on cultural resources could be expected to occur under Alternative B2.
16 Carcass burial could damage resources located on or beneath the beach. Digging may unearth
17 artifacts and equipment used for digging could physically impact buried resources. This would
18 negatively impact areas such as the Pacific Islands area, where many known artifacts and habitation
19 sites are buried on beaches. Transporting the carcass off-site has the potential to damage resources,
20 as the equipment used could crush buried resources. However, the potential for impact would be
21 minor, as stranding events are scattered along the entire U.S. coastline. The probability that these
22 events, and therefore disposal activities, may be located on a beach or in water containing cultural
23 resources is small.

24 Carcass disposal on Native American/Alaska Native lands would be coordinated with Native
25 American tribes, Alaska Natives, or other aboriginal peoples to accommodate cultural uses of marine
26 mammals. Responders would also be sensitive to the fact that tribal cultures often involve
27 ceremonial, medicinal, or subsistence uses of plants, animals (including marine mammals), and

1 specific geographic locations. There would not be any effects on Alaska Natives, Native American
2 tribes, or other aboriginal people's cultural uses of coastal resources.

3 **4.4.2.3 Alternative B3- Preferred Alternative**

4 The effects on cultural resources from Alternative B3 would be the same as those described under
5 Alternative B2.

6 **4.4.3 Rehabilitation Activities Alternatives**

7 **4.4.3.1 Alternative C1- No Action**

8 No effects on cultural resources would be expected to occur under Alternative C1. Rehabilitation
9 activities would end, removing any potential risk to cultural resources.

10 **4.4.3.2 Alternative C2- Status Quo**

11 Potential minor, adverse effects on cultural resources could be expected to occur under Alternative
12 C2. The use of temporary pools could damage cultural resources, depending on where they are sited.
13 The use of net pens may disturb or damage submerged cultural resources.

14 **4.4.3.3 Alternative C3- Preferred Alternative**

15 The effects on cultural resources from Alternative C3 would be the same as those described under
16 Alternative C2.

17 **4.4.3.4 Alternative C4**

18 The effects on cultural resources from Alternative C4 would be the same as those described under
19 Alternative C2.

20 **4.4.4 Release of Rehabilitated Animals Alternatives**

21 **4.4.4.1 Alternative D1- No Action**

22 No effects on cultural resources would be expected to occur from Alternative D1. Release of
23 rehabilitated animals would end, removing any potential risk to cultural resources.

24 **4.4.4.2 Alternative D2- Status Quo**

25 Minor, adverse effects on cultural resources could be expected to occur from Alternative D2. The use
26 of equipment and vehicles on the beach during release activities may affect cultural resources buried

1 in sand or dunes. However, the potential for impact would be minor, as release activities are scattered
2 along the entire U.S. coastline. The probability that these activities may be located on a beach
3 containing cultural resources is small. Archaeological studies have not been conducted in most
4 coastal areas. Release activities conducted at sea would not affect any submerged cultural resources.

5 **4.4.4.3 Alternative D3- Preferred Alternative**

6 The effects on cultural resources from Alternative D3 would be the same as those described under
7 Alternative D2.

8 **4.4.5 Disentanglement Alternatives**

9 **4.4.5.1 Alternative E1- No Action**

10 No effects on cultural resources would be expected to occur from Alternative E1. Disentanglement
11 activities would end, removing any potential risk to cultural resources.

12 **4.4.5.2 Alternative E2- Status Quo**

13 No effects on cultural resources would be expected to occur from Alternative E2. Disentanglement
14 activities would generally occur in open ocean areas and would not be near or in contact with any
15 submerged cultural resources. Pinniped disentanglements may occur on beaches, but impacts to
16 cultural resources would not be expected.

17 **4.4.5.3 Alternative E3- Preferred Alternative**

18 No effects on cultural resources would be expected to occur from Alternative E3. Disentanglement
19 activities would generally occur in open ocean areas and would not be near or in contact with any
20 submerged cultural resources. Pinniped disentanglements may occur on beaches, but impacts to
21 cultural resources would not be expected.

22 **4.4.6 Biomonitoring and Research Activities Alternatives**

23 **4.4.6.1 Alternative F1- No Action**

24 No effects on cultural resources would be expected to occur from Alternative F1. Biomonitoring and
25 research activities would end, removing any potential risk to cultural resources.

1 **4.4.6.2 Alternative F2- Status Quo**

2 Adverse effects on cultural resources would not likely occur from this alternative. Research activities
3 conducted on beaches could potentially disturb buried resources if vehicles or other equipment is
4 used. Research activities conducted in the water, such as health assessment captures, could damage
5 submerged cultural resources. Activities may involve anchoring boats or nets to the bottom and
6 positioning researchers in the water. Activities in shallow areas could potentially disturb or come in
7 contact with artifacts and other resources. Research activities in open ocean areas would not be near
8 or in contact with any submerged cultural resources. However, the potential for impact would be
9 minor as research activities are scattered along the entire U.S. coastline. The probability that these
10 activities may be located on a beach or in water containing cultural resources is small.

11 **4.4.6.3 Alternative F3- Preferred Alternative**

12 The effects on cultural resources from Alternative F3 would be the same as those described under
13 Alternative F2.

14 **4.5 Human Health and Safety**

15 This section evaluates the potential impacts on human health and safety as a result of the alternatives.

16 **4.5.1 Stranding Agreements and Response Alternatives**

17 **4.5.1.1 Alternative A1- No Action**

18 Minor, short-term, adverse effects on human health and safety would be expected to occur from under
19 Alternative A1. Response to all stranded animals, alive or dead, would not occur and animals would
20 be left on beaches. Without response activities, people would likely approach the animal or carcass
21 either out of curiosity or in an attempt to help. Animal carcasses and live animals may contain
22 contaminants or zoonotic diseases that people or domestic animals may come in contact with through
23 tissues, fluids, bites, or scratches. Live animals may bite, roll, or thrash around, causing physical
24 injuries to people who attempt to interact with the animals.

25 Direct, beneficial effects would be expected for stranding response personnel. As response to stranded
26 animals ends, the safety risks for response personnel would no longer exist.

1 **4.5.1.2 Alternative A2- Status Quo**

2 Minor, short-term, adverse effects on human health and safety would be expected to occur from under
3 Alternative A2. The general public would be impacted if they approached the carcass or live animal
4 out of curiosity or in an attempt to help. Animal carcasses and live animals may contain
5 contaminants or zoonotic diseases that people or domestic animals may come in contact with through
6 tissues or fluids. People may have allergic reactions to animal blubber and oils. Serious infections
7 may occur from contact with animals. Pathogens encountered may be antibiotic resistant, making
8 treatment more difficult. Live animals may bite, roll, or thrash around, causing physical injuries.
9 However, the potential for adverse effects is less under this alternative than Alternative A1, as
10 responders would be on scene, reducing the ability for the public to come into contact with an animal.

11 Risk to responders would also include contaminants, zoonotic diseases, and physical injuries.
12 Contaminants, including biotoxins and petroleum products, may produce short-term affects, such as
13 respiratory problems, lightheadedness, nausea, eye irritation, or skin irritation. Responders may have
14 allergic reactions to animal blubber and oils. Serious infections may occur from contact with animals.
15 Pathogens encountered may be antibiotic resistant, making treatment more difficult. Zoonotic
16 diseases may have short-term affects including swelling, joint pain, skin lesions, and flu-like
17 symptoms. Long-term effects from zoonotic diseases could occur, especially if they are not
18 diagnosed properly. Physical injuries may include strains or bruises from moving an animal or from
19 slips, trips, or falls. Workers may be injured by stepping on broken glass, rusty metal, needles, or
20 other litter. Workers could become entangled in derelict fishing gear during water responses.
21 Workers may also come into contact with contaminated debris, including medical wastes and sewage.
22 Accidental injections or exposure to euthanasia solution could cause adverse effects, depending on
23 the chemical(s) used. Etorphine can be absorbed through broken skin and mucous membranes (*e.g.*
24 eyes, nose, and mouth). Accidental injections of paralytic agents are considered life-threatening
25 (Greer *et al.* 2001). Responses in or close to water could result in drowning if proper safety measures
26 are not taken. Responders in water may come into contact with sharks, jellyfish, rays, and other
27 venomous fish.

28 **4.5.1.3 Alternative A3**

29 Effects on human health and safety from Alternative A3 would be the same as those described under
30 Alternative A2.

1 **4.5.1.4 Alternative A4- Preferred Alternative**

2 Effects on human health and safety from Alternative A4 would be similar to those described under
3 Alternative A2. However, the implementation of SA criteria would ensure that responders are
4 experienced and therefore have the knowledge to avoid or minimize health and safety risks.

5 **4.5.1.5 Alternative A5**

6 Effects on human health and safety from Alternative A5 would be the same as those described under
7 Alternative A4.

8 **4.5.2 Carcass Disposal Alternatives**

9 **4.5.2.1 Alternative B1- No Action**

10 Minor, short-term, adverse effects on human health and safety would be expected to occur under
11 Alternative B1. Carcasses of most stranded animals would be left on beaches and would naturally
12 decompose (limited carcass disposal may still occur from Federal (not including NMFS), state, and
13 local agencies authorized under MMPA 109(h)). People would likely approach and touch the carcass
14 out of curiosity. Animal carcasses may contain contaminants or zoonotic diseases that people may
15 come in contact with through tissues or fluids. Contaminants, including biotoxins and petroleum
16 products, may produce short-term affects, such as respiratory problems, lightheadedness, nausea, eye
17 irritation, or skin irritation. People may have allergic reactions to animal blubber and oils. Serious
18 infections may occur from contact with carcasses. Pathogens encountered may be antibiotic resistant,
19 making treatment more difficult. Zoonotic diseases may have short-term affects including swelling,
20 joint pain, skin lesions, and flu-like symptoms. Long-term effects from zoonotic diseases could
21 occur, especially if they are not diagnosed or treated properly.

22 Contaminated carcasses left on the beach could potentially contaminate the groundwater and/or
23 nearshore water. Impacts would be minor and temporary, as contaminants in groundwater would
24 likely be flushed out quickly by tidewater and/or precipitation. Contaminants in nearshore waters
25 would rapidly be diluted and flushed out by currents. Risks to human health could occur if toxic
26 carcasses were consumed.

27 The alternative would have a beneficial effect, as personnel involved in carcass disposal would no
28 longer be exposed to health and safety risks.

1 **4.5.2.2 Alternative B2- Status Quo**

2 Minor, short-term, adverse effects on human health and safety would be expected to occur under
3 Alternative B2. Carcasses of stranded animals may be left to naturally decompose, buried, towed to
4 sea, or transported off-site to a rendering facility, landfill, or compost facility. Animal carcasses may
5 contain euthanasia solution, contaminants, or zoonotic diseases that people may come in contact with
6 through tissues or fluids, if the carcasses are left to naturally decompose. Contaminants, including
7 biotoxins and petroleum products, may produce short-term affects, such as respiratory problems,
8 lightheadedness, nausea, eye irritation, or skin irritation. People may have allergic reactions to
9 animal blubber and oils. Serious infections may occur from contact with carcasses. Pathogens
10 encountered may be antibiotic resistant, making treatment more difficult. Zoonotic diseases may
11 have short-term affects including swelling, joint pain, skin lesions, and flu-like symptoms. Long-
12 term affects from zoonotic diseases could occur, especially if they are not diagnosed or treated
13 properly.

14 Carcasses containing environmental contaminants left on the beach or buried could potentially
15 contaminate the groundwater and/or nearshore water. Impacts would be minor and temporary, as
16 contaminants in groundwater would likely be flushed out quickly by tidewater and/or precipitation.
17 Contaminants in nearshore waters would rapidly be diluted and flushed out by currents. Chemically
18 euthanized carcasses left on the beach or buried would not likely effect human health. Risks to
19 human health could occur if toxic or chemically euthanized carcasses were consumed.

20 Persons involved with the disposal risk physical injuries from using equipment to bury, transport off-
21 site, or tow the carcass out to sea. Persons could be hit or crushed by equipment or may risk
22 drowning when towing the carcass out to sea. Carcasses that are disposed in shipping lanes or
23 resurface could cause vessel accidents.

24 **4.5.2.3 Alternative B3- Preferred Alternative**

25 Effects on human health and safety under Alternative B3 would be the same as those described under
26 Alternative B2, with one exception. Chemically euthanized animal carcasses would not be buried on
27 the beach whenever possible, minimizing the risk of humans coming in contact with these carcasses.
28 This would be a beneficial impact on health and safety. However, carcasses containing environmental
29 contaminants could still be buried and contaminate the groundwater and/or nearshore water. Impacts
30 would be minor and temporary, as contaminants in groundwater would likely be flushed out quickly

1 by tidewater and/or precipitation. Contaminants in nearshore waters would rapidly be diluted and
2 flushed out by currents. Risks to human health would still exist if toxic carcasses were consumed.

3 **4.5.3 Rehabilitation Activities Alternatives**

4 **4.5.3.1 Alternative C1- No Action**

5 A beneficial effect on human health and safety would be expected to occur from Alternative C1.
6 Rehabilitation of marine mammals would no longer occur and risks to marine mammal workers
7 would end.

8 **4.5.3.2 Alternative C2- Status Quo**

9 Minor, short-term, adverse effects on human health and safety could be expected to occur from under
10 Alternative C2. Animal induced injuries would include bites or physical injuries from being hit by a
11 fin, tail, or other body part. Working on wet surfaces may cause bruises, slips, trips, or falls.
12 Drowning is a possibility as work would occur around or in pools and pens. Physical injuries may
13 occur from the use of other equipment.

14 Rehabilitation staff may be exposed to contaminants, potential zoonotic pathogens, euthanasia
15 solution, animal drugs, and chemicals used for sanitation purposes. Contaminants, including
16 biotoxins and petroleum products, may produce short-term affects, such as respiratory problems,
17 lightheadedness, nausea, eye irritation, or skin irritation. Serious infections may occur from contact
18 with animals. Pathogens encountered may be antibiotic resistant, making treatment more difficult.
19 Zoonotic diseases may have short-term affects including swelling, joint pain, skin lesions, and flu-like
20 symptoms. Long-term affects from zoonotic diseases could occur, especially if they are not
21 diagnosed properly.

22 Accidental injections or exposure to euthanasia solution could cause adverse effects, depending on
23 the chemical(s) used. Etorphine can be absorbed through broken skin and mucous membranes (*e.g.*
24 eyes, nose, and mouth). Accidental injections of paralytic agents are considered life-threatening
25 (Greer *et al.* 2001). Accidental injections and exposure to other drugs used in animal treatment could
26 occur and affects would depend upon the drug. Facility personnel may come into contact with
27 harmful chemicals used for cleaning or maintaining pool water quality. Improperly stored or handled
28 pool chemicals can be highly reactive and may generate high temperatures, release toxic vapors, or
29 ignite nearby combustible materials. Reactivity may be triggered by the inadvertent mixing of a pool
30 chemical with an incompatible material or wetting the chemical with water (EPA 2001).

1 **4.5.3.3 Alternative C3- Preferred Alternative**

2 Effects on human health and safety from Alternative C3 would be the same as those described under
3 Alternative C2, with one exception. The Rehabilitation Facility Standards would be implemented
4 under Alternative C3, which would have a beneficial effect on health and safety. While some of these
5 measures may currently occur at rehabilitation facilities, the standards would ensure that all facilities
6 would be implementing the most effective safety measures. The standards would require safety plans
7 for the direct handling of all species seen at the facility. Personnel would be trained to identify
8 potential zoonotic diseases and prevent their transmission from animal to human. Staff would also be
9 trained to properly handle contaminated equipment and proper sanitation techniques. Safety
10 equipment such as eye protection, protective clothing, and eye flushing stations, would be provided.

11 **4.5.3.4 Alternative C4**

12 Effects on human health and safety from Alternative C4 would be the same as those described under
13 Alternative C3.

14 **4.5.4 Release of Rehabilitated Animals Alternatives**

15 **4.5.4.1 Alternative D1- No Action**

16 A beneficial effect on human health and safety would be expected from Alternative D1. Release
17 activities would cease and risks to marine mammal workers would end.

18 **4.5.4.2 Alternative D2- Status Quo**

19 Minor, short-term, adverse effects could be expected from Alternative D2. Physical injuries, such as
20 strains, cuts, and bruises, may occur while lifting and moving an animal for transport. Injuries from
21 animals, such as bites or being hit by flukes may occur. Exposure to liquid nitrogen, used for freeze
22 branding, may occur while pouring liquid nitrogen or coming in contact with the brand. Liquid
23 nitrogen can cause rapid freezing and tissue damage to skin, eyes, and other exposed body parts.
24 Vessel collisions, fire, capsizing, running aground, and inclement weather during cetacean release
25 activities can result in injuries, including bruises, cuts, drowning, and lightning strikes.

26 **4.5.4.3 Alternative D3- Preferred Alternative**

27 Effects on human health and safety from Alternative D3 would be the same as those described under
28 Alternative D2.

1 **4.5.5 Disentanglement Alternatives**

2 **4.5.5.1 Alternative E1- No Action**

3 A beneficial effect on marine mammal responder health and safety would be expected under
4 Alternative E1. Disentanglement operations would end and responders would no longer be at risk of
5 injury. However, adverse impacts on public health and safety could occur if individuals attempted to
6 disentangle an animal themselves. Risks would include serious physical injuries and drowning.

7 **4.5.5.2 Alternative E2- Status Quo**

8 Responders put themselves at risk during all disentanglements. The boat could become entangled in
9 the lines connected to the whale. Animal movements may cause serious physical injuries, knock a
10 person overboard, or capsize the boat. Drowning is a very real threat to responders. Responders
11 could also become entangled in restraint lines onboard the boat or while attempting to cut lines from
12 the animal. Responders could come into contact with drugs used for the chemical restraint of
13 animals. Under this alternative, no responders would enter the water to cut lines.

14 Modifications, including new techniques and tools, are not allowed. Without modifications, hazards
15 to responders would still occur and could feasibly increase. Human safety risks would also increase
16 without the implementation of disentanglement guidelines and training prerequisites. Less
17 experienced individuals would not have the skills and knowledge to avoid or minimize dangerous
18 situations, putting themselves and others at risk.

19 Potential adverse effects on public health and safety could occur. Individuals may attempt to
20 disentangle an animal, putting themselves at risk of serious physical injuries and drowning.

21 **4.5.5.3 Alternative E3- Preferred Alternative**

22 Risks to responders and safety measures would be the same as those described under Alternative E2.
23 However, there would be less risk under this alternative, as modifications which could reduce threats
24 to responders, would be allowed. New techniques and tools could decrease the time necessary for
25 disentanglements, therefore reducing the time responders are on the water and in contact with
26 animals. Modifications of safety measures would also reduce threats to responders. Implementation
27 of disentanglement guidelines and training prerequisites would increase the number of experienced
28 responders. Experienced responders would have the skills and knowledge to avoid or minimize
29 dangerous situations. Even with experienced responders and safety measures, there would still be
30 potential for adverse effects on human health and safety.

1 Potential adverse effects on public health and safety could occur. Individuals may attempt to
2 disentangle an animal, putting themselves at risk of serious physical injuries and drowning. However,
3 the public may decide not to interfere if they know there are qualified, experienced, and authorized
4 individuals to conduct disentanglement activities. This may reduce some of the potential health and
5 safety impacts.

6 **4.5.6 Biomonitoring and Research Activities Alternatives**

7 **4.5.6.1 Alternative F1- No Action**

8 A beneficial effect on human health and safety would occur under Alternative F1. Biomonitoring and
9 research activities would cease and risks to researchers would end.

10 **4.5.6.2 Alternative F2- Status Quo**

11 Personnel working on sample analyses in laboratories may come into contact with harmful chemicals.
12 Physical injuries may be sustained from the use of laboratory equipment or sharp instruments.

13 All researchers conducting activities outdoors, either on land or vessel, risk sunburn, heat exhaustion,
14 or heat stroke in hot weather or hypothermia in cold weather. Researchers conducting activities on
15 pinniped rookeries and haul-out sites risk attacks by the animals. Besides a physical injury, bites or
16 other contact may expose researchers to zoonotic diseases.

17 Sampling animals from vessels pose a variety of safety hazards. The use of crossbows, poles, and
18 other equipment used for tagging and sampling could cause serious physical injuries. Risks would
19 also include vessel collisions, capsizing, and drowning. Walking on wet boat decks increases the
20 chance of slips, trips, and falls.

21 Cetacean capture-release health assessments create many scenarios where human health and safety
22 may be adversely impacted. Bruises, cuts, drowning, and other physical injuries could occur from
23 vessel collisions, fire, capsizing, running aground, and inclement weather. Entanglement in the
24 capture net may lead to cuts, bruises, and drowning. Physical injury may occur if appendages or a
25 person becomes caught between rafted boats. Exposure to liquid nitrogen, used for freeze branding,
26 may occur while pouring liquid nitrogen or coming in contact with the brand. Liquid nitrogen can
27 cause rapid freezing and tissue damage to skin, eyes, and other exposed body parts. Restraint and
28 handling of the animal may expose personnel to zoonotic diseases. Physical injuries may result if the
29 animal thrashes around during restraint and sampling activities. Accidental needle sticks and

1 exposure to chemicals may occur during the sampling process. Activities in water may expose
2 individuals to harmful animals, such as venomous rays and skates, sharks, jellyfish, and sea lice.
3 Shallow environments may have shells and other hard parts that can scrape or cut skin.

4 **4.5.6.3 Alternative F3- Preferred Alternative**

5 Effects on human health and safety from Alternative F3 would be the same as those described under
6 Alternative F2.

7 **4.6 Socioeconomics**

8 This section evaluates the potential impacts on socioeconomics as a result of the alternatives.

9 **4.6.1 Stranding Agreements and Response Alternatives**

10 **4.6.1.1 Alternative A1- No Action**

11 Moderate, long-term beneficial direct effects to current stranding network members would be
12 expected to occur under Alternative A1. Allowing SAs to expire would mean that network members
13 would no longer respond to stranding events, leading to a reduction, if not an elimination, of costs
14 incurred from response activities. However, businesses or individuals whose only function is
15 stranding response would be adversely affected. Businesses would close and individuals would lose
16 their jobs. There may also be minor to moderate indirect adverse effects to those SA holders whose
17 response and/or rehabilitation activities attract external funding.

18 Negligible adverse effects may be borne by accommodations and restaurants adjacent to stranding
19 sites. The alternative would reduce the occurrences of temporary local beach closures associated with
20 stranding activities. However, the elimination of SAs would reduce response activities and increase
21 the instances of dead marine mammals left to decompose on the beach (either by not removing
22 carcasses and/or the increased likelihood of stranded animals being left to die). Carcasses may be
23 removed by other Federal, state, or local governments authorized under the MMPA Section 109(h).
24 Decomposing carcasses left on-site would remain in an unsightly state for longer durations without
25 assistance in their removal, and the duration would increase for larger sized animals. The
26 unappealing sight and smell could reduce tourism activity at that particular beach, as visitors may
27 choose to spend their money at other beaches or alternative recreation sites located further inland.
28 However, tourists may want to see a live stranded animal or a carcass, which could create a beneficial
29 impact on surrounding business.

1 **4.6.1.2 Alternative A2- Status Quo**

2 Minor to moderate, long-term adverse effects to stranding network members would be expected to
3 occur under Alternative A2. Current SA holders would continue their response activities and would
4 continue to incur operating costs associated with these activities. However, SA holders whose
5 response activities attract external funding may see minor to moderate, indirect beneficial impacts.

6 Negligible adverse effects to tourism businesses, such as accommodations and restaurants, could be
7 expected from Alternative A2. Some carcasses may still be left on-site to decompose naturally. The
8 unappealing sight and smell could reduce tourism activity at that particular beach, as visitors may
9 choose to spend their money at other beaches or alternative recreation sites located further inland.
10 However, tourists may want to see a live stranded animal, a carcass, or the response activities, which
11 could create a beneficial impact on surrounding business.

12 **4.6.1.3 Alternative A3**

13 Minor to moderate, long-term, adverse effects on current stranding network members would likely
14 occur under Alternative A3. While members would continue to bear operating expenses due to
15 participation in response activities, adding new SA holders to the network would offset the levels of
16 activities and expenses. As new SA holders are added to the network, their involvement with
17 response activities would help offset the time and expense of these activities incurred by the current
18 stranding network members. As the number of SA holders increases, travel time and expense should
19 reduce, as there would be greater coverage for a particular geographic area. New SA holders would
20 likely bear minor to moderate adverse impacts due to the increased operating costs related to their
21 new response activities. The extent of the impact would depend on the nature of the new SA holders'
22 existing capacity and functions, as well as the activities authorized under the SA (dead animal
23 response, live animal response, and/or rehabilitation).

24 Negligible beneficial effects on tourism businesses would likely occur under Alternative A3.
25 Maintaining the current stranding network and adding new participants would enhance
26 responsiveness to nearby live and dead marine mammals.

27 **4.6.1.4 Alternative A4- Preferred Alternative**

28 Alternative A4 is similar to Alternative A3, but under Alternative A4 the Final SA criteria would be
29 implemented. Moderate to major, adverse effects to the current SA holders would be expected to
30 occur. As the Final SA criteria is more stringent than what is currently in place, existing SA holders

1 may need more training or may need to alter existing practices in order to meet the new criteria.
2 However, the level of impacts would depend on the current practices of SA holders. For SA holders
3 who would require no or few changes to meet the new criteria, impacts would be small. Similarly,
4 larger facilities who engage in a wide variety of activities, in addition to stranding response and
5 rehabilitation activities would bear a relatively lower burden in terms of costs. New SA holders
6 would bear moderate to major, adverse impacts depending on their ability to take on new response
7 and rehabilitation activities.

8 Negligible beneficial effects on tourism businesses would likely occur under Alternative A4, similar
9 to those described under Alternative A3.

10 **4.6.1.5 Alternative A5**

11 Minor to major, long-term adverse effects to SA holders would be likely to occur. These impacts are
12 similar to those described in Alternatives A3 and A4, but they would also depend on the proportion of
13 stranded marine mammals that are not rare, threatened, or endangered and whether or not the network
14 member chooses to continue responding to those animals. While implementation of the Final SA
15 criteria may increase operating costs, the impact may be offset if there was a reduction in responses to
16 stranding events under Alternative A5. The reduction in responses could occur if new SA holders
17 covered geographic areas previously covered by another network member.

18 Negligible beneficial effects on tourism businesses would likely occur under Alternative A5, similar
19 to those described under Alternative A3.

20 **4.6.2 Carcass Disposal Alternatives**

21 **4.6.2.1 Alternative B1- No Action**

22 Carcasses would be left wherever they naturally occurred. Removal of non-ESA listed carcasses
23 could be conducted by Federal (not including NMFS), state, and local agencies authorized under
24 MMPA 109(h), but this would likely be localized and limited. Minor to moderate beneficial effects
25 are likely to occur for existing stranding network members that participate in other activities besides
26 response and carcass disposal. The elimination of carcass disposal activities would lower operating
27 costs for these members.

28 Carcasses left on-site to decompose would remain in an unsightly state for a longer period of time
29 without assistance in their removal. The duration would increase for larger sized animals. Some

1 strandings sites may be in areas of human activity, including commercial areas such as beachfront
2 hotels, casinos, businesses, or natural areas (national parks, seashore, or NERRs). This could result in
3 negligible, adverse impacts in terms of lost revenues, restaurants, and parks in the immediate vicinity
4 of the carcass(es), if the public chose to avoid the area. The resulting unappealing sight and odors
5 could reduce tourism activity at that particular beach, as visitors may choose to spend their money at
6 other beaches or alternative recreation sites further inland. However, negligible, short-term beneficial
7 effects on surrounding businesses may occur if people visit the area to view the carcass.

8 **4.6.2.2 Alternative B2- Status Quo**

9 Negligible adverse effects on tourism activities could occur from Alternative B2. Under current
10 response activities, some carcasses may be left on beaches. Carcasses may be left in areas of
11 recreational and tourism activities, such as beachfront hotels or natural areas. However, carcasses
12 would not be left on actively used beaches. Carcasses could be left on remote beaches that may be
13 part of a national park, seashore, or NERR. The foul odors and the sight of a decomposing animal
14 may result in visitors avoiding the area. This impact would be negligible, as visitors could still
15 participate in activities within the area not located near the carcass. However, negligible, short-term
16 beneficial effects on surrounding businesses may occur if people visit the area to view the carcass.

17 Stranding network participants currently authorized for dead marine mammal response would likely
18 bear minor to moderate adverse effects due to continued time and expense associated with carcass
19 disposal activities.

20 **4.6.2.3 Alternative B3- Preferred Alternative**

21 Alternative B3 is similar to Alternative B2, except that Alternative B3 recommends (but would not
22 require) the removal of chemically euthanized carcasses to an off-site location. The economic impacts
23 from Alternative B3 would be the same as those described under Alternative B2, with one exception.
24 Chemically euthanized carcasses would be removed and towed off-site to a hazardous waste landfill.
25 Towing animals off-site would be expensive and the cost would be incurred by the stranding network
26 member. The adverse effect on individual members would be negligible, minor, or major, depending
27 on the number of animals chemically euthanized. The costs of transporting the chemically euthanized
28 carcass off-site could vary depending on the size of the animal, transport distance, or the means of
29 transport. Some stranding network members may bear a greater cost burden if stranding events tend
30 to involve large animals, multiple carcasses, or if the carcass needs to be transported a great distance
31 for disposal. Adverse effects could also occur due to increased costs affiliated with rendering or

1 incinerating activities or fees imposed by the disposal site, including the need to obtain local or state
2 permits for beach or at sea disposal.

3 Negligible negative impacts on local tourism businesses could occur under Alternative B3.
4 Transporting chemically euthanized carcasses off-site would reduce the instances when an unsightly
5 carcass would deter visitors from a particular location. However, other carcasses may be left at
6 stranding sites.

7 **4.6.3 Rehabilitation Activities Alternatives**

8 **4.6.3.1 Alternative C1- No Action**

9 Major, long-term, adverse effects on facilities that focus primarily on rehabilitation activities could
10 occur under Alternative C1. Many facilities in this category may cease operation, unless their
11 activities could be shifted (*e.g.*, they are able to redirect rehabilitation efforts to animals other than
12 marine mammals). Larger facilities that also engage in other activities may experience a minor, long-
13 term positive effect in terms of the reduced operating costs from the elimination of rehabilitation
14 activities.

15 **4.6.3.2 Alternative C2- Status Quo**

16 Minor to moderate, adverse effects on rehabilitation facilities would be expected, as continued
17 expenses would be incurred from rehabilitation activities. Rehabilitation facilities would operate as
18 they currently do and therefore continue to incur supply, equipment, personnel, and maintenance
19 expenses.

20 **4.6.3.3 Alternative C3- Preferred Alternative**

21 Alternative C3 would be the same as Alternative C2, with two exceptions. Alternative C3 would
22 issue new SAs and implement the Rehabilitation Facility Standards. Minor to major, adverse effects
23 on rehabilitation facilities would be expected to occur from this alternative. The Rehabilitation
24 Facility Standards would be implemented and facilities would need to upgrade to comply with the
25 minimum standards, in order to maintain or obtain their SAs. The level of impact would depend on
26 each facility, if they need to upgrade, and how much they would need to upgrade to meet the
27 minimum standards. Current rehabilitation facilities were contacted to determine the estimated costs
28 of upgrading each facility. The East Coast facility that responded to NMFS' request for information
29 estimated that it would cost \$75,000 to upgrade its pinniped rehabilitation facilities. Of the West
30 Coast facilities that responded, the total estimated costs to upgrade facilities ranged from \$0 (a facility

1 where the standards were already met) and \$48,000 (cetacean and pinniped facility) on the low end to
2 \$1.9 million and \$7 million (both pinniped facilities) on the high end. Excluding the facility that
3 reported \$7 million in impacts, the average impact among the facilities that responded is estimated to
4 be \$518,334.

5 **4.6.3.4 Alternative C4**

6 Alternative C4 would be the same as Alternative C3, with the exception that the rehabilitation of non-
7 ESA and non-rare marine mammals would be optional. Alternative C4 would adversely affect
8 rehabilitation facilities in the same manner as Alternative C3. Alternative C4 could adversely affect
9 facilities to a lesser extent, however, since under the rehabilitation of non-rare and non-ESA species
10 would only be optional.

11 **4.6.4 Release of Rehabilitated Animals Alternatives**

12 **4.6.4.1 Alternative D1- No Action**

13 Under Alternative D1, release activities would cease as stranding response and rehabilitation
14 activities ended. Eliminating activities related to the release of rehabilitated marine mammals would
15 eliminate the expenses related to these activities.

16 **4.6.4.2 Alternative D2- Status Quo**

17 Minor to moderate, adverse effects on rehabilitation facilities would be expected, as continued
18 expenses would be incurred from release activities. Facilities that release more animals, larger
19 species of marine mammals, or those that need to travel greater distance to release animals would
20 incur a greater share of expenses.

21 **4.6.4.3 Alternative D3- Preferred Alternative**

22 Alternative D3 would be the same as Alternative D2, except that new SA holders could be added and
23 the release criteria would be implemented. Minor to moderate, adverse effects may be borne by
24 rehabilitation facilities. Costs may increase at each facility in order to comply with the release
25 criteria. However, the possible addition of rehabilitation facilities could help offset the release
26 activities and costs for some facilities.

1 **4.6.5 Disentanglement Alternatives**

2 **4.6.5.1 Alternative E1- No Action**

3 Under Alternative E1, the disentanglement network would be terminated. Minor to moderate,
4 beneficial effects on current participants could occur from the elimination of expenses incurred from
5 disentanglement activities.

6 **4.6.5.2 Alternative E2- Status Quo**

7 Under Alternative E2, the disentanglement network would continue as it currently does. Minor to
8 moderate, adverse effects would continue to be borne by participants engaged in disentanglement
9 activities.

10 **4.6.5.3 Alternative E3- Preferred Alternative**

11 Under Alternative E3, the disentanglement network would continue current operations on the East
12 Coast and modify West Coast operations. In addition, the Disentanglement Guidelines and training
13 prerequisites would be implemented nationwide. East Coast participants already follow these
14 guidelines and training prerequisites, and therefore no additional impacts would be expected. Minor
15 to moderate, adverse effects would be borne by West Coast participants due to modifications of
16 current operations and training expenses.

17 **4.6.6 Biomonitoring and Research Activities Alternatives**

18 **4.6.6.1 Alternative F1- No Action**

19 No effects on socioeconomics would be expected to occur under Alternative F1.

20 **4.6.6.2 Alternative F2 Status Quo**

21 Minor to moderate, adverse effects could occur under Alternative F2 depending on the nature of
22 current biomonitoring and research activities and the ongoing personnel and research expenses.

23 **4.6.6.3 Alternative F3- Preferred Alternative**

24 Minor to moderate, adverse effects could occur under Alternative F3 depending on the nature of new
25 biomonitoring and research activities and the ongoing personnel and research expenses.

26

Table 4-2. Summary Matrix of Impacts

Alternatives	Impact Area				
	Biological Resources	Water & Sediment Quality	Cultural Resources	Human Health & Safety	Socioeconomics
Stranding Agreements & Response					
Alternative A1- No Action	Moderate, adverse effects on marine mammals, as stranded animals would be removed from the population. Valuable information on marine mammal health would not be collected. No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds.	No effects on water and sediment quality.	No effects on cultural resources.	Minor, short-term adverse effects as the public interact with stranded animals. Beneficial effects as response personnel no longer needed.	Moderate, long-term beneficial direct effects on stranding network members, as there would be reduction, if not an elimination, of costs. Minor to moderate indirect adverse effects to SA holders whose activities attract external funding. Negligible adverse effects to businesses adjacent to stranding sites. Potential beneficial effects if people come to see stranding event.
Alternative A2- Status Quo	Minor, short-term adverse effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, shellfish, and birds from equipment use or leaks on beaches/nearshore waters and the presence of responders. Minor to moderate, adverse effects on marine mammals would be expected from response activities and if new SAs are not issued.	Minor, short-term adverse effects on surrounding sand and nearshore waters could occur from equipment leaks and euthanasia solution or other environmental contaminants in tissue, blood, and other body fluids.	Potential minor, adverse effects on submerged cultural resources or resources buried in sand from equipment and vehicle use on beaches and nearshore waters. There would not be any effects on Alaska Natives, Native American tribes, or other aboriginal people's cultural uses of coastal resources.	Minor, short-term adverse effects on the public (interacting with a stranded animal) and stranding responders (e.g., physical injury and zoonotic diseases).	Minor to moderate, long-term adverse effects to stranding network members from operating costs associated with these activities. Negligible adverse effects to businesses adjacent to stranding sites. Potential beneficial effects if people come to see stranding event.
Alternative A3	Same effects on biological resources as Alternative A2. Some beneficial impacts could come from allowing new SA holders to be added, given that they have the proper experience with marine mammal response, as geographic coverage would increase and new rehabilitation facilities may be added.	Same effects as Alternative A2.	Same effects as Alternative A2.	Same effects as Alternative A2.	Minor to moderate, long-term adverse effects on network members from operating expenses. New involvement with response activities would help offset expense of these activities. Negligible adverse effects to businesses adjacent to stranding sites. Potential beneficial effects if people come to see stranding.
Alternative A4 (Preferred)	Same effects on biological resources as Alternative A2. Beneficial impacts from use of new techniques and tools during response activities and ability to add new SA holders. Long-term beneficial effects on marine mammals would be expected to occur with the implementation of SA criteria.	Same effects as Alternative A2.	Same effects as Alternative A2.	Same effects as Alternative A2, with one exception. SA criteria would ensure that responders are experienced and have the knowledge to avoid or minimize health and safety risks.	Alternative A4 is similar to Alternative A3, but under Alternative A4 the Final SA criteria would be implemented. Moderate to major, adverse effects to the current SA holders would be expected to occur, as existing SA holders may need more training or may need to alter existing practices in order to meet the new criteria. Negligible adverse effects to businesses adjacent to stranding sites. Potential beneficial effects if people come to see stranding event.

Table 4-2. Summary Matrix of Impacts (continued)

Alternatives	Impact Area				
	Biological Resources	Water & Sediment Quality	Cultural Resources	Human Health & Safety	Socioeconomics
Stranding Agreements & Response					
Alternative A5	Same effects from stranding response activities as Alternative A2, with two exceptions. Beneficial effect on threatened, endangered, or rare animals and an adverse effect on other species. Same effects from the implementation of SA criteria as Alternative A4.	Same effects as Alternative A2.	Same effects as Alternative A2.	Same effects as Alternative A4.	Minor to major, long-term adverse effects to SA holders similar to those described in Alternatives A3 and A4, but they would also depend on the proportion of stranded marine mammals that are not rare, threatened, or endangered and whether or not the network member chooses to continue responding to those animals. Negligible adverse effects to businesses adjacent to stranding sites. Potential beneficial effects if people come to see stranding event.
Carcass Disposal					
Alternative B1- No Action	Potential adverse effects could occur from leaving carcasses on the beach to naturally decompose. Animal carcasses may contain contaminants, which could negatively impact the surrounding environment. No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds.	Potential adverse effects could occur from leaving carcasses on the beach to naturally decompose. Animal carcasses may contain contaminants, which could negatively impact the surrounding water and sediment quality.	No effects on cultural resources.	Minor, short-term adverse effects as the public interact with stranded animals. Contaminated or chemically euthanized carcasses could potentially contaminate the groundwater and/or nearshore water. Beneficial effect on personnel involved in carcass disposal, as they would no longer be exposed to risks.	Negligible adverse impacts in terms of lost revenues, restaurants, and parks in the immediate vicinity of the carcass(es), if the public chose to avoid the area. Potential beneficial effects if people come to see stranding event
Alternative B2- Status Quo	Minor to moderate, short- and long-term adverse effects, as animal carcasses may contain persistent environmental contaminants or euthanasia solution, which could negatively impact the surrounding environment. Other adverse effects from burial, equipment use, spills of hazardous materials or wastes from equipment, vessels, or vessel accidents. Beneficial effect of carcass disposal at sea, as it may provide food for organisms.	Minor, short-term adverse effects on water and sediment quality could occur from equipment leaks; euthanasia solution or other contaminants in tissue, blood, and other body fluids; spills of hazardous materials or wastes from vessels; or a vessel accident. Burial and equipment use may have a negligible impact on erosion.	Potential minor, long-term, adverse effects on submerged cultural resources or resources buried in sand from beach burial, and equipment and vehicle use on beaches and nearshore waters. There would not be any effects on Alaska Natives, Native American tribes, or other aboriginal people's cultural uses of coastal resources.	Minor and major, short- and long-term adverse effects as the public interacts with a stranded animal. Contaminated or chemically euthanized carcasses left on the beach or buried could potentially contaminate the groundwater and/or nearshore water, making it unhealthy for humans to swim near the carcass site. Workers involved in disposal could be exposed to zoonotic diseases, contaminants, and euthanasia solution.	Negligible adverse impacts in terms of lost revenues, restaurants, and parks in the immediate vicinity of the carcass(es), if the public chose to avoid the area. Potential beneficial effects if people come to see stranding event
Alternative B3 (Preferred)	Same effects as Alternative B2, with one exception. Chemically euthanized carcasses would not be buried on-site, minimizing some of the adverse effects.	Same effects as Alternative B2.	Same effects as Alternative B2.	Same effects as Alternative B2 with one exception. Recommended that chemically euthanized animal carcasses not be buried on the beach, which would minimize the health and safety risks associated with beach burial.	Effects would be the same as those described under Alternative B2, except that chemically euthanized carcasses would be moved off-site and the cost would be incurred by the stranding network member. Adverse effects would be negligible, minor, or major, depending on the number of carcasses.

Table 4-2. Summary Matrix of Impacts (continued)

Alternatives	Impact Area				
	Biological Resources	Water & Sediment Quality	Cultural Resources	Human Health & Safety	Socioeconomics
Rehabilitation Activities					
Alternative C1- No Action	Moderate, long-term, adverse effects as marine mammals would not be taken into rehabilitation and most would likely die from injuries or disease. No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds.	No effects on water and sediment quality.	No effects on cultural resources.	Beneficial effects would be expected as risks to rehabilitation personnel would end.	Potential major, long-term, adverse effects on facilities that focus primarily on rehabilitation activities. Facilities may cease operation, unless their activities could be shifted. Larger facilities that engage in other activities may experience a minor, long-term positive effect in terms of the reduced operating costs from the elimination of rehabilitation activities.
Alternative C2- Status Quo	Minor to major, short- and long-term, beneficial and adverse effects on marine mammals. Potential adverse effects from sampling, anesthesia, disease, euthanasia, and not implementing the Rehabilitation Facility Standards No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds.	Minor adverse effects due to use of open ocean/bay net pens and temporary pools and contamination from wastes, pathogens, etc. Rehabilitation facilities would have necessary permits for wastewater discharges.	Potential minor to major adverse effects on from the use of temporary pools and net pens, depending on where they are sited. Net pens may disturb or damage submerged cultural resources.	Minor, short-term, direct adverse effects on rehabilitation personnel, including physical injuries, exposure to chemicals, and exposure to zoonotic diseases.	Current rehabilitation facilities would continue to bear minor to major, long-term adverse effects. Rehabilitation facilities would operate as they currently do and therefore continue to incur supply, equipment, personnel, and maintenance expenses.
Alternative C3 (Preferred)	Same effects as Alternative C2, with one exception. Rehabilitation Facility Standards would decrease the risk of disease transmission ensure a healthy environment, maximize the success of rehabilitation, and increase the potential for release to the wild. Would reduce animal pain and suffering.	Same effects as Alternative C2.	Same effects as Alternative C2.	Same effects as Alternative C2, with one exception. Health and safety standards in the rehabilitation facility standards would have a beneficial effect.	Minor to major, adverse effects on rehabilitation facilities. Facilities would need to upgrade to comply with the minimum facility standards. Level of impact would depend on each facility, if they need to upgrade, and how much they would need to upgrade to meet the minimum standards.
Alternative C4	Same effects as Alternative C3, with a few exceptions. Adverse effects on animals that are not rare, threatened, or endangered. These animals often serve as models for other species and this would be an indirect adverse affect on rare, threatened, and endangered species.	Same effects as Alternative C2.	Same effects as Alternative C2.	Same effects as Alternative C3.	Alternative C4 would adversely affect rehabilitation facilities in the same manner as Alternative C3. Alternative C4 could adversely affect facilities to a lesser extent, however, since under the rehabilitation of non-rare and non-ESA species would only be optional.
Release of Rehabilitated Animals					
Alternative D1- No Action	Adverse effects as marine mammals would not be released back to the wild, which negatively impacts all species, but especially threatened or endangered species. Beneficial effect on wild populations, as there would not be the risk of introducing a diseased animal that could potentially infect other marine mammals. No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds.	No effects on water and sediment quality.	No effects on cultural resources.	Beneficial effects would be expected as risks to release personnel would end.	Beneficial effects as the end of release activities would eliminate the expenses related to these activities.

Table 4-2. Summary Matrix of Impacts (continued)

Alternatives	Impact Area				
	Biological Resources	Water & Sediment Quality	Cultural Resources	Human Health & Safety	Socioeconomics
Release of Rehabilitated Animals					
Alternative D2- Status Quo	Minor, short- and long-term, adverse and beneficial effects on marine mammals. Release activities (tagging, marking, and transport) may have adverse effects. Released animal could carry a zoonotic disease and infect wild population. Adverse effects on all biological resources from equipment use, spills of hazardous materials or wastes from equipment, vessels, or vessel accidents.	Minor, short-term, direct adverse effects could occur from spills of hazardous materials or wastes from release vessels; a vessel accident; or leaks from equipment into sand or surrounding waters.	Minor, long-term, adverse effects on cultural resources buried in sand from equipment and vehicle use on beaches.	Minor, short-term, direct adverse effects on release personnel, including physical injuries and exposure to chemicals.	Minor to moderate, adverse effects as continued expenses would be incurred from release activities. Facilities that release more animals, larger species of marine mammals, or those that need to travel greater distance to release animals would incur a greater share of expenses.
Alternative D3 (Preferred)	Same effects as Alternative D2, with one exception. Release criteria would be implemented and may reduce the effects on marine mammals.	Same effects as Alternative D2.	Same effects as Alternative D2.	Same effects as Alternative D2	Minor to moderate, adverse effects as costs may increase at each facility in order to comply with the release criteria. Possible addition of facilities could help offset the release activities and their costs.
Disentanglement Activities					
Alternative E1- No Action	Major, long-term adverse effects on marine mammals from ending the Disentanglement Network as animals would have increased pain and suffering and would most likely die. No significant effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds. Gear on an entangled animal may be shed and become marine debris, which could potentially harm biological resources.	No effects on water and sediment quality.	No effects on cultural resources.	Beneficial effects would be expected as risks to responders would end. Potential adverse impacts on public health if individuals attempt to disentangle an animal.	Minor to moderate, beneficial effects on current participants could occur from the elimination of expenses incurred from disentanglement activities.
Alternative E2- Status Quo	Minor, short-term adverse effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, birds, and marine mammals from spills of hazardous materials or wastes from vessels or a vessel accident. Minor to major, short- and long-term, beneficial and adverse effects on marine mammals. Disentanglement would continue; new responders could not be added. Animal adverse reactions to close approaches, physical/chemical restraint, or be injured during the process.	Minor, short-term, adverse effects could occur from spills of hazardous materials or wastes from release vessels or a vessel accident.	No effects on cultural resources.	Adverse effects on responders, including physical injuries, exposure to chemicals, potentially death. Potential adverse impacts on public health if individuals attempt to disentangle an animal.	Minor to moderate, adverse effects would continue to be borne by participants engaged in disentanglement activities.

Table 4-2. Summary Matrix of Impacts (continued)

Alternatives	Impact Area				
	Biological Resources	Water & Sediment Quality	Cultural Resources	Human Health & Safety	Socioeconomics
Disentanglement Activities					
Alternative E3 (Preferred)	Same effects as Alternative E2, except that new responders and techniques could be added and Disentanglement Guidelines/training would be in place to reduce adverse effects.	Same effects as Alternative E2.	No effects on cultural resources.	Same effects as Alternative E2. There would be less risk under this alternative, as modifications new tools and techniques and the Disentanglement Guidelines/training could reduce safety risks.	No impacts to East Coast participants. Minor to moderate, adverse effects would be borne by West Coast participants due to modifications of current operations and training expenses.
Biomonitoring & Research Activities					
Alternative F1- No Action	Adverse effects on marine mammals as important health information would no longer be collected. No effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, and birds.	No effects on water and sediment quality.	No effects on cultural resources.	Beneficial effects would be expected as risks from research activities would end.	No effects on socioeconomics.
Alternative F2- Status Quo	<p>Minor, short-term adverse effects on protected and sensitive habitats, SAV and macroalgae, sea turtles, fish, shellfish, other invertebrates, birds, and marine mammals from spills of hazardous materials or wastes from vessels; a vessel accident; or leaks from equipment into sand or surrounding waters.</p> <p>Protected and sensitive habitats and SAV and macroalgae could be damaged by vessels/researchers. Sea turtles/birds and their nests could be disturbed/ damaged. Fish may be caught in nets or disturbed.</p> <p>Minor to major, short- and long-term, adverse effects on marine mammals from close approach, tagging, marking, restraint, handling, capture, transport, sampling, and other activities. Long-term beneficial effects from collection of health information.</p>	Minor, short-term, direct adverse effects could occur from spills of hazardous materials or wastes from release vessels; a vessel accident; or leaks from equipment into sand or surrounding waters.	Adverse effects would not likely occur. Potential effects on submerged cultural resources or resources buried in sand from equipment and vehicle use on beaches and vessel use in nearshore waters.	Minor, short-term, direct adverse effects on research personnel, including physical injuries, exposure to chemicals, and exposure to zoonotic diseases.	Minor to moderate, adverse effects could occur depending on the nature of biomonitoring and research activities and the ongoing personnel and research expenses.
Alternative F3 (Preferred)	Same effects as Alternative F2, with other adverse effects from new research activities.	Same effects as Alternative F2.	Same effects as Alternative F2.	Same effects as Alternative F2.	Minor to moderate, adverse effects could occur depending on the nature of new biomonitoring and research activities and the ongoing personnel and research expenses.

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5. Mitigation

5.1 Introduction

The purpose of mitigation is to avoid, minimize, or eliminate negative impacts on the affected resources from a proposed action. Mitigation measures have been developed for alternatives where a significant impact would likely occur. Measures are described under each resource area and alternative, as necessary.

5.2 Biological Resources

5.2.1 Stranding Agreements and Response Alternatives

Under Alternatives A2, A3, A4, and A5, measures would be taken to avoid protected and sensitive habitats, where feasible. However, many strandings occur in protected areas, including: national parks, monuments, seashores, and forests; NMSs; NERRs; wilderness areas; fishery management areas; and state and local parks. When response activities must occur in these areas, the proper authorities would be contacted to coordinate the response activities, to determine the manner in which a response may occur (if it is permitted at all), and to minimize impacts of a response. Nesting sea turtles and birds would be avoided during responses, and response activities would be coordinated with the USFWS and/or appropriate state agency/agencies to ensure there would be no adverse impacts. Article II, Part C, Number 2 of the SA template requires stranding network participants to coordinate with Federal, state, and local officials and employees in matters supporting the purposes of their SA (see Appendix C). The SA template (Article III and Article IV, Part B, Number 4) would require SA holders to make every reasonable effort to assist in the clean-up of beach areas where activities such as necropsy or specimen collection were conducted, by removing trash and other debris, and disposing of or assisting in the disposal of offal and other waste parts from the carcass. These measures would help protect the surrounding biological resources, particularly when the response was conducted in a sensitive area.

Capture and restraint procedures would be performed or directly supervised by qualified personnel and if possible, an experienced marine mammal veterinarian would be present to carry out or provide direct on-site supervision of all activities involving the use of anesthesia and sedatives. Only personnel experienced in capture and sampling techniques would be used to complete the activities as quickly as possible. For pinnipeds, responders would carry out activities efficiently, such that the total time they are occupying beach haul-out areas, and total number of times a site is disturbed, are

1 minimized. Response to stranded pinnipeds in a rookery situation would not be authorized under a
2 SA, but would only be performed under the authority of the MMHSRP MMPA/ESA permit in
3 coordination with the Permit Holder/PI. Experienced personnel would be used during capture and
4 restraint to complete the activities as quickly as possible.

5 Tagging animals for immediate release would be performed or directly supervised by qualified
6 personnel. Pinniped flipper tags would be placed appropriately, so animals would not walk on or be
7 irritated by them. The tag and/or instrument size and weight would be kept to the minimum needed to
8 collect the desired data to minimize the potential for increased energetic costs of or behavioral
9 responses to larger tags. Tag placement would be selected so that it will not interfere significantly
10 with an animal's ability to forage or conduct other vital functions.

11 Potential adverse impacts from euthanasia would be minimized by the measures described below.
12 Under Article IV, Part A, Number 1 of the SA template (Appendix C), euthanasia of animals would
13 only be performed by the attending veterinarian or by a person acting on behalf of the attending
14 veterinarian (*i.e.*, under direct coordination or supervision). Euthanasia procedures would follow
15 approved guidelines, such as those listed in the 2000 Report of the AVMA on Euthanasia (AVMA
16 2001) or the CRC Handbook of Marine Mammal Medicine (Greer *et. al* 2001). Persons using
17 controlled drugs would comply with all applicable Federal and state laws and regulations. This would
18 include DEA regulations and any applicable state veterinary practice laws and regulations. Stranding
19 network members would be authorized to euthanize ESA-listed species under the MMHSRP
20 ESA/MMPA permit. In addition to the previous measures, euthanasia of ESA-listed species would
21 require authorization and coordination with the appropriate NMFS regional stranding coordinator.

22 Potential impacts from the transport of animals to rehabilitation facilities could be minimized by
23 following the APHIS "Specifications for the Humane Handling, Care, Treatment, and Transportation
24 of Marine Mammals" (9 CFR Ch 1, Subpart E). If a commercial vehicle is used to transport an
25 animal, these standards should be complied with. The "Live Animal Regulations" published by the
26 International Air Transport Association (IATA) may also be used to minimize transport impacts
27 (IATA 2006). Both sets of standards have specifications for containers, food and water requirements,
28 methods of handling, and care during transit.

29 The Marine Mammal Oil Spill Response Guidelines (Appendix L) would be followed to prevent any
30 potential impacts during response. The guidelines include information on data collection and chain-

1 of-custody procedures. Stranding responders would work with the Federal On-Scene Coordinator
2 (FOSC) for oil spill response and consult with NMFS on appropriate response measures.

3 The MMHSRP would follow all mitigation measures for response to threatened and endangered
4 species set forth by NMFS PR1 as conditions of their ESA/MMPA permit.

5 **5.2.2 Carcass Disposal Alternatives**

6 Under Alternatives B2 and B3, stranding network members would contact and coordinate with
7 Federal, State, and/or local agencies prior to carcass disposal. Article II, Part C, Number 2 of the SA
8 template requires stranding network participants to coordinate with Federal, state, and local officials
9 and employees in matters supporting the purposes of their SA (see Appendix C). Beach burial and
10 disposal in State waters would only occur after state and/or local authorities have given permission to
11 conduct such activities. If necessary, stranding network members would obtain a permit to conduct
12 these disposal activities. Burial in shoreline areas may be restricted for the protection of sensitive
13 habitats, such as nesting shorebirds, vegetation, or dunes. Carcasses may be buried in upland areas
14 where body fluids would not likely leach into groundwater. Burial would also be deep enough so that
15 carcasses would not be dug up by scavengers or uncovered by wave action.

16 If carcasses are known or assumed (based upon test results or prior knowledge of the species) to have
17 contaminant levels that meet or exceed the definition of hazardous waste under EPA, state, and/or
18 local regulations, they would be taken to an EPA-designated hazardous waste landfill for proper
19 disposal.

20 Non-toxic carcasses may be disposed in Federal waters without a permit. At-sea disposal of carcasses
21 that are known to be hazardous waste may require EPA approval and a permit. These carcasses
22 would be disposed of in an EPA designated ocean dumping site. All EPA dumping sites are managed
23 to avoid or minimize impacts to the marine environment. Materials used to sink carcasses would be
24 chosen to avoid or minimize any impacts to the marine environment.

25 During carcass disposal and removal activities, measures would be taken to avoid protected and
26 sensitive habitats. When these areas cannot be avoided, the proper authorities would be contacted to
27 coordinate the disposal activities and minimize impacts. Activities would also be coordinated with
28 State and/or local agencies to avoid or minimize impacts to nesting sea turtles or birds.

1 **5.2.3 Rehabilitation Activities Alternatives**

2 If NMFS selects Alternative A3 or A4 for SAs and response, it would implement the Final SA criteria
3 (Appendix C) as mitigation for Alternatives C3 and C4. Under the SA criteria (Part C, Number 3) the
4 rehabilitation facility should have and maintain an attending veterinarian experienced in marine
5 mammal care that would be willing to assume responsibility for diagnosis, treatment, and medical
6 clearance for release or transport of marine mammals in rehabilitation. Also, the attending
7 veterinarian should provide a schedule of veterinary care that includes a review of the husbandry
8 records; visual and physical examinations of all marine mammals in rehabilitation; and a periodic
9 visual inspection of the facilities, protocols, Standard Operating Procedures, and case records. All
10 documentation of the attending veterinarian's experience would be submitted to NMFS for review
11 prior to issuing an SA. Under Part C, Number 4 of the SA criteria the rehabilitation facility should
12 have sufficient physical and financial resources to maintain appropriate animal care. The stranding
13 network participant would have to submit a facility operation manual to NMFS for review prior to the
14 issuance of an SA. All operations would be consistent with NMFS and other applicable Federal and
15 State policies, guidelines, directives, regulations, and laws. Facilities would be reviewed by NMFS
16 for compliance with their SA every 3 years, and may be put on probation, suspended, or have their
17 SA terminated for any violations or non-compliance.

18 Veterinary medical care standards (Sections 1.7 [for cetaceans] and 2.7 [for pinnipeds] in the
19 standards) would ensure that veterinarians and other personnel have the appropriate knowledge and
20 experience to properly care for and treat marine mammals. Veterinarians must have: arrangements to
21 obtain and store medications required for the animals housed at the rehabilitation facility; access to a
22 list of expert veterinarians to contact for assistance; and a minimum skill level to treat species most
23 commonly encountered at the facility. Veterinary care would comply with any applicable state
24 veterinary practice laws and regulations for the state in which the facility is located. Examples of the
25 recommended standards for veterinarians include: completion of a course offering basic medical
26 training with marine mammals; one year of clinical experience working with the marine mammal(s)
27 most frequently admitted to the facility; one year of clinical veterinary experience post graduation;
28 and membership in the International Association for Aquatic Animal Medicine.

29 Potential adverse impacts under Alternative C3 and C4 from disease transmission would be
30 minimized by measures in the Rehabilitation Facility Standards. Under Section 1.4 (cetaceans) and
31 Section 2.4 (pinnipeds), quarantine facilities would be available and quarantine protocols would be in
32 place for all incoming animals. Minimum quarantine standards include, but are not limited to: having

1 separate filtration and water flow systems; providing sufficient space or solid barriers between animal
2 enclosures to prevent direct contact; and maintaining equipment and tools strictly dedicated to the
3 quarantine area. An evaluation and written veterinarian approval would be required before placing
4 animals together after the quarantine period has been met. Standards include measures to reduce the
5 spread of disease from open ocean/bay pens. Standards also include measures to prevent disease
6 transmission from domestic and wild terrestrial animals to marine mammals and vice versa. All
7 quarantine standards are described in Section 1.4 (for cetaceans) and Section 2.4 (for pinnipeds) of
8 the standards.

9 Handling and restraint procedures would be performed or directly supervised by qualified personnel
10 and if possible, an experienced marine mammal veterinarian would be present to carry out or provide
11 direct on-site supervision of all activities involving the use of anesthesia and sedatives. Only
12 personnel experienced in handling and sampling techniques would be used to complete the activities
13 as quickly as possible.

14 Potential adverse impacts from euthanasia under Alternative C3 and C4 would be minimized by the
15 measures described below. Under Article IV, Part A, Number 1 of the SA template (Appendix C)
16 and Section 9.0 of the Rehabilitation Facility Standards, euthanasia of animals would only be
17 performed by the attending veterinarian or by a person acting on behalf of the attending veterinarian
18 (*i.e.*, under direct authorization or supervision). Persons administering the euthanasia should be
19 knowledgeable and trained to perform the procedure, and competent in the performance of the
20 technique. Each facility would have a written euthanasia protocol signed and periodically reviewed
21 by the attending veterinarian. Euthanasia procedures would follow approved guidelines, such as
22 those listed in the 2000 Report of the AVMA on Euthanasia (AVMA 2001) or the CRC Handbook on
23 Marine Mammal Medicine (Greer *et. al* 2001). Persons using controlled drugs would comply with all
24 applicable Federal and state laws and regulations. This would include DEA regulations and any
25 applicable state veterinary practice laws and regulations. In addition to the measures listed above,
26 rehabilitation personnel would require further authorization to euthanize ESA-listed species under the
27 MMHSRP ESA/MMPA permit. Euthanasia of ESA-listed species would require authorization and
28 coordination with the appropriate NMFS regional stranding coordinator.

29 The Marine Mammal Oil Spill Response Guidelines (Appendix L) would be followed to ensure that
30 rehabilitation facilities that accept oiled animals are properly equipped to handle their care. The
31 guidelines specify housing requirements and considerations, including ventilation, quarantine, water
32 supply, and waste water. The guidelines include information on data collection and chain-of-custody

1 procedures. Rehabilitation facilities would work with the FOSC for oil spill response and consult
2 with NMFS on appropriate rehabilitation measures.

3 **5.2.4 Release of Rehabilitated Animals Alternatives**

4 If NMFS selects Alternative A3 or A4 for SAs and response, it would implement the Final SA criteria
5 (Appendix C) as mitigation for Alternative D3. Under the SA criteria (Part C, Number 3) the
6 rehabilitation facility should have and maintain an attending veterinarian, on staff or consulting,
7 experienced in marine mammal care that would be willing to assume responsibility for diagnosis,
8 treatment, and medical clearance for release. All documentation of the attending veterinarian's
9 experience would be submitted to NMFS for review prior to issuing an SA. Part C, Number 4 of the
10 SA criteria requires the rehabilitation facility to have sufficient physical and financial resources to
11 maintain appropriate animal care, including release activities.

12 Potential adverse impacts under Alternative D3 from disease transmission would be minimized by
13 measures in the release criteria (Appendix C). Animals would be medically cleared by the attending
14 veterinarian and their assessment team before a release determination is made. The medical
15 assessment would include a hands-on physical examination. A review of the animal's complete
16 history, including all stranding information, diagnostic test results, and medical and husbandry
17 records would also occur. NMFS would require some diagnostic testing to determine the risk to the
18 health of wild marine mammal populations. Additional testing would be required if the animal was
19 part of a UME. These procedures would minimize the potential for disease transmission from a
20 released animal to the wild population.

21 Other potential impacts to released animals would be mitigated by the release criteria. In addition to
22 a medical assessment, behavioral and developmental assessments would be conducted before a
23 release determination. Developmental clearance would reasonably ensure that the animal has attained
24 a sufficient age to be nutritionally independent, including the ability to forage and hunt. Behavioral
25 clearance would include an assessment of an animal's breathing, swimming, diving, locomotion on
26 land (pinnipeds) foraging, and hunting abilities. An evaluation of an animal's visual and auditory
27 functions should be conducted if possible. Any behavioral conditioning must be eliminated prior to
28 release such that the association of food rewards with humans is diminished.

29 Handling and restraint procedures necessary for release would be performed or directly supervised by
30 qualified personnel and if possible, an experienced marine mammal veterinarian would be present to
31 carry out or provide direct on-site supervision of all activities involving the use of anesthesia and

1 sedatives. Only personnel experienced in handling and sampling techniques would be used to
2 complete the activities as quickly as possible. The veterinarian would also provide emergency
3 procedures if necessary. For pinnipeds, personnel would carry out release activities efficiently, to
4 minimize the total time spent on the rookery/haul-out. Experienced personnel would be used during
5 handling and restraint to complete the release activities as quickly as possible. Potential impacts from
6 the transport of animals from rehabilitation facilities to release sites could be minimized by following
7 the APHIS “Specifications for the Humane Handling, Care, Treatment, and Transportation of Marine
8 Mammals” (9 CFR Ch 1, Subpart E). If a commercial vehicle is used to transport an animal, these
9 standards should be complied with. The “Live Animal Regulations” published by the IATA may also
10 be used to minimize transport impacts (IATA 2006). Both sets of standards have specifications for
11 containers, food and water requirements, methods of handling, and care during transit.

12 The weight and dimensions of the instrument package relative to the animal’s size and mass, and
13 duration of attachment, are important considerations in choosing a tag (Wilson and McMahon 2006).
14 The tag size would be kept to the minimum needed to collect the desired data to minimize the
15 potential for increased energetic costs of or behavioral responses to larger tags, but ensuring an
16 adequate battery life to sustain the tag over the expected tag attachment duration (tags are expected to
17 fall off after the failure of a corrodible link or the molt of a pinniped). Tag placement should be
18 selected that will not interfere significantly with an animal’s ability to forage or conduct other vital
19 functions. Pinniped flipper tags would be placed appropriately, so animals would not walk on or be
20 irritated by them. A local anesthetic or analgesic would be administered prior to tagging or freeze
21 branding an animal to minimize pain during application.

22 **5.2.5 Disentanglement Alternatives**

23 Under Alternative E3, impacts to all biological resources from a potential vessel accident or
24 hazardous material spill would be mitigated by the implementation of training prerequisites and the
25 Disentanglement Guidelines. The use of trained personnel and proper equipment and protocols
26 would reduce the potential for spills and accidents.

27 Disentanglements of ESA-listed cetaceans and pinnipeds would be authorized under the MMHSRP
28 ESA/MMPA permit, with express consent of the Permit Holder/PI. The MMHSRP would follow all
29 mitigation measures set forth by NMFS PR1 as conditions of their ESA/MMPA permit, and all
30 activities will be conducted in consultation with and with the consent of the Permit Holder/PI. For
31 large whale disentanglements, responders would approach animals gradually, with minimal noise to

1 reduce any reaction. Responders would approach at slow speeds, avoid making sudden changes in
2 speed or pitch, and avoid using reverse gear. Additional caution would be taken when approaching
3 mothers and calves. Only responders with extensive experience operating vessels near large whales
4 would be involved in the vessel approaches. Responders would only include those individuals who
5 have been sufficiently trained in large whale disentanglement according to the Disentanglement
6 Guidelines (Appendix C). NMFS should develop more comprehensive guidelines for large whale
7 disentanglement, as the current guidelines focus primarily on criteria for responder levels. Additional
8 guidelines should include general protocols, policies, and procedures. NMFS should develop a
9 database or other way to track qualifications of personnel.

10 Small cetacean and pinniped disentanglement activities would be authorized under an SA. Only
11 personnel experienced in small cetacean capture techniques would perform rescue activities. For
12 disentanglements of pinnipeds on beach sites, responders would carry out activities efficiently, to
13 minimize disturbance and the amount of time responders occupy the haul-out.

14 For both small cetacean and pinniped disentanglements, NMFS should develop standard
15 disentanglement protocols for these species and a training program similar to the Large Whale
16 Disentanglement Network. In addition, NMFS may develop an additional Article or multiple Articles
17 to be incorporated into the SA to authorize certain facilities (with personnel that have been trained
18 and certified) to conduct capture/rescue and disentanglement activities.

19 **5.2.6 Biomonitoring and Research Alternatives**

20 The following mitigation measures are for actions proposed under Alternatives F2 and F3.

21 **5.2.6.1 Existing Mitigation Measures in NMFS PR1 Permits**

22 The MMHSRP would follow all mitigation measures set forth by NMFS PR1 as conditions of their
23 ESA/MMPA permit. All NMFS PR1 marine mammal permits contain conditions intended to
24 minimize the potential adverse effects of the research activities on the animals. These conditions are
25 based on the type of research authorized, the species involved, information in the literature and from
26 researchers themselves about the effects of particular research techniques and the responses of
27 animals to these activities. Specifically, the following conditions would be stated as requirements in
28 the MMHSRP's ESA/MMPA permit:

- 29 • ***General Approach Measures, Including Precautionary Measures for Young and Females***
30 ***with Young.*** Researchers would exercise caution when approaching animals and must retreat

1 from animals if behaviors indicate the approach may be interfering with reproduction,
2 feeding, or other vital functions. For females with young, researchers would immediately
3 terminate efforts if there is any evidence that the activity may be interfering with pair-
4 bonding or nursing and would not position the research vessel between the female and
5 calf/pup. Researchers may not biopsy sample or tag cetacean calves less than six months of
6 age or females attending calves less than six months of age.

- 7 • **Photography and Filming.** The Permit Holder/PI and all researchers/CIs working under the
8 proposed permit would obtain prior approval by NMFS PR1 for non-research related use of
9 photographs, video, and/or film that were taken to achieve the research objectives, that such
10 activities would not influence the conduct of research in any way, and any film approved for
11 use would include a credit, acknowledgement, or caption indicating that the research was
12 conducted under a permit issued by NMFS under the authority of the MMPA and/or ESA.
- 13 • **Research Personnel.** The Permit Holder/PI would ultimately be responsible for all activities
14 of any individual who is operating under the authority of the proposed permit. Addition of
15 CIs would be approved by the Permit Holder/PI after reviewing their qualifications and
16 research plans. All research personnel would be required to serve a research function and
17 would be qualified to perform that function.
- 18 • **Reporting Conditions.** An annual report would be submitted and reviewed by NMFS PR1
19 for each year the permit is valid. For each marine mammal part taken, imported, exported, or
20 affected, the annual report would include: a description of the part and its assigned
21 identification number; source, collector, country of origin, and authorizing government
22 agency (for imported samples) for each sample reported; a summary of the research analysis
23 conducted on the samples; and a description of the disposition of any marine mammal parts.
24 For live animal activities, the report would include a description of the species, numbers of
25 animals, locations of activities, and types of activities for: live captures; stranding
26 response/disentanglement of marine mammals and endangered/threatened species; specimen
27 collections; euthanasia (including reason for euthanasia and the drugs used); and incidental
28 harassment during activities. The report would include descriptions of the animals' reactions,
29 measures taken to minimize disturbance, research plans for the forthcoming year, and an
30 indication as to when or if any results have been published or otherwise disseminated during
31 the year. At the end of the proposed permit, a final report would be submitted that includes:
32 a reiteration of the objectives, a summary of the research results and how they pertain to or

- 1 further the research goals stated in the permit application and NMFS conservation plans; and
2 an indication of where and when the research results would be published.
- 3 • **Research in Cooperation with Commercial Vessels.** The permit specifically would not
4 authorize the conduct of research activities aboard or in cooperation with commercial marine
5 mammal viewing vessels or aircraft while they are engaged in such commercial activity.
6 Further, the permit would not authorize cooperation with any vessel or aircraft carrying any
7 non-essential passengers (*i.e.* not essential for the conduct of the research) who either pay a
8 fee in return for being allowed onboard the vessel or aircraft, or who, prior to or after the trip,
9 give “donations” to the PI, CI(s) or Research Assistant(s).
 - 10 • **Research Coordination.** The Permit Holder/PI would be required to notify the appropriate
11 NMFS Regional office at least two weeks in advance to coordinate the dates and locations of
12 the authorized activities. The permit holder would also be required to coordinate with other
13 researchers conducting the same or similar studies on the same species, in the same locations,
14 and at the same time.
 - 15 • **Import/Export of Marine Mammal Parts.** No animal would be harassed or killed for the
16 express purpose of providing specimens to be obtained and/or imported under the proposed
17 permit actions. Parts imported under the authority of the proposed permit would be taken in a
18 humane manner, and in compliance with the ESA, MMPA, Fur Seal Act, and any applicable
19 foreign law. Importation of marine mammal parts is subject to the provisions of 50 CFR
20 parts 14, 216, and 222. Any specimen(s) of species listed in the Appendices to CITES would
21 be accompanied by valid CITES documentation from the exporting country, and, in the case
22 of Appendix-I species, from the USFWS.
 - 23 • **Biological Samples.** All specimen materials collected or obtained under this authority would
24 be maintained according to accepted curatorial standards. After completion of initial research
25 goals, any remaining samples would be deposited into a *bona fide* scientific collection which
26 meets the minimum standards of collection curation and data cataloging as established by the
27 scientific community.
 - 28 • **Additional Required Permits.** The Permit Holder/PI would be required to obtain appropriate
29 authorizations needed from other state or Federal agencies and would be reminded that the
30 NMFS PR permit does not provide authorization for requirements under another state or
31 Federal agencies’ jurisdiction. This would include obtaining necessary permits for research
32 conducted in a NMS, national park, foreign country, etc.

1 **5.2.6.2 Mitigation Measures Common to Specific Research Activities**

2 A number of “good practice or protocol” measures are commonly followed by qualified, experienced
3 personnel to minimize the potential risks associated with some of the research activities under the
4 proposed permit actions. Consistent with the NMFS PR1 issuance criteria requiring personnel
5 authorized to take marine mammals under a permit to have qualifications commensurate with their
6 duties, only qualified, experienced personnel would be allowed to perform intrusive procedures such
7 as remote biopsy sampling and attachment of intrusive tags. Efforts would be made to avoid
8 duplicate sampling of known animals through sharing of sighting and photo-identification
9 information among permit holders. The following outlines common mitigation measures associated
10 with specific research activities and/or species.

11 ***Mitigation for Close Approach.*** To minimize disturbance and ensure adequate opportunities for
12 photo-identification, tagging, and sampling, the researchers would approach animal(s) gradually from
13 behind or alongside, rather than head on. An approach is defined as a continuous sequence of
14 maneuvers involving a vessel, aircraft, or researcher’s body in the water, including drifting, directed
15 toward an animal(s) for the purposes of conducting authorized research which involves one or more
16 instances of coming closer than 100 yards (91.4 m) to a large whale(s) or 50 yards (45.7 m) to a small
17 cetacean (s), seal(s), or sea lion(s). Researchers would approach at slow speeds, avoid making sudden
18 changes in speed or pitch, and avoid using reverse gear. The amount of time spent in close proximity
19 to an animal(s) would be limited to the minimum necessary to meet research objectives. Whenever
20 possible, four-stroke engines would be used, as they are quieter than two-stroke engines. Researchers
21 would leave the vicinity of an animal(s) if the animal(s) shows a response to the presence of the
22 research vessel or aircraft. Approaches to an individual animal would be limited and efforts to
23 approach an individual would be discontinued if the animal displays avoidance behaviors, such as a
24 change in its direction of travel or departures from normal breathing and/or dive patterns. Only
25 personnel with extensive experience operating vessels and aircraft near animals would be involved in
26 close approaches.

27 ***Mitigation for Capture and Restraint.*** These procedures would be performed or directly supervised
28 by qualified personnel and an experienced marine mammal veterinarian would be present to carry out
29 or provide direct on-site supervision of all activities involving the use of anesthesia and sedatives.
30 Only personnel experienced in capture and sampling techniques would be used to complete the
31 activities as quickly as possible.

1 Pinniped research activities would be carried out efficiently, to minimize the total time researchers are
2 occupying the rookery/haul-out and the total number of times a site is disturbed. Stays on rookeries
3 longer than five hours are justified only when it prevents additional disturbance of the site on
4 subsequent days. To avoid respiratory distress, ischemia (restricted blood flow), or nerve damage,
5 animals would be positioned properly (*i.e.*, ventrally recumbent) during anesthesia (Dierauf 1990).
6 Respiration and pCO₂ (measure of carbon dioxide in the blood) would be monitored and oxygen
7 administered, as needed to avoid prolonged breath holding during gas anesthesia, which can result in
8 cardiac hypoxia (lack of oxygen to the heart muscle). Qualified personnel would be prepared to
9 control or assist ventilations when using sedatives. An emergency kit would be readily available to
10 respond to complications or emergencies. The animal's body temperature would be closely
11 monitored and steps would be taken to avoid hypo- and hyperthermia. Drug doses would be
12 calculated on the researcher's best estimate of an animal's lean body mass and metabolic rate.

13 ***Mitigation for Attachment of Tags and Scientific Instruments.*** Pinniped flipper tags would be
14 placed appropriately, so animals would not walk on be irritated by them. Care would be when
15 attaching scientific instruments to pinnipeds to prevent thermal burns. The correct proportions of
16 epoxy hardener and resin catalyst would be used to prevent a "hot" mix and the minimum practical
17 amount of epoxy would be used to prevent burning the animal.

18 Measures to minimize the effects of attaching scientific instruments to cetaceans would include the
19 use of stoppers to reduce the force of impact and limit the depth of penetration of the tips of
20 subdermal tags. Arrow tips would be disinfected between and prior to each use, to minimize the risk
21 of infection and cross-contamination. Suction cup mounted tags would be placed behind a cetacean's
22 blowhole so that there is no risk of any migration of the suction cup resulting in obstruction of the
23 blowhole. A take would be considered to have occurred with any attempt made to tag an animal from
24 a crossbow, air gun, or pole, even if that attempt is unsuccessful. No tagging takes would occur on
25 large cetacean calves less than six months of age or females accompanying such calves. For small
26 cetaceans, no tagging would occur for calves less than one year of age.

27 The tag and/or instrument size and weight would be kept to the minimum needed to collect the
28 desired data to minimize the potential for increased energetic costs of or behavioral responses to
29 larger tags. Tag placement would be selected so that it will not interfere significantly with an animal's
30 ability to forage or conduct other vital functions. All tagged animals should receive follow-up
31 monitoring, including visual observations where feasible, to evaluate any potential effects from
32 tagging activities.

1 **Mitigation for Marking.** A local anesthetic or analgesic would be administered prior to freeze
2 branding an animal to minimize pain during application.

3 **Mitigation for All Sampling Procedures.** These procedures would be performed or directly
4 supervised by qualified personnel and an experienced marine mammal veterinarian would be present
5 to carry out or provide direct on-site supervision of all activities involving the use of anesthesia and
6 sedatives. A marine mammal veterinarian or other qualified personnel would monitor the physiologic
7 state of each animal (*e.g.*, by monitoring respiratory rate and character, heart rate, body temperature,
8 and behavioral response to handling and sampling procedures). Animals that are physically
9 restrained but continue to struggle or show signs of stress would be released immediately to minimize
10 the risk that continued stress would lead to capture myopathy.

11 During cetacean biopsy sampling, a take would be considered to have occurred with any attempt
12 made to biopsy dart an animal from a crossbow, air gun, or pole, even if that attempt is unsuccessful.
13 In addition, no biopsy sampling takes would occur on large cetacean calves less than six months of
14 age or females accompanying such calves. For small cetaceans, no biopsy sampling would occur for
15 calves less than one year of age.

16 The volume of blood taken from individual animals at one time would not exceed more than 0.5-1
17 percent of its body weight, depending on taxa (Dein et al. 2005). Qualified researchers should not
18 need to exceed three attempts (needle insertions) per animal when collecting blood. If an animal
19 cannot be adequately immobilized for blood sampling, efforts to collect blood would be discontinued
20 to avoid the possibility of serious injury or mortality from stress.

21 Sterile, disposable needles, biopsy punches, etc. would be used to minimize the risk of infection and
22 cross-contamination. Where disposable equipment is not available, liquid chemical sterilants would
23 be used with adequate contact times (as indicated on the product label) to affect proper sterilization.
24 Instruments should be rinsed with sterile water or saline before use on animals. Care would be taken
25 to avoid contact of equipment disinfectants with an animal's skin, and disinfectant agents would be
26 changed periodically to avoid growth of resistant strains of microorganisms.

27 **Mitigation for Incidental Mortality.** To ensure that the total number of observed mortalities does not
28 exceed permitted levels, the Permit Holder/PI would notify NMFS PR1 of research-related mortalities
29 by phone as soon as possible after the incident, preferably within 24-72 hours. Within two weeks of
30 the incident, unless other arrangements have been made, the Permit Holder/PI must submit a written

1 report that includes a complete description of the events surrounding the incident and identification of
2 steps that will be taken to reduce the potential for additional accidents.

3 ***Mitigation for Exposure to Playbacks and Other Acoustic Research.*** A particular playback trial
4 would be suspended if the exposed cetaceans show strong reactions, as indicated by sustained
5 breaching and other activities commonly associated with stressed or agitated cetaceans. Other
6 mitigation for this research would be included as conditions of the ESA/MMPA permit.

7 **5.2.6.3 Mitigation Measures for Other Biological Resources**

8 Measures would be taken to avoid protected and sensitive habitats during research projects. If
9 activities would occur within the boundaries of a federally protected area, the appropriate personnel
10 would be notified. Notification would include specific dates, locations, and participants involved in
11 the activities. If necessary, permits would be obtained to conduct research in these areas.

12 Nesting sea turtles and birds would be avoided during activities. If necessary, activities would be
13 coordinated with the appropriate State agency/agencies to ensure there would be no adverse impacts.

14 **5.3 Water and Sediment Quality**

15 **5.3.1 Stranding Agreements and Response Alternatives**

16 The SA template (Article III and Article IV, Part B, Number 4) would require SA holders to make
17 every reasonable effort to assist in the clean-up of beach areas where their activities, such as necropsy
18 or specimen collection, contributed to the soiling of the site. These measures would help protect the
19 surrounding environment, including water and sediment quality.

20 **5.3.2 Carcass Disposal Alternatives**

21 Carcass burial on beaches and disposal in State waters would only occur after state and/or local
22 authorities have given permission to conduct such activities. Stranding network members, in
23 coordination with NMFS (if necessary), would obtain any permits necessary and follow any
24 conditions or mitigation set forth in the permits. Approval from state and/or local authorities would
25 ensure that impacts to water and sediment quality would be minimal. The SA template (Article III
26 and Article IV, Part B, Number 4) would require SA holders to make every reasonable effort to assist
27 in the clean-up of beach areas where their activities, such as necropsy or specimen collection,
28 contributed to the soiling of the site. These measures would help protect the surrounding
29 environment, including water and sediment quality.

1 If carcasses are known or assumed (based upon test results or prior knowledge of the species) to have
2 contaminant levels that meet or exceed the definition of hazardous waste under EPA, state, and/or
3 local regulations, they would be taken to an EPA-designated hazardous waste landfill for proper
4 disposal.

5 Non-toxic carcasses may be disposed in Federal waters without a permit. Disposal of carcasses that
6 are known to be hazardous waste at sea may require EPA approval and a permit. These carcasses
7 would be disposed of in an EPA designated ocean dumping site. All EPA dumping sites are managed
8 to avoid or minimize impacts to the marine environment. Materials used to sink carcasses would be
9 chosen to avoid or minimize any impacts to the marine environment.

10 **5.3.3 Rehabilitation Activities Alternatives**

11 Rehabilitation facilities would have any required NPDES, state, and local permits, for facility
12 discharges directly to surface waters. Facilities discharging to POTWs would have any necessary
13 effluent discharge permits and a pretreatment plan in place to meet municipal wastewater treatment
14 standards. Water used in temporary pools would be discharged into a sewer drain, where available,
15 and would be taken to a wastewater treatment plant. No mitigation measures are in place for water
16 drainage into nearshore waters or the use of net pens. Development of a monitoring plan to determine
17 impacts and potential mitigation measures is recommended.

18 **5.3.4 Release of Rehabilitated Animals Alternatives**

19 If hazardous materials or wastes were discharged during release activities, stranding network
20 members would notify the appropriate Federal, state, or local authorities.

21 **5.3.5 Disentanglement Alternatives**

22 If hazardous materials or wastes were released during disentanglement activities, responders would
23 notify the appropriate Federal, state, or local authorities.

24 **5.3.6 Biomonitoring and Research Alternatives**

25 If hazardous materials or wastes were released during biomonitoring and research activities,
26 personnel would notify the appropriate Federal, state, or local authorities.

1 **5.4 Cultural Resources**

2 **5.4.1 Stranding Agreements and Response Alternatives**

3 Under Alternatives A2, A3, A4, and A5, potential damage to cultural resources during stranding
4 response may be avoided by contacting the appropriate State SHPO or other local authorities prior to
5 any major land disturbance. Known cultural resources would be avoided during transport and
6 removal activities. If cultural resources are discovered during response operations, all work would
7 cease and the State SHPO would be contacted.

8 Stranding response on Native American/Alaska Native lands would be coordinated with Native
9 American tribes, Alaska Natives, or other aboriginal peoples to accommodate cultural uses of marine
10 mammals. Responders would also be sensitive to the fact that tribal cultures often involve
11 ceremonial, medicinal, or subsistence uses of plants, animals (including marine mammals), and
12 specific geographic locations. These measures would be taken to minimize or eliminate any potential
13 impacts on Alaska Natives, Native American tribes, or other aboriginal people's cultural uses of
14 coastal resources.

15 The SA template (Article III and Article IV, Part B, Number 4) would require SA holders to make
16 every reasonable effort to assist in the clean-up of beach areas where their activities, such as necropsy
17 or specimen collection, contributed to the soiling of the site. These measures would help protect the
18 surrounding environment, which may include undiscovered cultural resources.

19 **5.4.2 Carcass Disposal Alternatives**

20 Under Alternatives B2 and B3, potential damage to cultural resources would be avoided by contacting
21 the appropriate State SHPO or other local authorities before selecting a beach burial site. The
22 proximity of cultural resources to a site may change the method of carcass disposal, if necessary.
23 Known cultural resources would be avoided during transport and removal activities. If cultural
24 resources are discovered during burial operations, all work would cease and the State SHPO would be
25 contacted.

26 Carcass disposal on Native American/Alaska Native lands would be coordinated with Native
27 American tribes, Alaska Natives, or other aboriginal peoples to accommodate cultural uses of marine
28 mammals. Responders would also be sensitive to the fact that tribal cultures often involve
29 ceremonial, medicinal, or subsistence uses of plants, animals (including marine mammals), and
30 specific geographic locations. These measures would be taken to minimize or eliminate any

1 potential impacts on Alaska Natives, Native American tribes, or other aboriginal people's cultural
2 uses of coastal resources.

3 **5.4.3 Rehabilitation Activities Alternatives**

4 If cultural resources are discovered during activities under Alternatives C2 and C3, all activities
5 would cease and the State SHPO would be contacted. Known cultural resources would be avoided
6 during rehabilitation activities.

7 **5.4.4 Release of Rehabilitated Animals Alternatives**

8 If cultural resources are discovered during release activities under Alternatives D2 and D3, all
9 activities would cease and the State SHPO would be contacted. Known cultural resources would be
10 avoided during release activities.

11 **5.4.5 Disentanglement Alternatives**

12 No mitigation measures are necessary, as impacts would not be expected under the disentanglement
13 alternatives.

14 **5.4.6 Biomonitoring and Research Alternatives**

15 Under Alternatives F2 and F3, impacts to cultural resources during biomonitoring and research
16 activities would be avoided by contacting the appropriate State SHPO or other local authorities prior
17 to any projects that may disturb or damage resources. Known cultural resources would be avoided
18 during research activities. If cultural resources are discovered during these activities, all work would
19 cease and the State SHPO would be contacted.

20 **5.5 Human Health and Safety**

21 **5.5.1 Stranding Agreements and Response Alternatives**

22 For Alternatives A4 and A5, the SA template (Article II, Part C, Number 5) recommends Stranding
23 Network participant organizations to take precautions against injury or disease to any network
24 personnel, volunteers, and the general public when working with live or dead marine mammals. The
25 SA template also requires the stranding network participant to notify the NMFS Regional coordinator
26 within 24 hours of detecting and/or confirming any zoonotic diseases in an animal which could affect
27 human health. In addition, the SA template (Article III and Article IV, Part B, Number 4) would
28 require SA holders to make every reasonable effort to assist in the clean-up of beach areas where their

1 activities, such as necropsy or specimen collection, contributed to the soiling of the site. These
2 measures would help protect the surrounding environment and public health.

3 All SA holders engaged in stranding response would have a health and safety plan that is presented to
4 and reviewed by NMFS as part of their application for a new or renewal SA. Measures that may be
5 utilized by SA holders to reduce health and safety risks during responses include, but are not limited
6 to, the use of protective clothing, face protection, and eye protection. Other elements that may be
7 included in a health and safety plan where feasible are: the use of life jackets and wet or dry suits
8 during water responses; rotation of responders to minimize the amount of exposure and reduce
9 fatigue; availability of first-aid kits and facilities for clean-up; and training for responders in first-aid
10 and CPR. A proper first-aid kit and a person trained in the treatment of drug accidents should be
11 present if etorphine or paralytic agents are used for euthanasia.

12 Risks from the consumption of marine mammal meat would be reduced by continuing to inform
13 Alaska Natives on the potential for contaminants and disease. This is currently done by NMFS
14 through the co-management process with Alaska Natives.

15 Marine mammal oil spill response guidelines have been developed for the MMHSRP (Appendix L).
16 The guidelines would serve as mitigation for impacts under Alternatives A2, A3, A4, and A5.
17 Personnel involved in spill response activities would have to comply with all applicable worker health
18 and safety laws and regulations. The primary Federal regulations are the OSHA standards for
19 Hazardous Waste Operations and Emergency Response (HAZWOPER) (29 CFR 1910.120). Oil spill
20 response personnel may be required to have HAZWOPER training, depending on the extent of their
21 involvement and state regulations. Recommended training for response includes first-aid, Cardio
22 Pulmonary Resuscitation (CPR), the Incident Command System (ICS), aircraft and boating safety,
23 and general oil spill response. Recommended personal protective equipment includes full eye
24 protection, oil resistant clothing, gloves, ear protection, and respiratory protection. The Material
25 Safety Data Sheet (MSDS) for the spilled material would be reviewed and all recommended
26 precautions would be followed. Response personnel would be periodically monitored to determine
27 exposure. Marine mammal stranding network members would be responsible for training and
28 certifying their employees and volunteers.

29 **5.5.2 Carcass Disposal Alternatives**

30 For Alternatives B2 and B3, the SA Template (Article II, Part C, Number 5) recommends Stranding
31 Network participant organizations to take precautions against injury or disease to any network

1 personnel, volunteers, and the general public when working with live or dead marine mammals. The
2 SA template also requires the Stranding Network participant to notify the NMFS Regional
3 coordinator within 24 hours of detecting and/or confirming any diseases of concern in an animal
4 which could affect human health. Response workers would be required to have sufficient protection
5 against infection with zoonotic pathogens, contaminants, and other risks associated with handling
6 decomposing carcasses. Workers would be required to wear, as necessary, protective clothing,
7 gloves, face masks and safety goggles. Equipment used to move and dispose of carcasses would be
8 cleansed and disinfected to reduce the risk of zoonotic pathogens or other possible contaminants. The
9 marine mammal oil spill response guidelines (Appendix L) would serve as mitigation for impacts
10 under Alternatives B2 and B3. These mitigation measures would be the same as those discussed
11 above for oil spill response to stranded animals.

12 The burial or disposal at sea (in state waters) of a carcass would only occur after state and/or local
13 authorities have given permission to conduct such activities. Stranding network members would
14 obtain any permits necessary to conduct carcass burial on beaches or other suitable locations and
15 disposal in state waters. This would include any permits or coordination with the State's health
16 department, to ensure that public health and safety would be protected.

17 **5.5.3 Rehabilitation Activities Alternatives**

18 For Alternatives C3 and C4, the SA template (Article II, Part C, Number 5) recommends Stranding
19 Network participant organizations to take precautions against injury or disease to any network
20 personnel, volunteers, and the general public when working with live or dead marine mammals. The
21 SA template also requires the stranding network participant to notify the NMFS Regional coordinator
22 within 24 hours of detecting and/or confirming any diseases of concern in an animal which could
23 affect human health. The implementation of the Rehabilitation Facility Standards would also serve as
24 mitigation for Alternatives C3 and C4. Section 10 of the standards would require health and safety
25 plans that identify all of the safety issues that may be a factor when working closely with wild marine
26 mammals. Plans would include specific information for the direct handling of all species seen at the
27 facility. Personnel would be trained to identify potential zoonotic diseases and prevent their
28 transmission from animal to human. Staff would be trained to properly handle contaminated
29 equipment and proper sanitation techniques (Section 4).

30 Rehabilitation facilities would follow OSHA regulations regarding personnel protective equipment
31 (29 CFR 1910, subpart I). Safety equipment would be provided, including eye protection, protective

1 clothing, and eye flushing stations. OSHA regulations (29 CFR 1910, subpart D) provide measures to
2 reduce slips, falls, and other physical injuries in the workplace. Protocols for appropriate handling of
3 chemicals would be available, including all MSDS. Hazardous materials and toxic substances would
4 be handled and stored according to OSHA regulations (29 CFR 1910, subpart H and subpart Z). A
5 proper first-aid kit and a person trained in the treatment of drug accidents would be present if
6 etorphine or paralytic agents were used for euthanasia.

7 The marine mammal oil spill response guidelines would serve as mitigation for impacts under
8 Alternatives C2, C3, and C4. Personnel involved in the rehabilitation of oiled marine mammals
9 should have HAZWOPER training. Training on the ICS, first-aid, CPR, crisis management, marine
10 mammal oil spill response, and hazard communication are recommended. Recommended personal
11 protective equipment includes full eye protection, oil resistant clothing, gloves, ear protection, and
12 respiratory protection. The MSDS for the spilled material would be reviewed and all recommended
13 precautions would be followed. Rehabilitation personnel and facilities would be periodically
14 monitored to determine exposure. Facilities would have adequate ventilation to protect against the
15 toxic effects of volatile agents. Marine mammal stranding network members would be responsible
16 for training and certifying their employees and volunteers.

17 **5.5.4 Release of Rehabilitated Animals Alternatives**

18 For Alternatives D2 and D3, the SA template (Article II, Part C, Number 5) recommends Stranding
19 Network participant organizations to take precautions against injury or disease to any network
20 personnel, volunteers, and the general public when working with live marine mammals. Under
21 Alternatives D2 and D3, all SA holders involved in the release of rehabilitated animals would have a
22 health and safety plan. All release personnel would be trained appropriately to avoid or minimize
23 health and safety hazards.

24 **5.5.5 Disentanglement Alternatives**

25 Under Alternatives E2 and E3, safety measures utilized by responders would include immersion suits,
26 life jackets, helmets, and a small closed knife that is available to cut lines and gear in an emergency
27 situation. Typically, a standby vessel (usually a USCG or NOAA vessel) would accompany the
28 responders in case additional assistance is required. Experienced responders would not attempt
29 disentanglement, or would end an attempt, if it was too dangerous. Under Alternative E2, training
30 would be required for East Coast responders in order to be certified for disentanglement. Under
31 Alternative E3, training would be required for responders nationwide in order to be certified for

1 disentanglement. Training would depend upon their level of involvement (see Appendix C,
2 Disentanglement Guidelines). The appropriate training would ensure that responders know the
3 potential safety risks and the methods to avoid or minimize these risks. While these safety measures
4 may reduce some risks, there would always be potential for adverse effects on human health and
5 safety.

6 **5.5.6 Biomonitoring and Research Alternatives**

7 Safety protocols have been developed for health assessment studies. The use of life vests would be
8 required, in order to comply with NOAA's Small Boat Safety Program and policies (NAO 217-103).
9 Gloves and other protective clothing would be used during sampling. Gloves and protective eyewear
10 would be required during the use of liquid nitrogen. It is recommended that at least one emergency
11 medical technician would be present for health assessment activities conducted in water or offshore.
12 If possible, USCG personnel would accompany the research vessels to assist in an emergency and to
13 keep other vessels away from the site.

14 Health and safety plans would be developed for all permitted research actions. Only experienced
15 personnel would be conducting research, which would reduce health and safety risks. NOAA's Small
16 Boat Safety Program and policies (NAO 217-103) and policies on NOAA employees on non-NOAA
17 vessels (NAO 209-115, as applicable) would be followed to reduce risks during vessel operations.
18 NOAA's Aviation Safety Policy (NAO 209-124) would be followed to minimize hazards during
19 aircraft operations.

20 For diagnostic testing and specimen analyses, each individual laboratory should have a Chemical
21 Hygiene Plan, as described in 29 CFR 1910.1450. A Chemical Hygiene Plan would contain work
22 practices, policies, and procedures that ensure a safe environment. Researchers would receive
23 training on the hazards of chemicals used in the laboratory and be provided with the proper
24 equipment for their safe handling, including respiratory protection. These measures would eliminate
25 most of the risks associated with laboratory work.

26 **5.6 Socioeconomics**

27 **5.6.1 Stranding Agreements and Response Alternatives**

28 Stranding network members may be able to use available funds from the Prescott Grant Program to
29 help offset costs incurred by response activities.

1 **5.6.2 Carcass Disposal Alternatives**

2 Stranding network members may be able to use available funds from the Prescott Grant Program to
3 help offset costs incurred by carcass disposal activities.

4
5 **5.6.3 Rehabilitation Activities Alternatives**

6 To minimize the impacts of implementing the Rehabilitation Facility Standards, NMFS would
7 provide a reasonable process for facilities to be upgraded to meet the minimum standards.
8 Substandard facilities may be improved using funds that may be available through the Prescott Grant
9 Program. Prescott funds may also be used to improve facilities that meet the minimum standards,
10 with the goal to achieve or exceed the recommended standards.

11 **5.6.4 Release of Rehabilitated Animals Alternatives**

12 Stranding network members may be able to use available funds from the Prescott Grant Program to
13 help offset costs incurred by release activities.

14 **5.6.5 Disentanglement Alternatives**

15 Disentanglement training expenses would be covered by the MMHSRP. This would eliminate most
16 expenses associated with training.

17 **5.6.6 Biomonitoring and Research Alternatives**

18 Some biomonitoring and research expenses would be covered by the MMHSRP, eliminating some of
19 the socioeconomic impact to personnel.

20
21

6. Cumulative and Other Impacts

6.1 Resource Specific Cumulative Impact Analysis

A cumulative impact is defined as the incremental impact of the Proposed Actions and alternatives when added to past, present, and reasonably foreseeable actions. Reasonably foreseeable future actions consist of activities that have been approved and can be evaluated with respect to their impacts. Cumulative impacts can result from individually minor, but collectively significant, actions occurring over a period of time.

The cumulative impacts analysis considers past, present, and planned or reasonably foreseeable programs and projects that could affect each resource area and may add to the incremental impacts of the Proposed Actions and alternatives in the ROIs. Because the size of the ROIs is extensive, local projects will not be analyzed; instead general threats to each resource area will be analyzed. Future, reasonably foreseeable MMHSRP actions that are not fully analyzed in the PEIS are listed in Table 6-1. For the purposes of this PEIS, only those resources identified in Section 3.0 that might be impacted by the Proposed Actions and alternatives will be discussed in this section.

Table 6-1. Reasonably Foreseeable MMHSRP Actions

MMHSRP Action	Description	Timeline
Standards for Rehabilitation Facilities/Release Criteria	Currently, these standards and criteria can only be implemented as guidelines. A proposed rule would be written to make these into regulations for all future rehabilitation facilities and activities. At a minimum, an EA would be prepared to assess any impacts associated with the proposed rule that have not been addressed in this PEIS, including a Regulatory Impact Review.	1-2 years (after release of this PEIS)
Rehabilitation Facility Inspection Program	The MMHSRP has an interagency agreement with APHIS to plan and possibly implement an inspection program for rehabilitation facilities, based upon the Standards for Rehabilitation Facilities.	Plan in place by 2007
Public Viewing Guidelines	Public viewing at rehabilitation facilities is not allowed under MMPA regulations (50 CFR 216.27 (c)(5)). Public viewing guidelines would be developed and a proposed rule would be issued to change the MMPA regulations. At a minimum, an EA would be prepared to assess any impacts associated with the proposed guidelines and rule, including a Regulatory Impact	Undetermined

Table 6-1. Reasonably Foreseeable MMHSRP Actions (continued)

MMHSRP Action	Description	Timeline
Disentanglement Network- Use of Divers in Water	A workshop is being planned regarding the use of divers for disentanglement activities. The workshop attendees would include national and international professionals involved in disentanglement activities.	Workshop- within the next year (2007)

1

2 **6.1.1 Biological Resources**

3 The response, rehabilitation, and release activities of the MMHSRP would have a beneficial
4 cumulative effect on marine mammals. The MMHSRP would continue to rehabilitate and return
5 animals to the wild that would have died otherwise. Returning threatened and endangered animals
6 back to the wild would have a large impact on the survival of these species. With the implementation
7 of the release criteria, the threat of releasing diseased animals would be eliminated or minimized.
8 Without the release criteria, a potential cumulative adverse impact could occur if diseased animals
9 were released and infected wild populations. The MMHSRP, combined with other NMFS activities,
10 would have beneficial cumulative impacts on all marine mammals. Other NMFS activities include:
11 the North Atlantic Right Whale Ship Strike Reduction Strategy; Marine Mammal Conservation Plans;
12 ESA Recovery Plans; and Take Reduction Plans.

13 Research activities of the MMHSRP, combined with all other past, present, and future marine
14 mammal research authorized by permits from the NMFS PR1, could have cumulative adverse impacts
15 on marine mammals. All research activities include takes of marine mammals. Activities have the
16 potential to interrupt mating, feeding, and diving behaviors as well as injure or kill animals. Takes
17 may be occurring on the same individual or group of animals and could be disrupting essential
18 behaviors. NMFS PR1 currently has 143 scientific research and enhancement permits issued for
19 marine mammals. Of these permits, 34 are general authorizations for Level B Harassment (Hubard
20 pers.comm.). However, the MMHRSP activities and other permitted research activities could result
21 in cumulative beneficial impacts on marine mammals. The information gained from these activities
22 may lead to ways to protect and conserve all marine mammals and increase those animals that are
23 declining.

24 The Standards for Rehabilitation Facilities and release criteria cannot be enforced unless they are
25 incorporated into regulations. These regulations would have beneficial cumulative impacts on marine
26 mammals. By law, Stranding Network participants would have to adhere to these regulations.
27 Participants who are in violation of these regulations could be put on probation, suspended, or have

1 their SA terminated, according to the Final SA Criteria (Appendix C). The rehabilitation facility
2 regulations would ensure that rehabilitated animals would have the appropriate veterinary care in a
3 healthy environment, maximizing the success rate of rehabilitation. The release criteria regulations
4 would ensure that only healthy animals are released back to the wild, minimizing potential impacts to
5 the wild population and ensuring a better survival rate for the released animal.

6 The Rehabilitation Facility Inspection program would complement the rehabilitation facility
7 regulations. Facilities would be inspected to ensure compliance with the regulations. This program
8 along with other MMHSRP activities would have beneficial cumulative impacts on marine mammals.

9 Currently, public viewing of animals in rehabilitation is not allowed under MMPA regulations (50
10 CFR 216.27 (c)(5)). The MMHSRP would like to establish guidelines to allow public viewing that
11 would protect the animals as well as the general public. At a minimum, an EA would be prepared to
12 assess any impacts associated with the proposed guidelines and rule, including a Regulatory Impact
13 Review. The guidelines would be designed to protect animal and human health; therefore significant
14 cumulative effects on marine mammals would not be expected.

15 **6.1.2 Water and Sediment Quality**

16 The MMHSRP's activities would not likely add to the cumulative effects on water and sediment
17 quality from other activities. Sewage outfalls, agricultural runoff, stormwater runoff, industrial
18 operations, shipping operations, and coastal development all have an effect on water and sediment
19 quality. The potential impacts from the MMHSRP's activities would be negligible compared to these
20 impacts.

21 **6.1.3 Cultural Resources**

22 The MMHSRP's activities would not contribute to cumulative effects on cultural resources.

23 **6.1.4 Human Health and Safety**

24 Currently, public viewing of animals in rehabilitation is not allowed under MMPA regulations (50
25 CFR 216.27 (c)(5)). The MMHSRP would like to establish guidelines to allow public viewing that
26 would protect the animals as well as the general public. At a minimum, an EA would be prepared to
27 assess any impacts associated with the proposed guidelines and rule, including a Regulatory Impact
28 Review. The guidelines would be designed to protect animal and human health; therefore significant
29 cumulative effects on public health and safety would not be expected.

1 The MMHSRP is in the process of planning a workshop to discuss the use of divers in the water
2 during disentanglement activities. The workshop would likely be held sometime in 2007. Workshop
3 attendees will include national and international professionals involved with disentanglement. Other
4 countries have used divers to disentangle animals and the workshop will discuss the potential ways
5 this could be implemented in the U.S. If the Disentanglement Network would decide to use divers in
6 the water, a major amendment to the MMHSRP's ESA/MMPA permit would be necessary. This
7 would require at minimum, an EA to analyze the impacts on human health and safety, biological
8 resources, and any other resource that may be affected.

9 **6.1.5 Socioeconomics**

10 The Rehabilitation Facility Standards and release criteria cannot be enforced unless they are
11 incorporated into regulations. The PEIS has taken a general look at potential impacts of requiring
12 rehabilitation facilities to comply with the standards. However, at minimum, an EA would be
13 necessary to fully assess the socioeconomic impacts of making these standards into regulations. An
14 EA would be prepared to assess any impacts associated with the proposed rule that have not been
15 addressed in this PEIS, including a Regulatory Impact Review. This action is anticipated to happen
16 within one to two years after the release of this PEIS.

17 Release of pinnipeds on the West Coast could have an adverse cumulative impact. Pinniped conflicts
18 with commercial and recreational fisheries are ongoing. California sea lions and harbor seals remove
19 catch and damage gear in all types of fisheries, including gillnet, purse seine, trap and live bait
20 fisheries. Along the West Coast, seals and sea lions have taken threatened and endangered salmon
21 passing through the fish ladders. The conflict has resulted in economic losses for some commercial
22 fisheries and impaired the recovery of salmon stocks. Recreational fishers frequently move their
23 boats when sea lion are present, and incur additional fuel costs and loss of fishing time. The release
24 of pinnipeds would add individuals to already growing populations and could contribute to an
25 increase in interactions with the commercial and recreational fisheries, causing more economic losses.
26 Space conflicts between pinnipeds and humans have occurred at harbors and beaches, such as
27 Children's Pool in La Jolla, California. More animals hauled out on beaches may deter beach
28 visitors, and impact revenue gained from beachgoers. Currently no released pinnipeds have been
29 documented in any of these conflicts. Released pinnipeds or their offspring could be involved in
30 future conflicts, which may have an adverse cumulative impact on socioeconomics.

6.2 Unavoidable Adverse Impacts

Unavoidable adverse impacts on marine mammals would occur from the MMHSRP's activities. During response and rehabilitation activities, animals may still exhibit adverse reactions, sustain injuries or die, despite the best efforts made by Stranding Network participants and the proposed mitigation measures. Disentanglement activities would always require a vessel close approach, which may produce adverse reactions from animals. However, these activities would be conducted to help animals, and the long-term beneficial impacts would outweigh the short-term adverse impacts. Research activities would impact marine mammals even with the proposed mitigation measures. Animals may have adverse reactions to research activities, or may be injured or die despite the use of best available science and techniques.

Unavoidable impacts on human health and safety would occur from the MMHSRP's activities. Even with the proposed mitigation measures, there would still be a risk to marine mammal personnel safety and public safety. Some risk would always be present when working with wild animals, as their behavior is unpredictable. Disentanglement activities would always be dangerous, due to animal behavior and working on the open ocean. Public safety would be impacted, as there would be a lag time between when an animal is reported and when a Stranding Network participant gets to the scene. Between this time, people could still come in contact with the animal, risking physical injuries or potential zoonotic diseases.

6.3 Irreversible and Irretrievable Commitment of Resources

Irreversible commitments of resources are actions which disturb either a non-renewable resource or a renewable resource to the point that it can only be renewed over a long period of time (*i.e.* decades). Irretrievable commitments are losses of resources that occur for a shorter period of time. For the alternatives, most resource commitments are neither irreversible nor irretrievable. Many potential adverse impacts are short-term and temporary. Others may have a longer effect that can be reduced through the proposed mitigation measures in Section 5.

6.4 Relationship Between Short-term Uses and Long-term Productivity

This NEPA required consideration addresses the question of whether the alternatives would be providing short-term benefits at the cost of future generations. Based on the analyses presented under Section 4, Environmental Consequences, no long-term loss of productivity would be expected. The

1 MMHSRP's response, rehabilitation, release, and research activities would contribute to the long-
2 term productivity of marine mammals.

3

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9. Glossary

Biotoxin- A poisonous substance produced by a living organism (*e.g.* brevetoxin, saxitoxin).

Brucellosis- An infectious disease caused by the bacteria of the genus *Brucella* and may be passed to humans by contact with infected animals or animal products. Human symptoms include fever, sweats, headaches, back pain, and physical weakness.

Caliciviruses- Marine mammals may have the calicivirus San Miguel Sea Lion Virus, which causes skin lesions (skin vesicles) in marine mammals and potential premature births. In humans, caliciviruses cause hepatitis, diarrhea, and hemorrhaging.

Cetacean- A marine mammal of the order Cetacea, including whales, dolphins, and porpoises.

***Clostridium* spp.-** Large genus of Gram-positive bacteria with four main species that can cause diseases in humans. Food poisoning, gangrene, colitis, and death may result from infections.

Conspecific- Members of the same species.

Critical habitat- Specific areas within the geographical area occupied by the species at the time of listing (under the ESA), if they contain physical or biological features essential to conservation, and those features may require special management considerations or protection; and specific areas outside the geographical area occupied by the species if the agency (USFWS or NMFS) determines that the area itself is essential for conservation.

Delphinid- Marine mammals of the family Delphinidae, including the killer whale (*Orcinus orca*), bottlenose dolphin (*Tursiops truncatus*), and the long-finned pilot whale (*Globicephala melas*).

Depleted species- Defined by the MMPA as any case in which: (a) the Secretary of Commerce, after consultation with the Marine Mammal Commission and the Committee of Scientific Advisors on Marine Mammals, determines that a species or population stock is below its optimum sustainable population; (b) a State determines that such species or stock is below its optimum sustainable population; or (c) a species or population stock is listed as a threatened species or endangered species under the ESA.

Distinct Population Segment (DPS)- A vertebrate population or group of populations that is discrete from other populations of the species and significant in relation to the entire species. Distinct population segments may be listed as threatened or endangered under the ESA.

Endangered species- Defined under the ESA as “any species which is in danger of extinction throughout all or a significant portion of its range.”

Endocarditis- Inflammation of the inner lining of the heart due to an infection.

Epizootic- An outbreak of disease in an animal population.

Erysipelothrix rhusiopathiae- A pathogenic bacteria that causes systemic disease which typically causes red, hard patches on the skin, with swelling and pain. More severe cases can result in acute septicemia and death.

Essential Fish Habitat (EFH)- Defined under the Magnuson-Stevens Fishery Conservation and Management Act as waters and substrate that are necessary to the fish species for spawning, breeding, feeding, or growth to maturity.

Etorphine (Immobilon®)- A powerful synthetic narcotic analgesic related to morphine used in veterinary medicine for tranquilizing large animals (e.g. elephants). It is a controlled class II drug under the Drug Enforcement Administration.

Evolutionary Significant Unit (ESU)- A Pacific salmon population or group of populations that is substantially reproductively isolated from other conspecific populations and that represents an important component of the evolutionary legacy of the species.

Exsanguination- The fatal process of total blood loss which may be used as a mode of euthanasia in marine mammals.

Fomites- Substances that absorb, hold, and transport infectious disease agents

Gastroenteritis- Inflammation of the stomach and large and small intestines caused by a virus, resulting in vomiting or diarrhea.

Giardiasis- A diarrheal illness caused by a one-celled, microscopic parasite, which lives in the intestines and is passed in the stool. It is found in drinking and recreational waters.

Harassment- Under the 1994 amendments to the MMPA, harassment is statutorily defined as any act of pursuit, torment, or annoyance which: has the potential to injure a marine mammal or marine mammal stock in the wild (Level A Harassment); or has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but which does not have the potential to injure a marine mammal or marine mammal stock in the wild (Level B Harassment).

Harmful algal bloom (HAB)- A diverse array of blooms of both microscopic and macroscopic marine algae which produce: toxic effects on humans and other organisms; physical impairment of fish and shellfish; nuisance conditions from odors and discoloration of waters or habitats.

Humane- In the context of euthanasia is defined by the MMPA means “that method of taking which involves the least possible degree of pain and suffering practicable to the mammal involved.”

Hyperthermia- An acute condition which occurs when the body produces or absorbs more heat than it can dissipate; also referred to as heat stroke or sunstroke.

Hyponatremia- Low blood sodium. In marine mammals it is manifested by anorexia, followed by uncoordinated or spastic movements progressing to a generalized muscle quivering over the entire body, especially the flippers.

Hypothermia- Condition in which body temperature drops below the level required for normal metabolism and/or bodily function to take place.

Immunosuppression- State in which the ability of the body’s immune system to fight infections or disease is decreased.

Leptospirosis- An infectious disease caused by the bacteria of the genus *Leptospira* that affects humans and animals. Causes tubular necrosis (kidney disorder) in marine mammals. Human symptoms include high fever, severe headache, muscle ache, chills, and vomiting.

Morbillivirus- A highly contagious and lethal genus of virus (Family Paramyxoviridae) that has been responsible for more significant marine mammal die-offs due to infectious disease than any other pathogen to date.

Mycobacterium spp.- A genus of bacteria that includes many pathogens known to cause serious diseases. In marine mammals, may cause dermal abscesses and pulmonary tuberculosis (infection of the lungs). In humans, may cause skin lesions, pulmonary tuberculosis, and skin tuberculosis.

Mycoplasma (Seal Finger)- Bacteria which may cause mycoplasmal pneumonia (infection of the lungs) in marine mammals. In humans, may cause skin lesions and infection may progress to arthritis, cellulitis (inflammation of the connective tissue of the skin), or tenosynovitis (inflammation of the fluid-filled sheath that surrounds the tendon).

Mysticete- A whale that has baleen (plates of keratinized tissue that hang from the upper jaw) instead of teeth (suborder Mysticeti). Examples include the humpback whale (*Megaptera novaeangliae*), gray whale (*Eschrichtius robustus*), and minke whale (*Balaenoptera acutorostrata*).

Odontocete- Toothed whales (suborder Odontoceti). Examples include the sperm whale (*Physeter macrocephalus*), beluga whale (*Delphinapterus leucas*), harbor porpoise (*Phocoena phocoena*), and bottlenose dolphin (*Tursiops truncatus*).

Otariid- Sea lions and fur seals (family Otariidae). Examples include the Steller sea lion (*Eumetopias jubatus*) and the Northern fur seal (*Callorhinus ursinus*).

Pathology- The scientific study of the nature of disease and its causes, processes, development, and consequences.

Persistent Organic Pollutant (POP)- Chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in fatty tissue of living organisms, and are toxic to humans and wildlife.

Phocid- True or earless seals (family Phocidae). Examples include the Hawaiian monk seal (*Monachus schauinslandi*), and the harbor seal (*Phoca vitulina*).

Pinniped- Marine mammals in the suborder Pinnipedia with all four limbs modified into flippers, including seals, sea lions, and walruses.

Polychlorinated Biphenyls (PCBs)- A group of toxic, carcinogenic organic compounds previously used for industrial purposes.

Polycyclic Aromatic Hydrocarbon (PAH)- Chemical compounds that consist of fused aromatic rings; many are known or suspected carcinogens.

Rehabilitation- Treatment of beached and stranded marine mammals taken with the intent of restoring the marine mammal's health and, if necessary, behavioral patterns.

Salmonellosis- Infection caused by the bacteria *Salmonella* with symptoms including fever, abdominal cramps, and diarrhea.

Seal poxvirus- Virus in pinnipeds which causes skin nodules which may ulcerate, spread rapidly, and persist for months. In humans, may cause swollen, red skin nodules.

Septicemia- Disease caused by the spread of bacteria and their toxins in the bloodstream, also known as blood poisoning.

Shigellosis- Disease caused by a group of bacteria (*Shigella*) with symptoms including diarrhea, fever, and stomach cramps

Stranding- Defined under the MMPA as “an event in the wild in which (A) a marine mammal is dead and is (i) on a beach or shore of the United States; or (ii) in waters under the jurisdiction of the United States (including any navigable waters); or (B) a marine mammal is alive and is (i) on a beach or shore of the United States and is unable to return to the water; (ii) on a beach or shore of the United States and, although able to return to the water, is in need of apparent medical attention; or (iii) in the waters under the jurisdiction of the United States (including any navigable waters), but is unable to return to its natural habitat under its own power or without assistance.”

Take- Defined under the MMPA as “to harass, hunt, capture, kill or collect, or attempt to harass, hunt, capture, kill or collect.” Defined under the Endangered Species Act as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.”

Threatened species- Defined under the Endangered Species Act as “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.”

Unusual mortality event (UME)- Defined under the Marine Mammal Protection Act as “a stranding that is unexpected; involves a significant die-off of any marine mammal population; and demands immediate response.”

Vibrio spp.-

West Nile Virus- Virus spread by mosquitoes that causes encephalitis (inflammation/swelling of the brain).

Zoonotic- Any infectious disease that can be transmitted from animals to humans.

10. Index

- Alternative A1, 4-43
- Atlantic white-sided dolphin, 3-20
- Bearded seals, 3-45
- Beluga whale, 3-33, 3-34, 3-45, 9-4
- Blue whale, 2-2, 3-11, 3-12, 3-13, 3-20, 3-23, 3-27, 3-30, 3-33, 4-32
- Bottlenose dolphin, 1-2, 3-20, 3-21, 3-23, 3-24, 3-25, 3-28, 3-37, 4-29, 8-8, 9-1, 9-4
- Bowhead whale, 3-33, 3-34, 3-45
- California sea lion, 3-28, 3-29, 3-31, 6-5
- Carcass disposal, 3, 4, 8, 9, 2-1, 2-3, 2-5, 2-6, 3-33, 4-2, 4-4, 4-11, 4-12, 4-14, 4-15, 4-38, 4-49, 4-58, 4-59, 4-65, 4-66, 5-3, 5-4, 5-17, 5-23
- burial, 9, 2-7, 2-16, 3-46, 4-12, 4-13, 4-14, 4-38, 4-44, 4-66, 5-3, 5-15, 5-17, 5-20
- composting, 2-5, 2-6, 4-12, 4-39
- incinerating, 2-5, 2-7, 4-39, 4-59
- landfill, 2-5, 2-6, 2-7, 4-15, 4-39, 4-49, 4-59, 5-3, 5-15
- rendering, 2-5, 2-7, 4-12, 4-39, 4-49, 4-59
- cetacean, 3-16, 3-20, 3-21, 3-22, 3-24, 3-25, 3-28, 3-31, 3-33, 3-37, 4-6, 4-25, 4-52, 4-60, 5-8, 5-9, 5-12, 5-13, 5-14
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1, 1-11, 5-11
- Critical habitat, 3-2, 3-4, 3-8, 3-10, 3-11, 3-13, 3-14, 3-27, 3-30, 3-33
- Endangered species, 2, 4, 5, 8, 11, 1-9, 1-10, 1-11, 2-2, 2-4, 2-9, 2-17, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-8, 3-10, 3-11, 3-12, 3-13, 3-14, 3-20, 3-23, 3-27, 3-30, 3-33, 3-36, 4-2, 4-4, 4-5, 4-11, 4-14, 4-15, 4-17, 4-19, 4-23, 4-25, 4-26, 4-57, 4-65, 4-68, 5-3, 5-10, 6-2, 6-5, 9-2, 9-6
- Endangered Species Act (ESA), 1, 2, 3, 11, iv, 1-9, 1-10, 1-11, 1-12, 1-15, 2-1, 2-2, 2-3, 2-6, 2-12, 2-13, 2-14, 2-15, 3-3, 3-4, 3-5, 3-6, 3-7, 3-45, 4-3, 4-4, 4-11, 4-58, 4-60, 4-68, 5-2, 5-3, 5-5, 5-8, 5-9, 5-11, 5-14, 6-2, 6-4, 9-1, 9-2, 9-5, 9-6
- Essential Fish Habitat (EFH), 1, 1-15, 3-6, 9-2
- Euthanasia, 6, 9, 10, 1-4, 1-11, 2-1, 2-5, 2-16, 2-18, 3-48, 3-50, 4-8, 4-9, 4-13, 4-16, 4-27, 4-36, 4-37, 4-38, 4-40, 4-48, 4-49, 4-51, 4-63, 4-66, 4-67, 5-2, 5-5, 5-10, 5-19, 5-21, 9-2, 9-3
- Evaluation Criteria for Marine Mammal Stranding Agreements, 2-4, 6-3
- Fin whale, 2-10, 3-20, 3-21, 3-27, 3-30, 3-31, 3-33, 3-34, 3-36, 4-7, 4-20, 4-23, 4-28, 4-31, 4-32, 4-51
- Gray seal, 3-20, 3-21, 3-24
- Gray whale, 3-15, 3-28, 3-29, 3-31, 3-33, 3-34, 3-45, 9-4
- Guadalupe fur seal, 3-27, 3-28
- Harbor porpoise, 3-20, 3-21, 3-24, 3-25, 3-28, 3-31, 3-32, 3-34, 9-4
- Harbor seal, 3-20, 3-22, 3-24, 3-28, 3-29, 3-31, 3-33, 3-45, 6-5, 9-4
- Harp seal, 3-20, 3-24
- Hawaiian monk seal, 3-8, 3-36, 3-37, 9-4
- Hooded seal, 3-20, 3-24
- Humpback whale, 1-2, 3-20, 3-21, 3-22, 3-23, 3-24, 3-25, 3-28, 3-30, 3-31, 3-33, 3-34, 3-36, 3-37, 4-32, 8-2, 8-8, 9-4
- Ice seal, 3-20, 3-21, 3-45
- Ice seals, 3-20, 3-21, 3-45
- Killer whale, 3-8, 3-20, 3-30, 3-31, 3-33, 3-34, 3-37, 9-1
- Marine Mammal Health and Stranding Response Program (MMHSRP), 2, 1, 2, 3, i, v, 1-1, 1-2, 1-3, 1-5, 1-6, 1-7, 1-8, 1-9, 1-10, 1-11, 1-12, 1-13, 1-14, 1-15, 1-16, 2-1, 2-2, 2-6, 2-14, 2-15, 2-18, 3-1, 3-2, 3-5, 3-21, 3-50, 3-52, 4-39, 4-42, 5-2, 5-3, 5-5, 5-8, 5-9, 5-19, 5-23, 6-1, 6-2, 6-3, 6-4, 6-5, 6-6
- Marine Mammal Protection Act (MMPA), 2, 1, 2, 3, iv, 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-9, 1-10, 1-11, 1-12, 1-15, 2-1, 2-2, 2-3, 2-6, 2-12, 2-13, 2-14, 2-15, 2-16, 2-18, 3-3, 3-4, 3-5, 3-20, 3-23, 3-27, 3-30, 3-33, 3-36, 3-45, 4-3, 4-4, 4-11, 4-56, 4-58, 5-2, 5-3, 5-6, 5-8, 5-9, 5-11, 5-14, 6-1, 6-3, 6-4, 9-1, 9-3, 9-5, 9-6
- Mass stranding, 1-5, 2-2, 3-15, 3-21, 3-24, 3-31, 3-34, 4-6, 4-9
- Melon-headed whale, 3-24, 3-37
- Minke whale, 3-20, 3-21, 3-22, 3-24, 3-28, 3-34, 9-4
- National Environmental Policy Act (NEPA), 2, 1, 1-1, 1-9, 1-14, 1-15, 2-6, 3-1, 3-44, 6-6
- National Estuarine Research Reserve (NERR), 2, 3-7, 3-8, 4-58, 5-1

- National Historic Preservation Act (NHPA), 2, 3-44
- National Marine Fisheries Service (NMFS), 2, 3, 1, 2, 3, iv, v, 1-1, 1-2, 1-4, 1-5, 1-6, 1-8, 1-9, 1-10, 1-11, 1-12, 1-13, 1-14, 1-15, 2-1, 2-2, 2-3, 2-4, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-18, 3-2, 3-3, 3-4, 3-6, 3-7, 3-11, 3-12, 3-14, 3-15, 3-20, 3-21, 3-23, 3-25, 3-27, 3-30, 3-33, 3-36, 3-45, 4-4, 4-9, 4-10, 4-11, 4-20, 4-22, 4-29, 4-30, 4-31, 4-32, 4-35, 4-58, 4-60, 5-2, 5-3, 5-4, 5-6, 5-8, 5-9, 5-10, 5-11, 5-14, 5-15, 5-18, 5-19, 5-20, 5-23, 6-2, 7-1, 8-3, 8-4, 8-5, 8-6, 9-1
- National Marine Sanctuary, 2, 3-2, 3-7, 3-8, 3-9, 5-1, 5-11, 8-6, 8-7
- National Register of Historic Places (NRHP), 2, 3-44, 3-46, 8-6, 8-7
- National Wildlife Refuge (NWR), 2, 3-3, 3-7, 3-8, 3-13
- North Atlantic right whale, 3-7, 3-20, 3-23, 3-24, 3-25, 4-22, 4-24, 8-1, 8-3, 8-4
- North Pacific right whale, 3-8, 3-27, 3-30, 3-33
- Northern fur seal, 3-31, 3-45, 9-4
- Pacific white-sided dolphin, 3-28, 3-31, 3-34
- Pantropical spotted dolphin, 3-24
- Permit, 2, 3, 5, 1-9, 1-10, 1-11, 1-12, 1-15, 2-1, 2-2, 2-12, 2-13, 2-14, 2-15, 3-5, 4-3, 4-30, 5-2, 5-3, 5-6, 5-8, 5-9, 5-10, 5-11, 5-14, 5-16, 6-4
- pinniped, 2-10, 3-20, 3-22, 3-24, 3-28, 3-31, 3-33, 3-36, 3-48, 4-7, 4-23, 4-24, 4-25, 4-29, 4-32, 4-34, 4-54, 4-60, 5-8
- Pygmy sperm whale, 3-20, 3-24
- Ribbon seals, 3-45
- Ringed seals, 3-45
- Rough-toothed dolphin, 1-7, 3-24, 3-28
- Sea otter, 1, 1-2, 3-4, 3-27, 3-33, 3-34, 3-45, 4-31
- Sei whale, 3-20, 3-23, 3-24, 3-27, 3-30, 3-33
- Sperm whale, 3-20, 3-23, 3-24, 3-27, 3-28, 3-30, 3-31, 3-33, 3-34, 3-36, 3-37, 8-8, 9-4
- Spotted seals, 3-45
- Standards for Marine Mammal Rehabilitation Facilities, 4, 10, 1-10, 2-7, 2-8, 2-9, 4-2, 4-17, 4-18, 4-52, 4-60, 4-67, 5-5, 5-20, 5-23, 6-4
- Standards for the Release of Rehabilitated Marine Mammals, 5, 12, 1-10, 2-10, 2-11, 4-3, 4-21, 4-61, 4-69, 5-6, 5-7, 6-2, 6-3, 6-4
- Steller sea lion, 3-8, 3-27, 3-28, 3-30, 3-31, 3-33, 3-34, 3-45, 4-28, 8-1, 9-4
- Stranding Agreement (SA), 3, 2, 3, 4, 5, 6, 7, 8, i, ii, iii, 1-4, 1-9, 1-10, 1-12, 1-13, 2-1, 2-2, 2-3, 2-4, 2-6, 2-7, 2-8, 2-9, 2-11, 2-12, 3-53, 4-2, 4-3, 4-4, 4-9, 4-10, 4-11, 4-17, 4-36, 4-43, 4-47, 4-48, 4-55, 4-56, 4-57, 4-60, 4-61, 4-63, 4-64, 4-65, 5-1, 5-2, 5-3, 5-4, 5-5, 5-6, 5-8, 5-15, 5-16, 5-17, 5-18, 5-19, 5-20, 5-21, 5-23, 6-3
- Stranding Agreement National Template, 5-20
- Threatened species, 4, 5, 8, 11, 1-10, 1-11, 2-2, 2-4, 2-9, 2-17, 3-1, 3-2, 3-4, 3-5, 3-6, 3-7, 3-8, 3-11, 3-12, 3-13, 3-20, 3-23, 3-27, 3-30, 3-33, 3-36, 3-41, 3-42, 4-2, 4-4, 4-11, 4-15, 4-17, 4-19, 4-23, 4-25, 4-26, 4-57, 4-65, 4-68, 5-3, 5-10, 6-2, 6-5, 9-2
- Unusual Mortality Event (UME), 3, 1, 1-3, 1-4, 1-5, 1-6, 1-12, 2-18, 3-15, 3-22, 3-25, 3-29, 3-31, 3-34, 3-37, 4-26, 4-27, 5-6, 8-8, 9-6
- West Indian manatee, 3-7, 3-8, 3-9, 3-23, 3-25

Draft Programmatic Environmental Impact Statement for the Marine Mammal Health and Stranding Response Program

March 2007

Volume II: Appendices A-D



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APPENDIX A

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<p>Mr. Todd Burrowes State Planning Office State House Station #38 184 State Street Augusta, ME 04333</p>	<p>Mr. Elder Ghigiarelli Wetlands and Waterways Program Maryland Department of the Environment Montgomery Park Business Center 1800 Washington Boulevard, Suite 430 Baltimore, MD 21230-1708</p>
<p>Mr. Truman Henson Project Review Coordinator Office of Coastal Zone Management Executive Office of Environmental Affairs 251 Causeway Street, Suite 900 Boston, MA 02114</p>	<p>Mr. Mike Walker Mississippi Coastal Program Department of Marine Resources 1141 Bayview Avenue, Suite 101 Biloxi, MS 39530</p>
<p>Mr. Chris Williams New Hampshire Coastal Program Department of Environmental Services 50 International Drive, Suite 200 Pease International Tradeport Portsmouth, NH 03801</p>	<p>Ms. Kim Springer Land Use Regulation Program Department of Environmental Protection P.O. Box 439 Trenton, NJ 08625</p>
<p>Mr. Steven C. Resler Deputy Bureau Chief Division of Coastal Resources & Waterfront Revitalization Department of State 41 State Street Albany, NY 12231-0001</p>	<p>Mr. Steve Rynas Division of Coastal Management Department of Environment & Natural Resources 400 Commerce Avenue Morehead City, NC 28557-3421</p>
<p>Ms. Anne Agulto Commonwealth of the Northern Mariana Islands Coastal Resources Management Office Morgen Building, 2nd Floor San Jose, Saipan, MP 96950</p>	<p>Mr. Dale Banton Federal Program Officer Ocean and Coastal Program Department of Land Conservation & Development 635 Capitol Street, NE, Room 150 Salem, OR 97301</p>
<p>Mr. Larry Toth Water Planning Office Department of Environmental Protection 400 Market Street, 15th Floor P.O. Box 2063 Harrisburg, PA 17105-2063</p>	<p>Ms. Rose A. Ortiz Planning Analyst Puerto Rico Planning Board P.O. Box 41119 San Juan, PR 00940-1119</p>

Mr. Jeff Willis Coastal Resources Management Council Stedman Office Building 4808 Tower Hill Road Wakefield, RI 02879-1900	Ms. Barbara Neale Director Regulatory Programs Division Office of Ocean & Coastal Resource Management Department of Health & Environmental Control 1362 McMillian Avenue, Suite 400 Charleston, SC 29405-2029
Ms. Tammy Brooks Coastal Division, Texas General Land Office Stephen F. Austin Building 1700 North Congress Street Austin, TX 78701	Mr. Charles H. Ellis III EIR/Consistency Coordinator Office of Environmental Impact Review 629 East Main Street Richmond, VA 23219
Mr. Victor Somme III Director Division of Coastal Zone Management Department of Natural Resources Frederiksted, VI 00840	Ms. Loree Randall Shorelands & Environmental Assistance Program Department of Ecology P.O. Box 47600 Olympia, WA 98504-7600
State/Territory Historic Preservation Offices	
Dr. David A Poirier Connecticut State Historic Preservation Office 59 South Prospect Street Hartford, CT 06106	Mr. Frederick Gaske State Historic Preservation Officer Florida Division of Historical Resources Department of State 500 S. Bronough Street, Room 305 Tallahassee, FL 32399-0250
Mr. Jay Schleier Oregon State Parks & Recreation Department 725 Summer Street, NE, Suite C Salem, OR 97301-1271	Ms. Aida Belen Rivera Ruiz Historic Preservation Officer Puerto Rico Office of Historic Preservation P.O. Box 9066581 San Juan, PR 00906-6581
State/Territory Environmental Resource Departments	
Mr. Tom McCloy New Jersey Department of Environmental Protection and Energy Division of Fish and Wildlife P.O. Box 400 Trenton, NJ 08625	New York Department of Environmental Conservation Division of Fish, Wildlife, and Marine Resources 625 Broadway Albany, NY 12233
Mr. Michael Lapisky Rhode Island Department of Environmental Management Division of Fish and Wildlife 4808 Tower Hill Road Wakefield, RI 02879	Mr. William Rohring Assistant Director of CZM C.E.K. Airport Terminal Building, 2nd Floor St. Thomas, VI 00802
National Marine Mammal Stranding Network	
Dr. Sean Todd Allied Whale, College of the Atlantic 105 Eden Street Bar Harbor, ME 04609	Mr. Gregory A. Jakush Marine Animal Lifeline P.O. Box 621 Portland, ME 04104
Ms. Lynda Doughty Maine Department of Marine Resources P.O. Box 8 194 McKown Point Road West Boothbay Harbor, ME 04575	Mr. Keith A. Matassa University of New England 11 Hills Beach Road Biddeford, ME 04005

Mr. Claudio Corbelli The Whale Center of New England 24 Harbor Loop Gloucester, MA 01930	Ms. Connie Merigo New England Aquarium Central Wharf Boston, MA 02110
Ms. Katie Touhey Cape Cod Stranding Network P.O. Box 287 Buzzards Bay, MA 02532	Ms. Heather Medic Mystic Aquarium 55 Coogan Boulevard Mystic, CT 06355-1997
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Ms. Suzanne Thurman MERR Institute, Inc. P.O. Box 411 Nassau, DE 19969	Ms. Tricia Kimmel Maryland Department of Natural Resources Cooperative Oxford Laboratory 904 South Morris Street Oxford, MD 21654
Mr. Brent Whittaker National Aquarium in Baltimore 501 East Pratt Street, Pier 3 Baltimore, MD 21202-3194	Mr. Charley Potter Smithsonian Institute National Museum of Natural History Washington, D.C. 20560
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Dr. Jack Musick Virginia Institute of Marine Science College of William and Mary P.O. Box 1346 Gloucester Point, VA 23062	Ms. Gretchen Lovewell National Marine Fisheries Service Southeast Fisheries Science Center Beaufort Laboratory 101 Pivers Island Road Beaufort, NC 28516
Duke University Marine Laboratory Nicholas School of the Environment & Earth Sciences 135 Duke Marine Lab Road Beaufort, NC 28516-9721	South Carolina Department of Natural Resources Marine Resources Division P.O. Box 12559 Charleston, SC 29422
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Dynamac Corporation DYN-2 Kennedy Space Center, FL 32899	FWC Apalachicola National Reserve 350 Carroll Street Eastpoint, FL 32399
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Gulf World Marine Park 15412 Front Beach Road Panama City, FL 32413	Gulf Islands National Seashore 1801 Gulf Breeze Parkway Gulf Breeze, FL 32563

The Stranding Center, Inc. 1205 Maldonado Pensacola Beach, FL 32561	Mr. Steve McCulloch Harbor Branch Oceanographic Institute, Inc. 5600 US 1 North Fort Pierce, FL 34946
Ms. Pamela Sweeney Marine Animal Rescue Society P.O. Box 833356 Miami, FL 33283	Mr. Robert Lingenfelser Marine Mammal Conservancy P.O. Box 1625 102200 Overseas Highway Key Largo, FL 33037-1625
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Marine Mammal Stranding Network-Southwest Region 1210 SE 21 st Street Cape Coral, FL 33990	Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute Marine Mammal Pathobiology Laboratory 3700 54 th Avenue S St. Petersburg, FL 33711
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The Florida Aquarium 701 Channelside Drive Tampa, FL 33602	Ms. Delphine Vanderpool Institute for Marine Mammal Studies P.O. Box 207 Gulfport, MS 39502
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Ms. Jackie Jaakola Fort MacArthur Marine Mammal Care Center 3601 South Gaffey Street San Pedro, CA 90731	Mr. Peter Howorth Santa Barbara Marine Mammal Center 389 North Hope Avenue Santa Barbara, CA 93110
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Mr. Nate Pamplin Makah Tribe P.O. Box 115 Neah Bay, WA 98357	Ms. Mary Sue Brancato Olympic Coast National Marine Sanctuary 115 Railroad Ave, East, Suite 301 Port Angeles, WA 98362
Ms. Patti Happe Olympic Coast National Park 600 East Park Avenue Port Angeles, WA 98362-6798	Ms. Cinamon Moffett Port Townsend Marine Science Center Fort Worden State Park 532 Battery Way Port Townsend, WA 98368
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Ms. Pam Sanguinetti Dungeness National Wildlife Refuge 33 S. Barr Road Port Angeles, WA 98382	Ms. Jennifer Convy PAWS Wildlife Rehabilitation Center P.O. Box 1037 Lynwood, WA 98046
Point Defiance Zoo and Aquarium 5400 N. Pearl Street Tacoma, WA 98407	Ms. Mary Jane Deuel Free Flight Wildlife Rehabilitation Center 1185 Portland Avenue Bandon, OR 97411
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Ms. Jan Hodder Oregon Institute of Marine Biology P.O. Box 5389 Charleston, OR 97420	Robin Brown Oregon Department of Fish and Wildlife Wildlife Division P.O. Box 59 Portland, OR 97207
Ms. Judy Tuttle Oregon Coast Aquarium 2820 SE Ferry Slip Road Newport, OR 97365	Mr. Fred Sharpe Alaska Whale Foundation 241 Mats View Rd. Port Ludlow, WA 98365
Mr. Tim Lebling Alaska SeaLife Center PO Box 1329 Seward, Alaska 99664	Ms. Kate Wynne Alaska Sea Grant Marine Advisory Program 900 Trident Way Kodiak, AK 99615-7401
Mr. Gary Freitag 5786 Roosevelt Drive Ketchikan, AK 99835	Mr. Reid Brewer Unalaska Agent, Marine Advisory Program School of Fisheries and Ocean Sciences, UAF P.O. Box 526 Unalaska, AK 99685
Ms. Sylvia Brunner and Mr. Gordon Jarrell University of Alaska Museum 907 Yukon Drive Fairbanks, AK 99775-1200	Dr. Kathy Burek Alaska Veterinary Pathology Services P.O. Box 773072 Eagle River, AK 99577
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Mr. Craig Matkin Research Biologist North Gulf Oceanic Society 3430 Main St. B1 Homer, AK 99603	Ms. Jan Straley University of Alaska Sitka P.O. Box 273 Sitka, AK 99835
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Mr. Andy Aderman Togiak National Wildlife Refuge P.O. Box 270 Dillingham, AK 99575	Ms. Chris Gabriele and Ms. Janet Neilson National Park Service Glacier Bay National Park P.O. Box 140 Gustavus, AK 99826

Ms. Eileen Henniger Yakutat Tlingit Tribe P.O. Box 418 Yakutat, Alaska 99689	Ms. Lianna Jack and Ms. Donna Willoya Alaska Sea Otter and Steller Sea Lion Commission 505 W. Northern Lights Boulevard, Suite 2 Anchorage, AK 99503
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Ms. Lauri Jemison Division of Wildlife Conservation Alaska Department of Fish and Game 802 3 rd Street PO Box 240020 Douglas, Alaska 99824-0020	Mr. Phillip Zavadil and Ms. Aquilina Lestenkof Aleut Community of St. Paul P.O. Box 86 St. Paul Island, AK 99660
Jamie Womble National Park Service Glacier Bay National Park P.O. Box 140 Gustavus, AK 99826	Mr. Jeff Pawloski and Ms. Debi Colbert Sea Life Park by Dolphin Discovery 41 – 202 Kalaniana'ole Highway, Suite 7 Waimanalo, HI 96795
Other Contacts	
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Dr. Charles Mayo Provincetown Center for Coastal Studies 59 Commercial Street Box 1036 Provincetown, MA 02658	Mr. William McLellan Biological Sciences and Center for Marine Science University of North Carolina, Wilmington 601 S. College Road Wilmington, NC 28402
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Dr. Jerome Barakos Pacific Campus of California Pacific Medical Center, 2 nd Floor Department of Radiology Radiology Conference Center 2333 Buchanan Street San Francisco, CA 94115	Dr. Kristi West Hawaii Pacific University 45-045 Kamahameha Highway Kaneohe, HI 96744-5297
Dr. Beth Doescher and Mr. Jeff Pawloski Seal Life Park by Dolphin Discovery 41-202 Kalaniana'ole Highway, Suite 7 Waimanalo, HI 96795	Dr. Richard DeJournett and Mr. Karl LaCour Koolau Radiology 1380 Lusitana Street Honolulu, HI 96813
Mr. Octavius Covington, Jr. Chief, Harbor Patrol Port of Long Beach 925 Harbor Plaza Drive Long Beach, CA 90802	Mr. Bart Bottoms 532 Hot Springs Road Santa Barbara, CA 93108
Environmental Management Division Harbor Department Port of Los Angeles P.O. Box 151 San Pedro, CA 90733-0151	Mr. Dean Tokishi Kaho'olawe Island Reserve Commission State of Hawaii 811 Kolu Street Suite 201 Wailuku, HI 96793
Mr. Todd Costa Department of Marine Safety City of Solana Beach P.O. Box 311 Solana Beach, CA 92075	Ms. Karen Pletnikoff Aleutian Pribilof Islands Association 201 East Third Avenue Anchorage, AK 99501
Vice President, Natural Resources Kawerak, Inc. P.O. Box 948 Nome, AK 99762	Ms. Hannah Bernard and Mr. Bill Gilmartin Hawaii Wildlife Fund P.O. Box 637 Paia, Maui, HI 96779
American Zoo and Aquarium Association 8403 Colesville Road, Suite 710 Silver Spring, MD 20910-3314	American Cetacean Society P.O. Box 1391 San Pedro, CA 90733-1391
Earth Island Institute 300 Broadway, Suite 28 San Francisco, CA 94133	Animal Welfare Institute P.O. Box 3650 Washington DC 20027
Friends of the Elephant Seal P.O. Box 490 Cambria, CA 93428	Cabrillo Marine Aquarium 3720 Stephen White Drive San Pedro, CA 90731
Mr. Alan Sanders Sierra Club 232 North 3 rd Street Port Hueneme, CA 93041	Mr. Daniel Hayes Pearson Point Mugu Wildlife Center P.O. Box 1053 Port Hueneme, CA 93044

Dr. Paul Nachtigall and Ms. Marlee Breeze P.O. Box 1106 Kailua, HI 96734	Ms. Rebecca M.K. Hommon Region Counsel Navy Region Hawaii 850 Ticonderoga Street, Room 303 Pearl Harbor, HI 96860-5101
Cha Smith KAHEA P.O. Box 27112 Honolulu, HI 96827	Ms. Kate Zolezzi General Manager Maui Ocean Center 129 Ma'alaea Road Wailuku, HI 96793
Ms. Regina Asmutis-Silvia Whale and Dolphin Conservation Society 3 Jacqueline Lane Plymouth, MA 02360	Ms. Marilee Menard Alliance of Marine Mammal Parks and Aquariums 418 North Pitt Street Alexandria, VA 22314
Public Libraries	
Boston Public Library Attn: Gale Fithian 700 Boylston Street Boston, MA 02116	Government Information Center San Francisco Public Library 100 Larkin Street San Francisco, CA 94102
Seattle Public Library Attn: Craig Kyte 1000 4 th Avenue Seattle, WA 98104	St. Petersburg Public Library Attn: Joanne Balistreri 3745 9 th Avenue North St. Petersburg, FL 33713
NOAA Central Library 1315 East-West Highway SSMC3, Second Floor Silver Spring, MD 20910	

APPENDIX B

AGENCY COORDINATION AND CONSULTATION (INCLUDING NMFS BIOLOGICAL OPINION)



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

JUN 20 2006

David A. Bergsten
U.S. Department of Agriculture
Animal and Plant Health Inspection Service
4700 River Road, Unit 14
Riverdale, MD 20737-1238

Dear Mr. Bergsten:

The National Marine Fisheries Service (NMFS) is working on an Environmental Impact Statement (EIS) for the Marine Mammal Health and Stranding Response Program (MMHSRP). Some activities of the MMHSRP are conducted under a permit issued under the MMPA and Section 10(a)(1)(A) of the Endangered Species Act (ESA) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current MMPA/ESA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the activities covered under the permit must be completed prior to the issuance of a new permit. Potential future activities of the MMHSRP will also be analyzed in the EIS.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The EIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

NMFS is the lead agency in the EIS process as defined in 40 CFR 1501.5. We invite your participation as a cooperating agency in this effort. Cooperating agency responsibilities are outlined in 40 CFR 1501.6. The degree of your involvement in the process will be determined by the extent of your authority/responsibilities; your interest, expertise, and resource availability; and your commitments. We encourage your full participation in the EIS process within the scope of your particular authority, responsibility, and/or expertise. This would include activities such as screening and evaluation of alternatives; information development; environmental, economic, or social analyses; and reviewing preliminary documents. However, at a minimum, we would request your assistance in developing information for the EIS within your expertise, as well as providing reviews of preliminary documents.



We look forward to your response, which should include a point of contact for your agency. If you have any questions, please contact Ms. Sarah Howlett or Ms. Sarah Wilkin at (301) 713-2322.

Sincerely,

A handwritten signature in cursive script that reads "Stewart Harris".

Stewart Harris

Acting Chief,

Marine Mammal and Sea Turtle Division

Office of Protected Resources

National Marine Fisheries Service



United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

4700 River Road
Unit 84
Riverdale, MD
20737

July 14, 2006

Mr. Stewart Harris
Acting Chief, Marine Mammal and Sea Turtle Division
Office of Protected Resources
NOAA, NMFS
1315 East West Highway
Silver Spring, MD 20910

Dear Mr. Harris:

This is in regard to your letter of June 20, 2006, to David Bergsten, USDA, regarding cooperation on the EIS for the Marine Mammal Health and Stranding Response Program. This letter has been referred to me, and I have been asked to serve as the liaison and consultant. I work for the Animal Care program, and am the Staff Veterinarian for Exhibition Animals, including marine mammals. I work closely with your office, both with Drs. Whelan and Rowles, and with the Permits, Conservation, and Education Division.

Please feel free to contact me as needed during the EIS project. I have been involved in the development of the standards you reference. Thank you for your cooperation in this matter.

If there are any questions, please feel free to contact this office.

Sincerely,

A handwritten signature in black ink, appearing to read "Barbara Kohn".

Barbara Kohn
Senior Staff Veterinarian
Animal Care

301-734-8271
301-734-4978 (FAX)



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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

JUN 20 2006

Michael L. Gosliner, Esq.
NEPA Coordinator
Marine Mammal Commission
4340 East-West Highway, Suite 905
Bethesda, MD 20814

Dear Mr. Gosliner:

The National Marine Fisheries Service (NMFS) is working on an Environmental Impact Statement (EIS) for the Marine Mammal Health and Stranding Response Program (MMHSRP). Some activities of the MMHSRP are conducted under a permit issued under the MMPA and Section 10(a)(1)(A) of the Endangered Species Act (ESA) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current MMPA/ESA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the activities covered under the permit must be completed prior to the issuance of a new permit. Potential future activities of the MMHSRP will also be analyzed in the EIS.

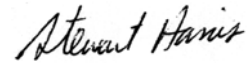
NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The EIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

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We look forward to your response, which should include a point of contact for your agency. If you have any questions, please contact Ms. Sarah Howlett or Ms. Sarah Wilkin at (301) 713-2322.

Sincerely,

A handwritten signature in cursive script that reads "Stewart Harris".

Stewart Harris

Acting Chief,

Marine Mammal and Sea Turtle Division

Office of Protected Resources

National Marine Fisheries Service



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

JUN 20 2006

Pat Carter
NEPA Coordinator
U.S. Fish and Wildlife Service
4401 N. Fairfax Drive
Arlington, VA 22203

Dear Ms. Carter:

The National Marine Fisheries Service (NMFS) is working on an Environmental Impact Statement (EIS) for the Marine Mammal Health and Stranding Response Program (MMHSRP). Some activities of the MMHSRP are conducted under a permit issued under the MMPA and Section 10(a)(1)(A) of the Endangered Species Act (ESA) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current MMPA/ESA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the activities covered under the permit must be completed prior to the issuance of a new permit. Potential future activities of the MMHSRP will also be analyzed in the EIS.

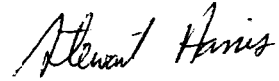
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We look forward to your response, which should include a point of contact for your agency. If you have any questions, please contact Ms. Sarah Howlett or Ms. Sarah Wilkin at (301) 713-2322.

Sincerely,

A handwritten signature in black ink that reads "Stewart Harris". The signature is written in a cursive style with a large initial 'S'.

Stewart Harris

Acting Chief,

Marine Mammal and Sea Turtle Division

Office of Protected Resources

National Marine Fisheries Service



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Washington, D.C. 20240

In Reply Refer To:
FWS/DHRC/BRMS/028856

DEC 19 2006

David Cottingham
Chief, Marine Mammal and Sea Turtle Division
NOAA-Fisheries Office of Protected Resources
1315 East-West Highway
Silver Spring, Maryland 20910

Dear Mr. Cottingham:

The Fish and Wildlife Service has received your letter dated December 1, 2006, concerning the preliminary Draft Programmatic Environmental Impact State (DPEIS) for the Marine Mammal Health and Stranding Response Program (MMHSRP). We appreciate the offer to serve as a cooperating agency and the opportunity to review this document in advance of its submission to the Environmental Protection Agency and subsequent publication of the Notice of Availability in the *Federal Register*.

Unfortunately, due to resource limitations, the Service is unable to participate as a cooperating agency at this time on this DPEIS and should not be identified as such. In addition, we will not be able to review and provide comments on the DPEIS prior to its submission to the *Federal Register*. Instead, we will use the *Federal Register* public comment period as our opportunity to provide any comments.

The Service supports collaborative efforts with NOAA-Fisheries for our joint responsibilities. We note that under the Marine Mammal Protection Act, with the exception of section 408, the MMHSRP is a program created and implemented by the Secretary of Commerce. The Service does not have the resources to provide an equivalent participation in this program. However, the Service will continue to work with NOAA-Fisheries as we finalize the associated *Interim Standards for the Release of Rehabilitated Marine Mammals*, which are identified as a part of the MMHSRP, and will provide input on any aspect of the DPEIS as it relates to the management of those marine mammals under the jurisdiction of the Secretary of the Interior during the public review process.



Mr. David Cottingham

2

We look forward to our continued working relationship with NOAA-Fisheries on these and other issues that impact management of marine mammals. Please contact Martin Kodis, Chief of the Branch of Resource Management Support, at 703-358-2161 with any questions.

Sincerely,

A handwritten signature in black ink that reads "David Stout". The signature is written in a cursive style with a large, prominent "D" and "S".

Chief,
Division of Habitat and Resource Conservation



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

JUN 22 2006

James F. Devine
U.S. Geological Survey
12201 Sunrise Valley Drive
Reston, VA 20192

Dear Mr. Devine:

The National Marine Fisheries Service (NMFS) is working on an Environmental Impact Statement (EIS) for the Marine Mammal Health and Stranding Response Program (MMHSRP). Some activities of the MMHSRP are conducted under a permit issued under the MMPA and Section 10(a)(1)(A) of the Endangered Species Act (ESA) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current MMPA/ESA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the activities covered under the permit must be completed prior to the issuance of a new permit. Potential future activities of the MMHSRP will also be analyzed in the EIS.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The EIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

NMFS is the lead agency in the EIS process as defined in 40 CFR 1501.5. We invite your participation as a cooperating agency in this effort. Cooperating agency responsibilities are outlined in 40 CFR 1501.6. The degree of your involvement in the process will be determined by the extent of your authority/responsibilities; your interest, expertise, and resource availability; and your commitments. We encourage your full participation in the EIS process within the scope of your particular authority, responsibility, and/or expertise. This would include activities such as screening and evaluation of alternatives; information development; environmental, economic, or social analyses; and reviewing preliminary documents. However, at a minimum, we would request your assistance in developing information for the EIS within your expertise, as well as providing reviews of preliminary documents.



We look forward to your response, which should include a point of contact for your agency. If you have any questions, please contact Ms. Sarah Howlett or Ms. Sarah Wilkin at (301) 713-2322.

Sincerely,

A handwritten signature in black ink that reads "Stewart Harris". The signature is written in a cursive style with a large initial 'S'.

Stewart Harris

Acting Chief,

Marine Mammal and Sea Turtle Division

Office of Protected Resources

National Marine Fisheries Service



United States Department of the Interior

U. S. GEOLOGICAL SURVEY

Reston, VA 20192

In Reply Refer To:
Mail Stop 423

June 29, 2006

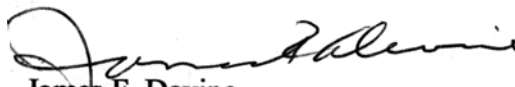
Stewart Harris, Acting Chief
Marine Mammal and Sea Turtle Division
Office of Protected Resources
National Marine Fisheries Service
Silver Spring, Maryland 20910

Dear Mr. Harris,

This is in response to your letter dated June 22, 2006, requesting that the U.S. Geological Survey (USGS) participate as a Cooperating Agency on an Environmental Impact Statement (EIS) for the Marine Mammal Health and Stranding Response Program (MMHSRP). It is the policy of the USGS to decline requests to be an official Cooperating Agency in the NEPA activities of another Federal agency except where the proposed Federal action may directly affect our facilities or the conduct of our work. However, the Survey as part of our mission will continue to provide science support to other agencies when our data and scientific expertise have relevance to their proposed actions undergoing NEPA review. Such assistance could include attending or making presentations at scoping and technical meetings, and conducting special studies and data collection projects.

If you have any question concerning our decision, you can contact me at (703) 648-4423 or Susan D. Haseltine, Associate Director of the USGS Biological Resources Discipline at (703) 648-4050.

Sincerely,



James F. Devine
Senior Advisor for Science Applications

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

«Prefix» «First_Name» «Last_Name»
«Title»
«Organization_Name»
«Department»
«Address_1»
«Address_2»
«Address_3»

**Subject: Consistency Determination – Marine Mammal Health and Stranding Response
Program Programmatic Environmental Impact Statement**

Dear «Prefix» «Last_Name»:

The National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) is announcing the availability of a Draft Programmatic Environmental Impact Statement (PEIS) for the Marine Mammal Health and Stranding Response Program (MMHSRP). Preparation of the PEIS is being conducted in accordance with the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality Regulations for Implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508). The Draft PEIS is enclosed and may also be downloaded from the NMFS Office of Protected Resources MMHSRP website at <http://www.nmfs.noaa.gov/pr/health/eis.htm>.

Enclosed for review is NMFS' Consistency Determination under the Coastal Zone Management Act (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C for the Proposed Actions and Preferred Alternatives associated with the MMHSRP. Please submit your state agency's concurrence with, or comments on, this Determination within 60 days from the receipt of this letter (15 CFR 930.41) by one of the following methods:

(1) By mail to:
Mr. David Cottingham
Chief, Marine Mammal and Sea Turtle Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Room 13635
Silver Spring, MD 20910-3226

(2) Or by fax to: (301) 427-2584
(3) Or by e-mail to: mmhsrpeis.comments@noaa.gov

If NMFS does not receive a reply from a state agency within 60 days from the receipt of the consistency determination and supporting information as required by 15 CFR 930.39(a) and there has not been an extension of the 60-day review period, then NMFS will assume concurrence.



Thank you for your assistance. If you have any questions about the MMHSRP or the Draft PEIS, please contact Ms. Sarah Howlett or Ms. Sarah Wilkin at (301) 713-2322.

Sincerely,

David Cottingham
Chief,
Marine Mammal and Sea Turtle Conservation Division
Office of Protected Resources

Enclosures: Consistency Determination and Draft PEIS

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Alabama Department of Environmental Management (ADEM), Coastal Area Management Program with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under the Code of Alabama, Title 9, Chapter 7, Section 16, and pursuant to the CZMA (16 U.S.C. 1452), ADEM is responsible for ensuring that Federal activities in the coastal zone are consistent to the maximum extent possible with the enforceable policies of the Alabama Coastal Area Management Program (ACAMP). Therefore, the PEIS will assess the impacts of the proposed alternatives on coastal resources within the context of ACAMP's Provisions Relating to Coastal Activities (ADEM Administrative Code, Chapter 335, Division 8, Section 2).

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time no significant impacts on Alabama's coastal resources are anticipated. In accordance with ADEM Administrative Code 335-8-2 the preferred alternatives, with mitigation, would not adversely affect: historical, architectural or archeological sites; wildlife and fishery habitat; or public access to tidal and submerged lands, navigable waters and beaches or other public recreational resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the ACAMP. The ACAMP has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Alaska Department of Natural Resources, Office of Project Management and Permitting, Coastal Management Program with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Alaska's Coastal Management Program Statute (Title 46, Chapter 39, Section 10), "the Department of Natural Resources shall render, on behalf of the state, all federal consistency determinations and considerations authorized by 16 U.S.C. 1456 (Section 307, Coastal Zone Management Act of 1972)." The PEIS will assess the impacts of the proposed alternatives on coastal resources that are provided under 1) the Standards of the Alaska Coastal Management Program (Alaska Administrative Code, Title 6, Chapter 80, Article 2, Uses and Activities) and 2) the Anchorage Coastal District Enforceable Policies.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on Alaska's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with the enforceable policies regarding, marine habitats, water quality, coastal resources in subsistence areas, and cultural and architectural resources, and should present no foreseeable effects to these areas.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Alaska Coastal Management Program.

The Alaska Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the San Francisco Bay Conservation and Development Commission (BCDC) with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under McAteer-Petris Act, the BCDC is authorized to prepare an enforceable plan to protect the San Francisco Bay and its shoreline. Under this authority, and pursuant to the CZMA, BCDC is responsible for ensuring that Federal activities in the coastal zone are consistent to the maximum extent possible with the enforceable policies of the San Francisco Bay Plan. The PEIS will assess the impacts of the proposed alternatives on coastal resources within the context of these policies.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

At this time, no significant impacts on San Francisco's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with enforceable policies regarding water quality, wetlands, tidal marshes, and tidal flatlands, and should present no foreseeable effects on these resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the San Francisco Bay Plan. The BCDC has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the California Coastal Commission (Commission) with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under the California Coastal Act of 1976 (Public Resources Code, Division 20, Section 30330), the Commission is “designated as the state coastal zone planning and management agency for any and all purposes, and may exercise any and all powers set forth in the Federal Coastal Zone Management Act of 1972 (16 U.S.C. 1451, et seq.).” Therefore, all activities authorized, funded, or carried out by the Federal Government that affect coastal zone resources must be reviewed by the Commission for consistency with the federally approved California Coastal Management Program and the California Coastal Act. The PEIS will assess the impacts of the proposed alternatives on coastal resources that are provided under the California Coastal Act, Chapter 3, Coastal Resources Planning and Management Policies.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time no significant impacts on California’s coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with enforceable policies regarding the

marine environment, particularly Article 4, Section 30230, which states that “marine resources shall be maintained, enhanced, and where feasible, restored” and that “Uses of the marine environment should be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms...”

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program.

The California Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State’s response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Commonwealth of Northern Mariana Islands (CNMI), Office of the Governor, Coastal Resources Management Office with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Public Law 3-47, the Office of Coastal Resources Management is authorized to prepare an enforceable plan promote the conservation and wise development of coastal resources of the CNMI. Under this authority, and pursuant to the CZMA, the Office of Coastal Resources Management is responsible for ensuring that Federal activities in the coastal zone are consistent to the maximum extent possible with the enforceable policies of Title 15. The PEIS will assess the impacts of the proposed alternatives on coastal resources within the context of these policies.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

At this time, no significant impacts on CNMI coastal resources are anticipated. The preferred alternatives, with mitigation, would have no direct effects on areas of particular concern including shoreline, lagoon and reef, wetlands and mangrove, and coastal hazards areas. The MMHSRP is consistent with the goals of CNMI Public Law 3-47, the standards and policies in Title 15, Chapter 10, and federal water quality standards.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the CNMI Coastal Resources Management program. The Office of Coastal Resources Management has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Connecticut Department of Environmental Protection, Office of Long Island Sound Programs, Coastal Management Program with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Connecticut's Coastal Management Act, (Connecticut General Statute, Title 22a, Chapter 444, Section 96), the Department of Environmental Protection is granted the authority to "represent the state in formal proceedings regarding "federal consistency" as defined in the federal act," and to "into written agreements with federal agencies concerning matters having an interest in or regulatory authority in the coastal area." Such matters are to "provide for cooperation and coordination in the implementation of state and federal programs with jurisdiction in the coastal area in a manner consistent with (the Coastal Management Act) Sections 22a-90 to 22a-96, inclusive." The PEIS will assess the impacts of the proposed alternatives on coastal resources that are provided under the Coastal Management Act and the Connecticut Coastal Manual.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on Connecticut's coastal resources are anticipated.

The preferred alternatives, with mitigation, are consistent with the Coastal Management Act and would have no significant effects on beaches, dunes, shorelands, tidal wetlands, or archeological and paleontological resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Connecticut Coastal Management Program. The Connecticut Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Delaware Department of Natural Resources and Environmental Control (DNREC), Division of Soil and Water Conservation, Coastal Zone Program with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Delaware's Coastal Zone Act (Delaware Code, Title 7, Chapter 70), DNREC is authorized to develop regulations regarding the development and use of Delaware's coastal zone. Under this authority, and pursuant to the CZMA, DNREC is responsible for ensuring that Federal activities in the coastal zone are consistent to the maximum extent possible with the enforceable policies of the Delaware Coastal Management Program. These policies include the Coastal Zone Act, the Beach Preservation Act, the Wetlands Act, and the Subaqueous Lands Act. The PEIS will assess the impacts of the proposed alternatives on coastal resources within the context of these policies.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time no significant impacts on Delaware's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with enforceable policies regarding

wetlands, beach and coastal waters management, subaqueous lands, and should present no foreseeable effects on these resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Delaware Coastal Management Program. The Delaware Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Florida Department of Environmental Protection, Office of Intergovernmental Programs, Coastal Zone Management Program with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Florida's Coastal Management Act (Title XXVIII, Chapter 380, Section 23), the Florida Department of Environmental Protection may review all "federal development projects and activities of federal agencies which significantly affect coastal waters and the adjacent shorelands of the state" to ensure that they "are conducted in accordance with the state's coastal management program." The PEIS will assess the impacts of the proposed alternatives on coastal resources that are provided under the 23 State Statutes that compose the Florida Coastal Management Plan.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division

However, at this time no significant impacts on Florida's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with state policies regarding wildlife, water resources, state parks and preserves, environmental control, and historical and archeological resources, and should not present any foreseeable effects on these resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is

consistent to the maximum extent practicable with the enforceable policies of the Florida Coastal Management Program. The Florida Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides Georgia Department of Natural Resources, Coastal Resources Division with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Georgia's Coastal Management Act (Official Code of Georgia, Title 12, Chapter 5, Section 323), the Department of Natural Resources has the authority to "concur or object to a determination of consistency filed by a federal agency in connection with a federal activity based on the policies of the Georgia coastal management program...." The PEIS will assess the impacts of the proposed alternatives on coastal resources that are provided under the Georgia Coastal Management Program Document and all state laws subject to the Federal Consistency provisions of the CZMA.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time no significant impacts on Georgia's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with state policies regarding coastal marshlands, tidelands, protected areas, shore protection, and historic areas, and should not present any foreseeable effects on these resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Georgia Coastal Management Program. The Georgia Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Hawaii Department of Business, Economic Development and Tourism, Office of Planning, Coastal Zone Management Program with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Hawaii's Coastal Zone Management Statute (Hawaii Revised Statutes, Chapter 205A, Section 3), the Department of Business, Economic Development and Tourism, Office of Planning is authorized to "review federal programs, federal permits, federal licenses, and federal development proposals for consistency with the coastal zone management program." The PEIS will assess the impacts of the proposed alternatives on coastal resources that are provided under Hawaii Revised Statutes, Chapter 205A, Section 2, Coastal Zone Management Program, Objectives and Policies.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time no significant impacts on Hawaii's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with enforceable state policies regarding coastal ecosystems, beach protection, marine resources, and historic resources, and should present no foreseeable effects in these areas.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Hawaii Coastal Management Program. The Hawaii Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Louisiana Department of Environmental Resource, Office of Coastal Restoration and Management, Coastal Management Division with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Louisiana's State and Local Coastal Resources Management Act (Louisiana Revised Statutes, Title 49, Section 214.32), "any governmental body undertaking, conducting, or supporting activities directly affecting the coastal zone shall ensure that such activities shall be consistent to the maximum extent practicable with the state program and any affected approved local program having geographical jurisdiction over the action." The PEIS will assess the impacts of the proposed alternatives on coastal resources in accordance with the policies enumerated in Louisiana Administrative Code (L.A.C.), Title 43, Chapter 7, Section 701, Guidelines Applicable to All Uses.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on Louisiana's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with the guidelines listed in 43 L.A.C 701 regarding beaches, barrier islands, wildlife and aquatic habitats, and historic and cultural resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Louisiana Coastal Management Program. The Louisiana Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Maine State Planning Office, Coastal Program with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Maine Revised Statute (Annotated) (M.R.S.A.), Title 38, Chapter 19, Section 1801, "state and local agencies and federal agencies with responsibility for regulating, planning, developing or managing coastal resources, shall conduct their activities affecting the coastal area consistent with the following policies...." The Statute then enumerates several enforceable policies that are further delineated by the federally-approved Maine Coastal Program. The PEIS will assess the impacts of the proposed alternatives on coastal resources that are provided under 38 M.R.S.A. 1801 and the "Maine Guide to Federal Consistency Review."

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on Maine's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with policies pertaining, but not limited to, water quality, recreation and tourism, and marine resource management, and should present no

foreseeable effects in these areas.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Maine Coastal Program. The Maine Coastal Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Maryland Department of the Environment (MDE), Wetlands and Waterways Program, Coastal Zone Consistency Division with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Maryland Executive Order 01.01.1978.05 establishes the state's CZMP and grants the Maryland Department of Natural Resources the authority to administer the program. Under this authority, and pursuant to the CZMA, the MDE Coastal Zone Consistency Division is responsible for ensuring that Federal activities in the coastal zone are consistent to the maximum extent possible with the enforceable policies of the Maryland CZMP. The PEIS will assess the impacts of the proposed alternatives on coastal resources within the context of the Maryland CZMP's Goals.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on Maryland's coastal resources are anticipated. The preferred alternatives, with mitigation, support the Maryland CZMP's goals by protecting coastal land and water habitats and preserving historic and cultural resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Maryland CZMP. The MDE Coastal Zone Consistency Division has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Massachusetts Executive Office of Environmental Affairs, Office of Coastal Zone Management (CZM) with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. According to the Massachusetts Coastal Zone Management Program Federal Consistency Review Regulations (Code of Massachusetts Regulation, Title 301, Chapter 21, Section 6), CZM is responsible for “determining the consistency, to the maximum extent practicable, of federal activities in or affecting the Massachusetts Coastal Zone with CZM policies.” The PEIS will assess the impacts of the proposed alternatives on coastal resources with the enforceable policies that are enumerated in 301 CMR 21.98 and the federally-approved CZM Program Plan.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on Massachusetts’ coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with CZM policies pertaining to water quality, habitat, and protected areas, and should not present any foreseeable effects on these resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Massachusetts Coastal Management Program. The Massachusetts Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Mississippi Department of Marine Resources with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Mississippi Code, Title 57, Chapter 15, Section 6, the Mississippi Marine Resources Council (Council) is “directed to prepare and implement a coastal program.” Under this authority, and pursuant to the CZMA, the Council is responsible for ensuring that Federal activities in the coastal zone are consistent to the maximum extent possible with the enforceable policies of the Mississippi Coastal Program. The PEIS will assess the impacts of the proposed alternatives on coastal resources within the context of the policies enumerated in Mississippi Code, Sections 39-7-3, 49-15-1, 49-17-3, 49-27-3 and 51-3-1.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division

However, at this time, no significant impacts on Mississippi’s coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with the Mississippi Coastal Program’s policies in that it protects aquatic life, coastal wetlands, water quality, and historical and archeological resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Mississippi Coastal Program. The Mississippi Coastal Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the New Hampshire Department of Environmental Services (DES), Coastal Program with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. The DES currently administers the New Hampshire Coastal Program. As such, DES is responsible for ensuring that direct federal activities are conducted in a manner that is consistent to the maximum extent practicable with the state coastal management program. The PEIS will assess the impacts of the proposed alternatives on coastal resources in accordance with the enforceable policies delineated in the New Hampshire Coastal Program Final EIS.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on New Hampshire's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with policies pertaining coastal resources, recreation and public access, and historic and cultural resources, and should present no foreseeable effects in these areas.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is

consistent to the maximum extent practicable with the enforceable policies of the New Hampshire Coastal Program. The New Hampshire Coastal Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the New Jersey Department of Environmental Protection (DEP), Office of Policy, Planning and Science, Coastal Management Program with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under New Jersey's Coastal Zone Management Rules (NJ Administrative Code, Title 7, Chapter 7E, Section 1.2(e)), DEP has the authority to determine "the consistency or compatibility of proposed actions by Federal, State and local agencies within or affecting the coastal zone, including, but not limited to, determinations of Federal consistency under Section 307 of the Federal Coastal Zone Management Act...." The PEIS will assess the impacts of the proposed alternatives on coastal resources in accordance with the Coastal Zone Management Rules.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on New Jersey's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with New Jersey State law and consistent with the policies enumerated in the Coastal Zone Management Rules (NJAC 7:7E-1.5) in that they protect the health and safety of the public and protect and enhance the coastal ecosystem.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the New Jersey Coastal Management Program. The New Jersey Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the New York Department of State, Division of Coastal Resources with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under New York's Waterfront Revitalization and Coastal Resources Act (New York State Executive Law 42, Section 912), it is New York state policy to ensure consistency of federal actions with "policies of the coastal area and inland waterways, and with accepted waterfront revitalization programs of the area defined or addressed by such programs." The PEIS will assess the impacts of the proposed alternatives on coastal resources within the context of the policies described in Part II, Section 6 of the New York Coastal Management Program (CMP) document.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on New York's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with CMP policies regarding fish and wildlife, historic and scenic resources, water resources, and wetlands, and should not present any foreseeable effects on these resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the New York Coastal Management Program. The New York Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the North Carolina Department of Environment and Natural Resources, Division of Coastal Management with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under North Carolina's Administrative Code, Title 15A, Chapter 7A, "the purpose of the Division of Coastal Management is to "provide staff support to the Secretary of Environment, (Health) and Natural Resources...in the administration of the Coastal Area Management Act of 1974 and North Carolina's participation in the Federal Coastal Zone Management Act of 1972." As such, the Division is responsible for ensuring that Federal activities in the coastal zone are consistent to the maximum extent possible with the enforceable policies of the North Carolina Coastal Management Program. The PEIS will assess the impacts of the proposed alternatives on coastal resources within the context of the Coastal Area Management Act (CAMA) (NC General Statute, Article 7, Chapter 113A, Sections 100-134.3).

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on North Carolina's coastal resources are anticipated. In accordance with CAMA policies on development and use of Estuarine and Ocean

Systems, the preferred alternatives, with mitigation conserve the biological, economic, and social values of coastal wetlands, estuarine waters, and public trust areas and would not cause major or irreversible damage to valuable archeological or historic resources

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the North Carolina Coastal Management Program. The North Carolina Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Oregon Department of Land Conservation and Development (DLCD), Coastal Management Program with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Oregon Revised Statute 196, Section 435, the DLCD is the “designated Coastal Management Agency for purposes of carrying out and responding to the Coastal Zone Management Act of 1972.” As such, under the provisions of Oregon Administrative Code 660, Division 35, Section 20, “all consistency determinations, consistency certifications and proposals for federal assistance shall be sent to and reviewed by (DLCD) for consistency with the approved Oregon Coastal Management Program.” The PEIS will assess the impacts of the proposed alternatives on coastal resources in accordance with the Statewide Planning Goals (Goals 16-19) that comprise the Oregon Coastal Management Program.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on Oregon’s ocean and coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with Goal 16 (Estuarine Resources) and 17 (Coastal Shorelands) in that it is a use that maintains the integrity of estuarine

and coastal waters. It is consistent with Goals 18 (Beaches and Dunes) and 19 (Ocean Resources) in that it protects beaches and dunes and encourages the beneficial uses of ocean resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Oregon Coastal Management Program. The Oregon Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Pennsylvania Department of Environmental Protection (DEP), Water Planning Office with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Pennsylvania Code Title 4 Chapter 1 Subchapter EE, the Pennsylvania DEP is designated as the lead agency for implementing and administering the Federal Coastal Zone Management Program for the Commonwealth of Pennsylvania. The PEIS will assess the impacts of the proposed alternatives on coastal resources of Pennsylvania.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time no impacts on Pennsylvania's coastal resources are anticipated from the preferred alternatives (with mitigation). Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of Pennsylvania's approved coastal management program that are provided in the Chapters 2 and 4 and Appendix A of the Commonwealth of Pennsylvania's Coastal Zone Program Guidance Document. The Pennsylvania DEP has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information

in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Rhode Island Coastal Resources Management Council (CRMC) with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Rhode Island's Coastal Resources Management Act (Rhode Island General Law [RIGL], Title 46, Chapter 23, Section 1), the CRMC is directed to "exercise effectively its responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone." Under this authority, and pursuant to the CZMA, the CRMC is responsible for ensuring that Federal activities in the coastal zone are consistent to the maximum extent possible with the enforceable policies of the Rhode Island Coastal Resources Management Program (CRMP). The PEIS will assess the impacts of the proposed alternatives on coastal resources within the context of the policies enumerated in the Coastal Resource Management Act and the CRMP.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on Rhode Island's coastal resources are anticipated.

In accordance with RIGL 46-23-6(B)(2), the preferred alternatives, with mitigation, do not, conflict with any resource management plan or program; make any area unsuitable for any uses or activities to which it is allocated by a resource management plan; or significantly damage the environment of the coastal region.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Rhode Island CRMP. The Rhode Island CRMC has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the South Carolina Department of Health and Environmental Control, Office of Ocean and Coastal Resource Management (OCRM) with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under South Carolina's Coastal Zone Management Act (S.C. Code of Laws, Title 48, Chapter 39, Section 80), the State Coastal Management Program "shall provide for consideration of whether a proposed activity of any applicant for a federal license or permit complies with the State's coastal zone program and for the issuance of notice to any concerned federal agency as to whether the State concurs with or objects to the proposed activity." The PEIS will assess the impacts of the proposed alternatives on coastal resources that are provided under South Carolina's Coastal Zone Management Act.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on South Carolina's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with the State Coastal Zone Management Act policies regarding barrier islands, dunes, wetlands, natural areas, marine and estuarine sanctuaries, and cultural resources.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the South Carolina Coastal Management Program. The OCRM has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Texas General Land Office, Coastal Resources Program with the with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Texas' Natural Resource Code, Section 33.053, the Texas Coastal Management Program (CMP) includes a procedure for "determining the consistency of a federal action or activity with the goals and policies of the coastal management program." The PEIS will assess the impacts of the proposed alternatives on coastal resources in the context of the goals and policies detailed in the Texas Coastal Management Program Final EIS. These goals and policies are enforceable under Texas Administrative Code (TAC), Title 31, Chapter 501.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on Texas' coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with the policies enumerated in 31 TAC §501.20.

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Texas Coastal Management Program. The Texas Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Virginia Department of Environmental Quality, Office of Environmental Impact Review with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted under the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under the Code of Virginia, Title 10, Chapter 1, Section 1183, the Department of Environmental Quality has the authority to “coordinate state reviews with federal agencies on environmental issues, such as environmental impact statements.” Under Executive Order Thirty-Three, this authority extends to ensuring that federal programs and activities are carried out in a manner that is consistent with the federally-approved Virginia Coastal Management Program. The PEIS will assess the impacts of the proposed alternatives on coastal resources.

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on Virginia’s coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with policies regarding wetlands, dunes, coastal lands, and historical sites. Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Resources Management Program. The Virginia Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR

930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

**NATIONAL MARINE FISHERIES SERVICE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION**

This document provides the Washington Department of Ecology, Coastal Management Program with the National Marine Fisheries Service (NMFS) Consistency Determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 et seq.) and 15 CFR Part 930, subpart C, for activities coordinated and conducted by the Marine Mammal Health and Stranding Response Program (MMHSRP).

Necessary Data and Information:

1. NMFS is announcing the availability of a draft Programmatic Environmental Impact Statement (PEIS) for the MMHSRP. Some activities of the MMHSRP are conducted under a permit issued under the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361-1421) and Section 10(a)(1)(A) of the Endangered Species Act (ESA) (16 U.S.C. 1531-1544) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The current ESA/MMPA permit expires on June 30, 2007. A National Environmental Policy Act (NEPA) analysis of the current and future activities covered under the permit must be completed prior to the issuance of a new permit. The potential impacts of the permitted activities as well as the day-to-day operations of the MMHSRP are analyzed in the draft PEIS. Day-to-day operations include the coordination and oversight of the National Marine Mammal Stranding and Disentanglement Networks, the National Marine Mammal Tissue Bank, the Working Group on Unusual Marine Mammal Mortality Events, and the John H. Prescott Marine Mammal Rescue Assistance Grant Program.

NMFS has also developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them as final guidance after the NEPA analysis is concluded. The PEIS is intended to satisfy the requirements of NEPA and implementing regulations for all pertinent agency actions.

2. Under Washington Administrative Code, Title 173, Chapter 27, Section 060, "Direct federal actions and projects (within the coastal counties) shall be consistent to the maximum extent practicable with the approved Washington state coastal zone management program." The PEIS will assess the impacts of the proposed alternatives on coastal resources in the context of the Washington Coastal Program's enforceable policies, including the Shoreline Management Act (Chapter 90.58 Revised Code of Washington [RCW]) and Ocean Resources Management Act (Chapter 43.143 RCW)

3. Informal consultation has been initiated with NMFS Office of Protected Resources and the U.S. Fish and Wildlife Service to explore potential impacts to species protected under the ESA and the MMPA. A permit application for the MMHSRP activities involving ESA and MMPA species is currently being evaluated by the NMFS Office of Protected Resources Permits, Conservation and Education Division.

However, at this time, no significant impacts on Washington's coastal resources are anticipated. The preferred alternatives, with mitigation, are consistent with the Shoreline Management Act, the Ocean Resources Management Act, and the State Environmental Policy Act (Chapter 43.21C RCW).

Based upon the preceding information, data and analysis, NMFS finds that the MMHSRP is consistent to the maximum extent practicable with the enforceable policies of the Washington Coastal Management Program. The Washington Coastal Management Program has 60 days (plus any appropriate extension under 15 CFR 930.41(b)) from the receipt of this letter and accompanying information in which to concur with or object to the NMFS Consistency Determination. Concurrence will be presumed if the State's response is not received by NMFS on the 60th day from receipt of this Determination.

Placeholder for:

- **Memo from NMFS on EFH consultation**
- **Memo and Biological Opinion(s) from NMFS Protected Resources, Endangered Species Division and USFWS**
- **CZM Letters and Determinations**

NATIONAL TEMPLATE

MARINE MAMMAL STRANDING AGREEMENT BETWEEN

**NATIONAL MARINE FISHERIES SERVICE OF THE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
DEPARTMENT OF COMMERCE**

AND

[Stranding Network Organization]



**Prepared by Janet E. Whaley, DVM
Office of Protected Resources
1315 East-West Highway
Silver Spring, MD 20910**

January 2007

Shaded denotes reserved text at the discretion of the NMFS Regional Administrator

Articles III, IV, V, and VI are reserved and issued at the discretion of the NMFS Regional Administrator.

ARTICLE I General Provisions

Authority

1. This Agreement is entered into between the National Oceanic and Atmospheric Administration, National Marine Fisheries Service [Region], (hereinafter NMFS) and the Stranding Network Participant [Stranding Network Organization] (hereinafter [Participant acronym]), under the authority of Sections 112(c) and 403 of U.S.C. 1421e, the Marine Mammal Protection Act of 1972, as amended (hereinafter the MMPA). **This Agreement supersedes all pre-existing Stranding Agreements between these parties. An organizational representative with signatory authority (e.g. Executive Director, President, CEO) must sign this Agreement on behalf of the Stranding Network Organization.**
2. NMFS has been delegated authority to administer the MMPA. Under the MMPA, NMFS is responsible for mammals of the **Order Cetacea** and the **Order Pinnipedia** other than walruses (hereinafter marine mammals).
3. To assist in the implementation and administration of the MMPA, the [Region] Marine Mammal Stranding Network has been established to respond to stranded marine mammals within the [Region] of the United States. The [Region] consists of the following states: [List state(s)]. The geographic response area assigned to [Participant acronym] consists of the following: [(list response area including primary and secondary geographic response areas as necessary)]. If requested by NMFS, [Participant acronym] may assist in the stranding response outside of their assigned response area or in another Region as coordinated with the appropriate regional NMFS Marine Mammal Stranding Coordinator(s).
4. This Agreement does not authorize:
 - a. This Agreement does not authorize the taking of any marine mammal species listed as endangered or threatened under the Endangered Species Act of 1973 (hereinafter ESA), as amended. Authorization to take ESA listed species is provided under an MMPA/ESA permit issued to the NMFS Marine Mammal Health and Stranding Response Program Coordinator and requires authorization and direction from the NMFS [Region] Regional Stranding Coordinator in the event of a stranding involving a threatened or endangered marine mammal.
 - b. The sale or offer of sale of any marine mammal or marine mammal parts including cells, gametes, or cell cultures.

ARTICLE II

Purpose and General Responsibilities

A. Purpose of Agreement. NMFS [Region] Region and the [Participant acronym] enter into this Agreement for the following purposes:

1. To provide for rapid response and investigation of stranded marine mammals [*reserved for taxa*] within the [Region] in accordance with the purposes and policies of the MMPA.
2. To implement Title IV (Marine Mammal Health and Stranding Response Program) of the MMPA:
 - a. to facilitate the collection and dissemination of reference data on the health of marine mammals and health trends of marine mammal populations in the wild;
 - b. to correlate the health of marine mammals and marine mammal populations in the wild with available data on physical, chemical, and biological environmental parameters; and
 - c. to detect and coordinate effective responses to unusual mortality events.
3. To specify the activities during which [Participant acronym] may take stranded marine mammals [*reserved for taxa*] or marine mammal parts for the primary purpose of ensuring the appropriate response, [rehabilitation], disposition, and utilization of stranded marine mammals or marine mammal parts under MMPA sections 109(h), 112(c), and 403 and the Agreement.
4. To define the nature and extent of services that [Participant acronym] will provide NMFS [Region] under this Agreement and NMFS responsibilities to [Participant acronym].
5. To specify the requirements for the preparation and maintenance and reporting of records containing scientific data obtained from dead and live stranded marine mammals or parts from dead stranded marine mammals.
6. To provide for the timely exchange of information for use by both parties and other network members in furthering the objectives of the MMPA under this Agreement.

B. NMFS Responsibilities

1. Provide [Participant acronym] notice of any changes to laws, regulations, policies and/or guidelines applicable to or promulgated by NMFS that may apply to [Participant acronym] activities. This includes criteria for issuance, renewal and termination of stranding agreements. Notwithstanding this provision, it is the responsibility of [Participant acronym] to comply with all laws, regulations, policies and/or guidelines that

- apply to [Participant acronym] activities.
2. Conduct periodic compliance reviews of Stranding Agreements as stated in Article IX.
 3. Provide guidance and assistance regarding investigation of marine mammal unusual mortality events including financial and physical resources (example: NOAA laboratory assistance) when available and authorized (in accordance with Section 405 of MMPA – UME National Contingency Fund) and in coordination with the Working Group on Marine Mammal Unusual Mortality Events.
 4. Alert [Participant acronym] when NMFS has been notified that there are diseases of concern that are emerging, reportable, and/or zoonotic within the Region.
 5. Pursuant to criteria established under MMPA Section 407, provide access to the National Marine Mammal Health and Stranding Response Program Database, as developed, and access to marine mammal tissues in the National Marine Mammal Tissue Bank following NMFS data and tissue access procedures and policies.
 6. As needed and as resources are available, provide specialized marine mammal stranding response and investigation training on a local, regional or national basis.
 7. Pursuant to MMPA Section 402, collect and update periodically and make available to stranding network participants and other qualified scientists, existing information on:
 - a. procedures and practices for rescuing and rehabilitating stranded marine mammals;
 - b. species by species criteria used by the stranding network participants, for determining at what point a marine mammal undergoing rescue and rehabilitation is returnable to the wild based on its ability to survive in the wild and risk to the wild population;
 - c. procedures and practices for collecting, preserving, labeling, and transporting marine mammal tissues for physical, chemical, and biological analyses;
 - d. appropriate scientific literature on marine mammal health, disease, and rehabilitation;
 - e. compilation and analyses of strandings by region to monitor species, numbers, conditions, and causes of illness and death in stranded marine mammals;
 - f. other life history and reference level data, including marine mammal tissue analyses that would allow comparison of the causes of illness and death in stranded marine mammals with physical, chemical, and biological environmental parameters.

8. In certain circumstances such as large scale events (e.g. mass stranding, unusual mortality events, live right whale stranding), NMFS [Region] Region may establish a formal Incident Command System for response, including the identification of an Incident Commander.

C. Participant Responsibilities

1. [Participant acronym] shall comply with NMFS laws, regulations, policies and/or guidelines applicable to or promulgated by NMFS that apply to activities under this Agreement.
2. [Participant acronym] shall cooperate with other members of the NMFS [Region] Stranding Network and the National Marine Mammal Stranding Program as well as Federal, state, and local officials and employees in matters supporting the purposes of this Agreement.
3. [Participant acronym] shall be subject to the direction of a designated employee representing the NMFS [Region] Regional Administrator or Office of Law Enforcement with respect to the taking of a stranded marine mammal.
4. [Participant acronym] shall bear any and all expenses that they incur with the taking, collection, or other activities pursuant to this Agreement. NMFS does not typically use government funds to reimburse volunteers for expenses incurred in responding to stranding events. NMFS may be able to support costs associated with specific analyses and additional requests when funds are available and authorized (in accordance with Section 405 of the MMPA Unusual Mortality Event National Contingency Fund) and in coordination with the Working Group on Marine Mammal Unusual Mortality Events. Competitive funding opportunities for Stranding Network Participants in good standing may be available through the Prescott Stranding Assistance Grant Program (<http://www.nmfs.noaa.gov/pr/health/prescott/>).
5. [Participant acronym] shall promote human and public safety by taking precautions against injury or disease to any network personnel, volunteers, and the general public when working with live or dead marine mammals.
6. Transfer of marine mammal parts (50 CFR 216.22 and 216.37):
 - a. Non-diagnostic parts, tissues, cells, gametes, or cell cultures to be used for scientific research, species enhancement, or education shall be transferred only to persons or labs that are authorized to receive marine mammal parts pursuant to the regulations. The unique field number assigned by the [Participant acronym] or [NMFS Registration Number] must be marked on or affixed to the marine mammal part or container.

- b. Diagnostic parts, tissue samples, fluid specimens, parts, or cells may be transferred to labs within the U. S. for diagnostic use without any additional authorizations.
7. [Participant acronym] agrees to work within and cooperatively with the NMFS Incident Command System when implemented.
8. [Participant acronym] will notify NMFS in writing within 30 days of any changes in its Designee organizations, personnel, capabilities, geographic area of response.
9. If requested, [Participant acronym] shall coordinate with NMFS [Region] to develop and implement a media plan relating to stranding events.
10. Notify [immediately or] within 24 hours the NMFS [Region] Regional Stranding Coordinator of learning of any diseases of concern (e.g., emerging, reportable, and/or zoonotic diseases) that are detected and/or confirmed which could affect human health or the health of wild marine mammal populations;
11. Photo documenting (still or video) shall not interfere or influence the conduct of the stranding responders and response in any way or cause additional harassment to marine mammals.
12. If requested by the NMFS [Region] Regional Stranding Coordinator, [Participant acronym] provide to the Regional Stranding Coordinator copies of any photographs, films, and/or videotapes documenting any stranding (particularly for those strandings when human interactions are reported or suspected). Reimbursement for this request is subject to negotiation between NMFS and [Participant acronym]. Any photography, film and/or videotape of the stranding response used for educational or commercial purposes of stranding response should by [Participant acronym] should include a credit, acknowledgment, or caption indicating that the stranding response was conducted under an Agreement between NMFS and [Participant acronym] under the authority of the MMPA. NMFS will not reproduce, modify, distribute, or publicly display the photograph, film, and/or videotape without consent of the owner, unless required to release a copy under Federal law or order (such as the Freedom of Information Act).
13. By its nature, the handling of stranded marine mammals (dead or alive) is potentially a dangerous activity. [Stranding Participant] shall indemnify and hold harmless the United States Government from any and all losses, damages, or liability or claims thereof on account of personal injury, death, or property damage of any nature whatsoever, arising out of the activities of [Stranding Participant], his/her/its employees, his/her/its qualified representatives, designees, subcontractors, volunteers, or agents. Liability for person(s) acting under this agreement is addressed in Section 406(a) and (b) of the MMPA (16 U.S.C. 1421e).

D. Joint Responsibilities NMFS [Region] Region and [Participant acronym] will work

cooperatively to:

1. Implement Title IV of the MMPA;
2. Effectively respond to and investigate the causes and impacts of Marine Mammal Unusual Mortality Events;
3. Collect the appropriate data for determination of the impact of serious injuries and mortalities due to human interactions;
4. Collect reference data on marine mammal health and diseases;
5. Collect data on the frequency and causes of strandings; and
6. Interpret findings and identify health trends and diseases of concern to include emerging, reportable, and zoonotic diseases.

ARTICLE III Dead Animal Response

Reserved
OR

A. [Participant acronym] may take species of marine mammals under the MMPA for the purpose of dead animal investigation and response.

Subject to the conditions contained in this Agreement, the MMPA, and the implementing regulations, [Participant acronym] may take dead stranded marine mammals or parts therefrom for the collection of data on the health and health trends of wild populations, for the detection of marine mammal unusual mortality events, for the detection of signs of human interaction, for research or education on marine mammal biology and life history, for the determination of cause of death, for the detection of human caused and natural mortality, or for other research as deemed appropriate by the NMFS. These activities specifically include obtaining measurements and biological samples from dead stranded marine mammals, disposing, or assisting in the disposal, of dead stranded marine mammals at an appropriate landfill or other suitable location, and taking and transporting dead stranded or floating dead marine mammals, or parts therefrom, to facilities or individuals approved pursuant to 50 C.F.R. 216.22 for scientific research, maintenance in a properly curated, professionally accredited scientific collection, or for educational purposes.

B. Terms and Conditions for Dead Animal Response

1. Response

- a. [Participant acronym] shall respond as practicable to reports of dead stranded marine mammals within the geographic range or response specified under Article I, Number 3. [Reserved {If the [Participant acronym] is the closest and/or first responder, the [Participant acronym] is considered to be the on-site coordinating organization and is in charge of all on-site activities.}] In certain circumstances such as a UME, mass stranding, or endangered marine mammal stranding, NMFS may implement the ICS structure and designate an on-site coordinator to be in charge of the event (see Article II B8 and II C5). In all situations, the [Participant acronym] will cooperate with Federal, state and local government officials and employees and other stranding network participants when responding to these strandings. If the [Participant acronym] receives a verified report of a dead stranded marine mammal and does not have the capability to respond appropriately to the report, the [Participant acronym] shall notify [the [Region] Regional Stranding Coordinator and/or adjacent stranding network participants within [hours, days]]. Also, if the [Region] Regional Stranding Coordinator receives a report of a dead stranded marine mammal [reserved for taxa], the Regional Stranding Coordinator may contact [Participant acronym] to determine

whether [Participant acronym] has the capability to respond to the stranding. If the [Participant acronym] cannot respond in a timely manner, the Regional Stranding Coordinator may request another Stranding Network participant to respond.

- b. If the [Participant acronym] leaves a dead animal at the stranding site or in the case of a UME or mass stranding response, the [Participant acronym] shall, if feasible, mark each animal with a tag or mark such as roto-tags or grease stick to assist with data collection and to prevent multiple reports on the same animal(s).
- c. If requested by [Region] Regional Stranding Coordinator and if feasible and practicable, the [Participant acronym] will assist with stranding response in neighboring areas outside the [Participant acronym] geographic range (specified in Article I, Number 3).

2. Data Collection and Reporting. [Participant acronym] shall collect and provide the following information for each stranded marine mammal they respond to:

- a. Complete the NOAA Form 89864, OMB #0648-0178 (the Marine Mammal Stranding Report - "Level A" Form) for each stranded marine mammal. Completed forms shall be sent to the [Region] Region Stranding Coordinator, [Address], according to the following schedule [*reserved schedule*]. If requested by the NMFS [Region] Regional Stranding Coordinator, [Participant acronym] shall provide to the Regional Stranding Coordinator preliminary data (verbal or written) from the Level A - Marine Mammal Stranding Report within 24 hours, and [Participant acronym] shall coordinate and cooperate with the Regional Stranding Coordinator to investigate such strandings or mortalities.
- b. Collect additional Level B and Level C data when possible and feasible.
- c. Notify [*immediately or*] within 24 hours the NMFS [Region] Regional Stranding Coordinator regarding possible or confirmed human interactions [*reserved*], suspected unusual mortality events, extralimital or out of habitat situations, mass stranding events, mass mortalities, large whale strandings, and any stranding involving endangered or threatened species or identified species of concern [*list species*]. [*Reserved {In addition, NMFS [Region] Region requires that [Participant acronym] report any right whale sightings that occur or are reported as part of their normal activities. Please see Attachment B for contact information. }*]
- d. In certain circumstances (e.g., unusual mortality event, possible human interaction case, extralimital or out of habitat situation), the NMFS [Region] Regional Stranding Coordinator may request additional and expedited reporting (verbal or written) of Level B and C data such as analytical results and necropsy reports [*within 24 hours*]. NMFS will not reproduce, modify, distribute, or

publish the data without consent of the [Participant acronym] unless required to release the data under Federal law or order (such as the Freedom of Information Act);

- e. Collect and make available any gear, debris, or other objects (for example, bullets, arrows, net webbing, etc.) recovered from a stranded marine mammal that may be evidence of human interaction. [Participant acronym] must comply with chain of custody procedures or any other instructions as specified and supported by NMFS [Region] and/or NMFS Office of Law Enforcement personnel.
- 3. Parts Disposition.** Diagnostic parts, tissue samples, fluid specimens, parts or cells may be transferred to labs within the United States for diagnostic use without any additional authorizations. For non diagnostic parts or samples:
- a. Report within 30 days of the stranding, the retention or transfer of any parts salvaged from the stranded marine mammal collected under this agreement to NMFS [Region] Regional Stranding Coordinator, [Address], as required by 50 CFR 216.22. For retention of marine mammal parts by [Participant acronym], data provided in the “Specimen Disposition” field of NOAA Form 89864, OMB #0648-0178 (the Marine Mammal Stranding Report - “Level A” Form) is required and parts are marked with the field identification number from the stranded animal.
 - b. For transfer of parts, [Participant acronym] must provide the institution name where specimen materials have been deposited in the “Specimen Disposition” field on the NOAA Form 89864, OMB #0648-0178 (the Marine Mammal Stranding Report – Level “A” Form) and ensure that retained or transferred parts are marked with the field identification number or [NMFS Registration Number] assigned to the stranded animal. Also, [Participant acronym] must ensure the receiving institution is authorized by the NMFS [Region] Regional Administrator to receive marine mammal parts pursuant to the regulations 50 CFR 216.22 [or 50 CFR 216.37.]
- 4. Site clean up.** The [Participant acronym] shall make every reasonable effort to assist in the clean up of beach areas where their activities under this Agreement, such as necropsy or specimen collection, contributes to the soiling of the site.

**ARTICLE IV
Live Strandings: First response**

**Reserved
OR**

A. [Participant acronym] may take species of marine mammals covered under the MMPA for the purpose of live stranding first response (initial assessment and care at the site of stranding and assist in the appropriate disposition of the animal), beach triage, beach release, temporary holding for assessment and triage, translocation and/or transportation to a NMFS authorized rehabilitation center within the [Region].

1. The taking of live stranding marine mammals by [Participant acronym] must be accomplished in a humane manner¹ for the protection of welfare of the marine mammal. If the animal dies during the course of response and/or investigation, then the terms and responsibilities contained in Article III shall apply. The activities authorized are in addition to Articles I and II under this Article and specifically include:

- a. Taking measurements and collecting blood or other diagnostic samples from live stranded marine mammals for health assessment.
- b. Returning live stranded marine mammals as directed by NMFS to their natural habitat and tagging such animals. Invasive tagging using other than approved methods (e.g., one-bolt roto or cattle ear tags, freeze branding) must first be approved by NMFS [Region] Region. Tagging and post tagging activities are restricted to monitoring success of marine mammals released to the wild. Any projects outside the scope of monitoring release success must be authorized under a NMFS scientific research permit.

c. Performing humane euthanasia². Euthanasia shall only be performed by the attending veterinarian or by a person acting in behalf of the attending veterinarian (i.e., under coordination or supervision) and following approved guidelines such as those referenced in Attachment C. When using controlled drugs, such person(s) shall comply with all applicable state and Federal laws and regulations (i.e., registered with the Drug Enforcement

¹ **Humane Take as defined in the Marine Mammal Protection Act** – “that method of taking which involves the least possible degree of pain and suffering practicable to the mammal involved.”

² **2000 Report of the American Veterinary Panel on Euthanasia** - “...euthanasia is the act of inducing humane death in an animal.” “...it is done with the highest degree of respect and with an emphasis on making the death as painless and distress free as possible. Euthanasia techniques should result in rapid loss of consciousness followed by cardiac or respiratory arrest and the ultimate loss of brain function. In addition, the technique should minimize distress and anxiety experienced by the animal prior to loss of consciousness.” “A veterinarian with appropriate training and expertise for the species involved should be consulted to ensure that proper procedures are used.”

Administration). Authorization for ESA-listed species issued to the NMFS Marine Mammal Program Coordinator and requires special from the NMFS [Region] Regional Stranding reference, see Attachment C – 2000 Report of the American Medical Association Panel on Euthanasia and attachment D – Chapter Euthanasia in the 2nd Edition of the CRC Handbook of Marine Mammal Medicine.

stranding network participants to euthanize is provided under an MMPA/ESA permit Health and Stranding Response permission and direction Coordinator. For Veterinary on

- d. Transporting live stranded marine mammals for rescue and rehabilitation to a NMFS approved rehabilitation facility or temporary holding facility.
2. This Agreement does not authorize any projects involving “intrusive research” (as defined in 50 CFR 216.3). Measurements or sampling for scientific research purposes (i.e., outside the scope of accepted diagnostic and treatment practices for the care of an animal) must be authorized under a NMFS MMPA/ESA scientific research permit.

B. Terms and Conditions for Live Stranding: First Response

1. Response

- a. [Participant acronym] shall respond to reports of live stranded marine mammals *[reserved for taxa and schedule]*. *[Reserved {If the [Participant acronym] is the closest and/or first responder, the [Participant acronym] is considered to be the on-site coordinator and is in charge of all on-site activities.}]* In certain circumstances such as a UME, mass stranding, or endangered marine mammal stranding, NMFS may implement the ICS structure and designate an on-site coordinator to be in charge of the event (see Article II B8 and II C5). In all situations, the [Participant acronym] will cooperate with Federal, state and local government officials and employees and other stranding network participants when responding to these strandings. If the [Participant acronym] receives a verified report of a live stranded marine mammal and does not have the capability to respond appropriately to the report, the [Participant acronym] shall notify the [Region] Regional Stranding Coordinator within [hours, days]. Also, if the [Region] Regional Stranding Coordinator receives a report of a live stranded marine mammal *[reserved for taxa]*, the Regional Stranding Coordinator may contact [Participant acronym] to determine whether [Participant acronym] has the capability to respond to the stranding. If the [Participant acronym] cannot respond in a timely manner, the Regional Stranding Coordinator may request another Stranding Network participant to respond.
- b. [Participant acronym] shall take all steps reasonably practicable under the circumstances to prevent further injury to any live stranded marine mammal, injury to any network personnel, volunteers, government personnel and the

general public.

- c. [Participant acronym] shall tag any animals that are immediately release to their natural habitat using NMFS approved tag, such as one-bolt roto tag, cattle ear tags, or freeze branding. Tagging and post tagging activities are restricted to monitoring success of marine mammals released to the wild. Any projects outside the scope of monitoring the success of a release must be authorized under a NMFS MMPA/ESA scientific research permit.
- d. [Reserved {If [Participant acronym] determines that it is necessary to temporarily hold or triage a stranded marine mammal at a separate site from the stranding event, [Participant acronym] must obtain approval from the NMFS [Region] Regional Stranding Coordinator prior to the transport of the animal.}]
- e. [Reserved {If [Participant acronym] responds to an “out-of-habitat” or free-swimming marine mammal in distress (e.g., entanglement), [Participant acronym] must contact the NMFS [Region] Regional Stranding Coordinator for approval and discuss plans for live capture and/or needs for assistance. The [Region] Regional Stranding Coordinator may require a NMFS employee to present at live captures.}]

2. **Data Collection and Reporting.** [Participant acronym] shall collect and provide the following information for each stranded marine mammal they respond to:

- a. Complete the NOAA Form 89864, OMB # 0648-0178 (the Marine Mammal Stranding Report - “Level A” Data) for each stranded marine mammal. The form shall be sent to the [Region] Regional Stranding Coordinator, [Address], according to the following schedule: *[reserved schedule]*.
- b. If temporally holding a stranded animal prior to transferring to a rehabilitation facility acting in accordance with this Article, [Participant acronym] shall complete the NOAA Form 89878, OMB # 0648-0178 (the Marine Mammal Rehabilitation Disposition Report). The form shall be sent to the [Region] Regional Stranding Coordinator, [Address], according to the following schedule: *[reserved schedule]*.
- c. Collect additional Level B and Level C data when possible and feasible.
- d. Notify [immediately or] within 24 hours the NMFS [Region] Regional Stranding Coordinator regarding possible or confirmed human interactions *[reserved]*, entanglements, suspected unusual mortality events, extralimital or out of habitat situations, mass stranding events, mass mortalities, all live cetacean strandings, and any strandings involving endangered or threatened species or identified species of concern. [Reserved {In addition, NMFS [Region] Region requests that [Participant acronym] report any right whale sightings that occur or are reported

as part of their normal activities. Please see Attachment B for contact information.}]

- e. If requested by the NMFS [Region] Regional Stranding Coordinator, provide to the Regional Stranding Coordinator preliminary data from the Level A - Marine Mammal Stranding Report within 24 hours, and [Participant acronym] shall coordinate and cooperate with the Regional Stranding Coordinator to investigate such strandings or mortalities.
 - f. In certain circumstances (e.g., cetacean strandings, unusual mortality event, possible human interaction case, extralimital or out of habitat situation), the NMFS [Region] Regional Stranding Coordinator may request expedited reporting (verbal or written) of live marine mammals by [Participant acronym]. In these circumstances, [Participant acronym] shall provide the NMFS [Region] Regional Stranding Coordinator with preliminary or complete stranding reports, if available, including Level B and C data such as analytical results and necropsy reports [within 24 hours]. NMFS will not reproduce, modify, distribute, or publish the data without consent of the [Participant acronym] unless required to release a copy under Federal law or order (such as the Freedom of Information Act).
 - g. Collect and make available any gear, debris, or other objects (for example, bullets, arrows, net webbing, etc.) that may be evidence of human interaction recovered from a stranded marine mammal that may be evidence of human interaction. [Participant acronym] must comply with chain of custody procedures or any other instructions as specified and supported by NMFS [Region] and/or NMFS Office of Law Enforcement personnel.
3. **Parts Dispositon** Diagnostic parts, tissue samples, fluid specimens, parts or cells may be transferred to labs within the United States for diagnostic use without any additional authorizations. For non diagnostic parts or samples:
- a. Report within 30 days of the stranding, the retention or transfer of any parts salvaged from the stranded marine mammal collected under this agreement to NMFS [Region] Regional Stranding Coordinator, [Address], as required by 50 CFR 216.22. For retention of marine mammal parts by [Participant acronym], data provided in the "Specimen Disposition" field of NOAA Form 89864, OMB #0648-0178 (the Marine Mammal Stranding Report - "Level A" Form) is required and parts are marked with the field identification number from the stranded animal.
 - b. For transfer of parts, [Participant acronym] must provide the institution name where specimen materials have been deposited in the "Specimen Disposition" field on the NOAA Form 89864, OMB #0648-0178 (the Marine Mammal Stranding Report – Level "A" Form) and ensure that retained or transferred parts

are marked with the field identification number or [NMFS Registration Number] from the stranded animal. Also, [Participant acronym] must ensure the receiving institution is authorized by the NMFS [Region] Regional Administrator to receive marine mammal parts pursuant to the regulations at 50 CFR 216.22 [or 50 CFR 216.37].

4. **Site Clean Up.** [Participant acronym] shall assist in the clean up of beach areas where their activities under this Agreement such as euthanasia, necropsy or specimen collection contributes to the soiling of the site.

ARTICLE V
Live animal response: Rehabilitation and release

Reserved
OR

A. Participant acronym may take live stranded marine mammals for rehabilitation and release of live stranded marine mammals. In addition to the activities provided under previous Articles of this Agreement, and subject to the conditions contained in this Agreement, the MMPA, and the implementing regulations, Participant acronym may take live stranded marine mammals in a humane manner³ for rehabilitation and release which specifically includes the following activities:

1. Transferring marine mammals to another NMFS approved rehabilitation facility within the Region for:
 - a. for release back to the wild,
 - b. for temporary placement in a scientific research facility holding a current NMFS scientific research permit and a United States Department of Agriculture Animal, Plant and Health Inspection Service (APHIS) Research License, or
 - c. for permanent disposition at an authorized facility (i.e. holds an APHIS “exhibitors” license {7 USC 2131 et seq.}) after consultation with and authorization by the NMFS Office of Protected Resources Permits, Conservation, and Education Division.
2. Scientific research may be conducted on stranded animals in a rehabilitation facility, only if the responsible individual has a NMFS scientific research permit and the facility holds an APHIS “research” license in accordance to the Animal Welfare Act (50 CFR 216.27).
3. Returning rehabilitated stranded marine mammals as directed by NMFS to their natural habitat and tagging such animals. Invasive tagging using other than approved methods (e.g., one-bolt roto or cattle ear tags, freeze branding) must first be approved by NMFS Region Region. Tagging is restricted to monitoring success of marine mammals released to the wild. Any projects outside the scope of monitoring the success of a release must be authorized under a NMFS scientific research permit.
4. Performing humane euthanasia⁴. Euthanasia shall only be performed by the attending

³ **Humane take as defined in the Marine Mammal Protection Act** – “that method of taking which involves the least possible degree of pain and suffering practicable to the mammal involved.”

⁴ **2000 Report of the American Veterinary Panel on Euthanasia** - “...euthanasia is the act of inducing humane death in an animal.” “...it is done with the highest degree of respect and with an emphasis on making the death as painless and distress free as possible. Euthanasia techniques should result in rapid loss of consciousness followed by cardiac or respiratory arrest and the ultimate loss of brain function. In addition, the technique should minimize distress and anxiety experienced by the animal prior to loss of consciousness.” “A veterinarian with appropriate training and expertise for the species involved should be consulted to ensure that proper procedures are used.”

veterinarian or by a person acting in behalf of the attending veterinarian (i.e., under coordination or supervision) and following approved guidelines such as those referenced in Attachment C. When using controlled drugs, such person(s) shall comply with all applicable state and Federal laws and regulations (i.e., registered with the Drug Enforcement Administration). Authorization for stranding network participants to euthanize ESA-listed species is provided under an MMPA/ESA permit issued to the NMFS Marine Mammal Health and Stranding Response Program Coordinator and requires special permission and direction from the NMFS [Region] Regional Stranding Coordinator. For reference, see Attachment C – 2000 Report of the American Veterinary Medical Association Panel on Euthanasia and attachment D – Chapter on Euthanasia in the 2nd Edition of the CRC Handbook of Marine Mammal Medicine.

B. Terms and Conditions for Live Animal Response: Rehabilitation and Release

1. Rehabilitation

- a. [Participant acronym] shall comply with NMFS laws, regulations, policies, and/or guidelines applicable to or promulgated by NMFS that apply to activities under this Agreement. The [Participant acronym] must also have all applicable Federal, state, and local permits for rehabilitation facilities.
- b. [Participant acronym] shall be responsible for the custody of any living marine mammal taken pursuant to this Article using standards for humane care⁵ and for practicing accepted medical evaluation and treatment (e.g., Animal Welfare Act, American Veterinary Medical Association, American Zoological Association and the International Association for Aquatic Animal Medicine) and as described in the NMFS Interim Standards for Rehabilitation Facilities. It is required under 50 CFR 216.22 that methods of care and maintenance of marine mammals in rehabilitation be reported to NMFS.
- c. [Participant acronym] shall not exceed their maximum holding capacity based on minimum standard space requirements, number of animals housed in each holding area and qualified personnel as provided in the NMFS Interim Standards for Rehabilitation Facilities. A written waiver from the NMFS [Region] Regional Administrator is required prior to [Participant acronym] exceeding the maximum holding capacity. Other considerations for determining maximum holding capacity include:
 - (1) On-site veterinary care, volunteer support, and experienced staff
 - (2) Adequate food and medical supplies and medical test capabilities
 - (3) Isolation for marine mammals

⁵ **Humane care** – Treatment of an animal in such a way to both minimize pain and suffering and (by providing for proper care and use of the animal) to maximize well being of the individual and the population into which it is to be released.

- (4) Adequate water quality
 - (5) Limited public access
 - (6) Ability to maintain current, accurate and thorough records
- d. [Participant acronym] shall follow contingency plans submitted to NMFS for care of marine mammals in rehabilitation in anticipation of expected (construction) or unexpected events such as mass strandings, unusual mortality events, natural disasters (e.g., prolonged power outages, hurricanes, harmful algal blooms, El Niño), and hazardous waste spills.
- e. [Participant acronym] shall isolate stranded rehabilitating marine mammals from other wild or domestic animals and from any animal in permanent captivity (e.g., public display, scientific research, or enhancement).
- f. [Participant acronym] shall prohibit the public display and training for performance of stranded rehabilitating marine mammals as required by 50 CFR 216.27(c)(5). This includes any aspect of a program involving interaction with the public.
- g. Upon request by the NMFS [Region] Regional Administrator, [Participant acronym] shall permit the NMFS [Region] Regional Stranding Coordinator, other appropriate NMFS employees, or any other appropriate persons duly designated by the NMFS [Region] Regional Administrator to inspect the facilities and inspect and/or request records that pertain to rehabilitation activities.
- h. During a Marine Mammal Unusual Mortality Event, NMFS [Region] may provide additional requirements for rehabilitation (e.g., isolation) and release as recommended in the National Contingency Plan for Response to Unusual Marine Mammal Mortality Events; D.W. Wilkinson, NOAA Technical Memorandum NMFS-OPR-9, September 1996. NMFS will prescribe these requirements in consultation with the Working Group for Marine Mammal Unusual Mortality Events.

2. Release

- a. [Participant acronym] shall, in compliance with applicable guidelines and applicable regulations (i.e., 50 CRF 216.27), prepare a signed medical and behavior release determination recommendation by the rehabilitation facility's attending veterinarian that the marine mammal is medically and behaviorally suitable for release in accordance with NMFS Interim Standards for Release (i.e., similar to a health certificate). NMFS also requires a concurrence signature from [Participant acronym] Authorized Representative or Signatory of the Stranding Agreement.
- b. If the [Participant acronym] recommends release, a release plan must also be

included with the final recommendation letter. This information must be submitted to and approved by the NMFS [Region] Regional Administrator following the timeline and other requirements in 50 CFR 216.27(a) unless a previous written waiver has been issued by the [Region] Regional Administrator.

3. Data Collection and Reporting

- a. [Participant acronym] shall immediately report (verbal or written) to the NMFS [Region] Regional Stranding Coordinator any findings of diseases of concern (e.g., disease associated with an unusual mortality event, any emerging, reportable, and/or zoonotic diseases) that are detected which could affect human health or the health of wild marine mammal populations. NMFS [Region] may request that the facility temporarily not admit new cases of stranded marine mammals due to the severity of the disease of concern.
- b. Upon release or other disposition of any marine mammal under this Article, [Participant acronym] shall complete the NOAA Form 89878, OMB # 0648-0178 (the Marine Mammal Rehabilitation Disposition Report). The form shall be sent to the [Region] Regional Stranding Coordinator, [Address], according to the following schedule: *[reserved schedule]*.

4. Parts Dispositon Diagnostic parts, tissue samples, fluid specimens, parts or cells may be transferred to labs within the United States for diagnostic use without any additional authorizations. For non diagnostic parts or samples:

- a. Report within 30 days of the stranding, the retention or transfer of any parts salvaged from the stranded marine mammal collected under this agreement to NMFS [Region] Regional Stranding Coordinator, [Address], as required by 50 CFR 216.22. For retention of marine mammal parts by [Participant acronym], data provided in the "Specimen Disposition" field of NOAA Form 89864, OMB #0648-0178 (the Marine Mammal Stranding Report - "Level A" Form) is required and parts are marked with the field identification number from the stranded animal.
- b. For transfer of parts, [Participant acronym] must provide the institution name where specimen materials have been deposited in the "Specimen Disposition" field on the NOAA Form 89864, OMB #0648-0178 (the Marine Mammal Stranding Report – Level "A" Form) and ensure that retained or transferred parts are marked with the field identification number or [NMFS Registration Number] from the stranded animal. Also, [Participant acronym] must ensure the receiving institution is authorized by the NMFS [Region] Regional Administrator to receive marine mammal parts pursuant to the regulations at 50 CFR 216.22 [or 50 CFR 216.37].

ARTICLE VI**Designees****Reserved
OR**

A. Delegation of authority and responsibilities under this Agreement. [Participant acronym] may designate a [*reserved- person*], organization, or institution to act on behalf of [Participant acronym] as a designee in accordance with this Agreement. The term “Designee” does not refer to individual volunteers of the Participant’s organization, or to individual volunteers of the Designee, organization or institution. Such a designation requires prior written approval from NMFS [Region] (Attachment A). [Participant acronym] must submit information (see requirements listed below) and a copy of any agreement between [Participant acronym] and its prospective designee at least 30 days prior to any prospective designation, to the NMFS [Region] Regional Stranding Coordinator and the Regional Administrator [Addresses]. Any [*reserved- person*], organization or institution so designated shall be deemed an agent of [Participant acronym] and NMFS and is subject to ALL applicable provisions of this Agreement as well as applicable laws, regulations, and guidelines. Any breach of the provisions of this Agreement by a designee of [Participant acronym] shall be deemed a breach by [Participant acronym].

B. Purpose of Designee Organization(s). The purpose of Designee organization(s) is to assist the [Participant acronym] with improved regional coordination, response and/or rehabilitation capability within the [Participant acronym] geographic area of responsibility. NMFS will evaluate Designee organizations based on the [Participant acronym] justification for geographic need, enhancement response capabilities, and level of experience provided by the Designee organization.

C. Terms and Conditions for Adding Designee(s):

1. To request the addition of a Designee organization to the [Participant acronym]. Stranding Agreement, the [Participant acronym] must submit written information (see requirements listed below) and a copy of any agreement between the [Participant acronym] and its prospective designee at least 30 days prior to any designation to the NMFS [Region] Regional Administrator for review and approval. The written information includes:
 - a. Complete name of the [*reserved-person*], organization, or institution;
 - b. Resumes or CVs of all key personnel for Designees including evidence of relevant training;
 - c. Justification Statement for designation;
 - d. Geographic coverage area for response;
 - e. For rehabilitation facilities, a facility operation plan including personnel,

- veterinary care, equipment list, and other requirements stated under any applicable NMFS laws, regulations, policies, and/or guidelines. The Designee must also have all applicable Federal, state, and local permits for rehabilitation facilities;
- f. Oversight plan including how [Participant acronym] will monitor the activities of the designee under this Agreement; and
 - g. A copy of a written Agreement between the [Participant acronym] and the Designee.
2. A Designee organization may not be authorized for activities different than or exceeding those contained in the Stranding Agreement of the [Participant acronym].

ARTICLE VII

Rights of States and Local Governments

Nothing in this Agreement shall be construed to affect the rights or responsibilities of other Federal, state or local government officials or employees acting in the course of their official duties with respect to taking of marine mammals in a humane manner (including euthanasia) for protection or welfare of the marine mammal, protection of public health and welfare or non-lethal removal of nuisance animals (MMPA Sec 109h).

ARTICLE VIII

A. Effective Date

The terms of this Agreement shall become effective upon the signature of both [Participant acronym] and the NMFS [Region] Regional Administrator.

B. Period of Agreement

1. **Duration of Agreement.** Unless renewed or otherwise terminated as provided in this Agreement, this Agreement shall expire at the end of the following applicable period:

1 year for new stranding network participant

3 years for live animal responder and rehabilitator (Article IV and V)

6 years for dead animal responder (Article III only)

2. **Stranding Agreement Renewals.** For multi-year agreements within 90 days prior to the expiration date, the NMFS [Region] Regional Administrator will provide the [Participant acronym] with a notice of expiration and prescribe necessary information needed from the [Participant acronym] for review. No later than 60 days prior to the expiration date, [Participant acronym] shall indicate in writing to the NMFS [Region] Regional Administrator that a renewal of this Agreement is requested and provide the necessary information as prescribed by the NMFS [Region] Regional Administrator. Following NMFS review of information to determine if [Participant acronym] meets the applicable requirements, the Agreement may be renewed if agreed to in writing by both parties.
3. **New Stranding Agreements.** For new participants, NMFS will enter into this Agreement for a provisional period of one year from the effective date. NMFS will review the performance of [Participant acronym] and determine if services rendered under this Agreement have been satisfactory and no minor or major deficiencies have been incurred during the provisional period. If NMFS determine that [Participant acronym] has performed satisfactorily and has not incurred any minor or major deficiencies, this Agreement may be extended for a multi-year period. In general, new participants without any deficiencies (see Article IX, B) are considered to be in “good standing” under this Agreement.

ARTICLE IX

A. Review, Modification and Termination

1. **Review.** The NMFS [Region] Regional Administrator shall periodically review this Agreement for performance adequacy and effectiveness.
2. **Modification.** This Agreement may be modified at any time by the NMFS [Region] Region upon 30 days written notice to [Participant acronym]. [Participant acronym] may request modification of the Agreement in writing.
3. **Termination.** This Agreement may be terminated upon 30 days written notice by [Participant acronym] to NMFS. Upon at least 30 days written notice to [Participant acronym], the NMFS [Region] may terminate this Agreement, or any part thereof for any reason, including but not limited to violations of any applicable laws, regulations, or guidelines, or failure to satisfy the terms and responsibilities of this Agreement. Termination of the agreement by either party shall automatically terminate any designations by [Participant acronym] to any Designee organizations under this Agreement.

B. Violations of Law and Non-compliance with the Stranding Agreement

For failure to satisfy the terms and responsibilities of the Agreement or for violations of any laws, regulations, or guidelines applicable to this Agreement, the NMFS [Region] Regional Administrator shall provide [Participant acronym] notice and an opportunity to correct any minor or major deficiencies within a reasonable time period as specified by the NMFS [Region] Regional Administrator. [Reserved {If [Participant acronym] repeatedly fails to correct deficiencies in a timely manner, or violation(s) are particularly severe, the NMFS [Region] Region may take the following actions based on the circumstances:

1. **Probation.** If [Participant acronym] is unable to correct deficiencies, within a given time period, the [Participant acronym] may be put on probation. Probation requires annual reviews of the Participant for up to three years. [Participant acronym] on probation may not be in “good standing” with their Stranding Agreement.
2. **Suspension.** If [Participant acronym] has repeated major deficiencies, has been on repeated probation, or has clearly violated applicable laws, regulations or guidelines, NMFS may suspend the [Participant acronym]’s authority, or any portion of their authority as appropriate (e.g., suspend rehabilitation authority, but not live or dead animal stranding response) for up to one year or until NMFS is satisfied that all deficiencies and violations have been adequately addressed. During suspension, NMFS may request other Stranding Network Participants to respond in [Participant acronym]’s area of geographic coverage. A Participant on suspension is NOT in “good standing” with their Stranding Agreement.

- 3. **Termination.** If [Participant acronym] has repeated major deficiencies, repeated suspensions, or has clearly violated applicable laws, regulations or guidelines, NMFS [Region] Regional Administrator may terminate this Agreement, or any part thereof for any reason, but not limited to violations of any applicable laws, regulations, or guidelines, or failure to satisfy the terms and responsibilities of this Agreement. Upon termination, NMFS may request another authorized Stranding Network Participant to respond in [Participant acronym]'s area of geographic coverage. If [Participant acronym] Agreement is terminated while animals are in rehabilitation, NMFS reserves the right to either confiscate the animal(s) or arrange for another stranding participant to take over rehabilitation of the animal(s).
- 4. **Violations by Designees.** Violations by [Participant acronym]'s Designee organization or institution are considered to be the [Participant acronym] responsibility, and will result in either termination of the Designee by NMFS, or addressed directly with [Participant acronym] on behalf of the Designee in the same manner described above. }

THIS STRANDING AGREEMENT IS ENTERED INTO AND MADE EFFECTIVE THIS

Date _____

Date _____

APPROVED:

NMFS [Region] Region

[Stranding Network Organization]

Signature of Regional Administrator

**Signature of Authorized
Representative**

Reserved OR

Attachment A: Statement of Agreement for designation of authority and responsibilities, to any [person], organization or institution to act as agents under this Agreement.

AGREEMENT

I have read the conditions as stated above for participating in the Stranding Network as an agent of the [Stranding Network Organization] under its Agreement with NMFS [Region] Region and agree to abide by all applicable provisions of the Agreement between the National Marine Fisheries Service [Region] Region and [Stranding Network Organization].

NMFS [Region] Region

**Authorized Representative
of [Stranding Network Organization]**

**Authorized Representative
of Designee**

Signatures

Title

Affiliation

Date

Reserved OR

Attachment B: NMFS [Region] Region Contact Information



INTERIM

POLICIES AND BEST PRACTICES

MARINE MAMMAL STRANDING RESPONSE, REHABILITATION, AND RELEASE

Evaluation Criteria for a Marine Mammal Stranding Agreement (New Applicants and Renewals)

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December 2006

**Evaluation Criteria for a Marine Mammal Stranding Agreement
(New Applicants and Renewals)**

Table of Contents

1. PURPOSE AND APPLICATION	1-1
2. GENERAL EVALUATION CRITERIA FOR ARTICLES III, IV, AND V AUTHORIZATION	2-1
2.1 General Information.....	2-1
2.2 General Qualifications for Articles III, IV, and V	2-3
3. EVALUATION CRITERIA FOR RESPONSE TO DEAD STRANDED MARINE MAMMALS - FIRST RESPONSE (ARTICLE III AUTHORIZATION).....	3-1
3.1 Information for Article III Authorization	3-1
3.2 Qualifications for Article III Authorization	3-1
4. EVALUATION CRITERIA FOR FIRST RESPONSE, TRIAGE, AND TRANSPORT OF LIVE STRANDED MARINE MAMMALS (ARTICLE IV AUTHORIZATION)	4-1
4.1 Information for Article IV Authorization	4-1
4.2 Qualifications for Article IV Authorization.....	4-1
5. EVALUATION CRITERIA FOR REHABILITATION AND RELEASE OF LIVE STRANDED MARINE MAMMALS (ARTICLE V AUTHORIZATION)	5-1
5.1 Information for Article V Authorization.....	5-1
5.2 Qualifications for Article V Authorization	5-3
6. EVALUATION CRITERIA FOR DESIGNEE ORGANIZATIONS	6-1
6.1 Information for Designee Organizations for Articles III, IV, and V	6-1
6.2 Qualifications for Designee Organizations for Articles III, IV, and V	6-1

Evaluation Criteria for a Marine Mammal Stranding Agreement (New Applicants and Renewals)

[Blue Brackets] denotes reserved text at the discretion of the NMFS Regional Administrator.

⁽¹⁾ To renew an existing Stranding Agreement, the applicant must demonstrate past compliance with the terms and responsibilities of their Stranding Agreement, including reporting requirements and deadlines.

⁽²⁾ For the purpose of network development and expansion of stranding response capabilities in geographically remote or low coverage areas [e.g., Alaska, Washington, Oregon, Hawaii, and American Territories (i.e., Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Marina Islands)], referenced evaluation criteria may be waived based on the discretion of the NMFS Regional Administrator.

⁽³⁾ If long-term care is not feasible, a plan for disposition of live marine mammals at alternate care facilities must be submitted.

1. Purpose and Application

These minimum evaluation criteria have been developed to assist the National Marine Fisheries Service [Region] Region (NMFS) in its evaluation of Stranding Agreement renewal requests and new Stranding Agreements proposals. Prior to issuing new Stranding Agreements, the NMFS [Region] Regional Administrator must determine there is a programmatic and/or geographic need for a Stranding Network Participant in the proposed area of response. Geographic or programmatic needs are based on, but not limited to, the following factors: the historic number of stranded marine mammals in an area, the amount of personnel and resources of stranding network participants with existing agreements in the proposed response area, the geographic extent of the proposed response area, and the proximity of the existing and prospective stranding network participants to the proposed response area.

The decision to enter into an Agreement under which an organization may take species under the Marine Mammal Protection Act for the purpose of stranding response is solely at the discretion of the NMFS [Region] Regional Administrator. NMFS [Region] Region is not compelled to enter into or to decline to enter into a Stranding Agreement based on an interested party's adherence with these criteria. NMFS weighs the geographical need, programmatic need, level of expertise, stranding related activities, cooperation, and criteria listed below when making its determination in determining whether to issue a new Stranding Agreement.

2. General Evaluation Criteria for Articles III, IV, and V Authorization ⁽¹⁾

2.1 General Information

The prospective Participant should provide the following information to NMFS as part of their request to obtain or renew an existing Stranding Agreement with NMFS or upon any significant changes to the information:

1. Participant Contact Information. This should include:
 - a. Mailing address, phone number, e-mail, and facsimile for all official correspondence.
 - b. Physical address and location of the facility or facilities (if applicable).
 - c. Name, title, and contact information for an authorized representative with signatory authority for the organization (e.g., Executive Director, Director, President, CEO, etc.).
 - d. [24-hour] contact numbers if applicable, including office, home, and/or cell phone numbers of primary responders, key personnel/volunteers, and veterinarians.
2. Description of Organizational Goals, Capability, and Experience. This should include:
 - a. Description of the organization's mission, goals, and objectives and how these complement objectives for the [Region] Regional Stranding Network.
 - b. Brief summary on history and type of organization (e.g., university, governmental, non-profit, aquarium, etc.).
 - c. Description of any past or current collaboration with NMFS, other Stranding Network participants, researchers, or the public.
 - d. Summary of relevant organizational experience with response to live/dead stranding events and /or rehabilitating marine mammals within the past three years.
 - e. An overview of general capabilities to conduct stranding response.
3. Proposed Scope and Area of Geographic Response. This should include:
 - a. Brief summary of the proposed scope of the stranding program (e.g., all species of cetaceans, pinnipeds), and whether the request is for response to dead animals only, live and dead animals, and/or rehabilitation.
 - b. Justification and description of the proposed geographic area of coverage and why the area of response is appropriate for the organization (e.g., the amount of personnel/volunteers and resources available, relative to shoreline covered, historic number of stranding events, etc.). Latitude and longitude of proposed geographic area

and maps are especially helpful.

4. Description of Organizational Structure. This should include:
 - a. An overview of staffing, personnel, volunteers, veterinarians, the primary representative, and primary responders, including organizational charts, titles, and position descriptions as appropriate.
 - b. Documentation (e.g., resumes, certificates, reference letters, etc.) and summary of relevant training, experience, and qualifications for key stranding response personnel, including primary responders, veterinarians and volunteers as appropriate.
 - c. Description of how personnel/volunteers will collect, report, and maintain Level A stranding data and conduct basic (Level B) tissue sample collection. This should also address requirements for accurate and timely reporting.
 - d. Description of how volunteers are trained and monitored to ensure quality data collection.
 - e. Description of how the organization will keep NMFS informed about any changes in key personnel, geographic area of coverage, or capabilities.
5. Equipment and Resources. This should include:
 - a. Description of resources, supplies and equipment currently available to conduct stranding response (live and/or dead). This could include, but may not be limited to, information on types and availability of necropsy equipment, freezers, trucks, tagging equipment (e.g., roto-tags), stretchers, vessels, triage equipment, and transport equipment, and temporary and/or permanent pools.
6. Rapid Response and Investigation Procedures. This should include:
 - a. Procedures for stranding response for dead/live stranded marine mammals.
 - b. Human health and safety precautions used.
 - c. How calls are handled, availability (e.g., 24 hour pager), and which personnel will respond.
 - d. How necropsies will be coordinated and conducted.
 - e. Capabilities and general rescue plan, and plans for animal care (e.g., on-site veterinary care) for live animal response including triage, transport, and euthanasia.
 - f. Protocols for decision-making when responding to a live animal.
 - g. Description of how the organization will coordinate with other Stranding Network members and NMFS.
7. Any other relevant documentation (permits, authorizations, agreements, etc.) for review prior to entering into any Stranding Agreement and at any subsequent time as requested by the [Region] Regional Administrator, or when additional documentation is obtained that may

- become relevant to performance under the Agreement.
8. Documentation of experience, ability, and knowledge (e.g., CV, resume, certificates, letters of recommendation, etc.) of key personnel (e.g., primary representative, primary responder). Experience can be obtained through paid employment, internships, volunteering, course work, and/or NMFS approved training.
 9. Demonstrated experience working under the direct supervision of an existing Stranding Network Participant in good standing or NMFS for at least three years.⁽²⁾ The prospective Participant may apprentice as a “designee” organization under a Stranding Agreement holder to obtain this experience.
 10. Letter(s) of support from peers such as other stranding network organizations (Stranding Agreement/Designee organizations), universities/researchers, government agencies, non-governmental organizations, professional organizations, etc. Such letters of support could also be provided from the current Stranding Agreement holder under which the Participant received experience and include assurances that the prospective Participant can support programmatic and geographic needs in the area (new Stranding Agreement proposals only).

2.2 General Qualifications for Articles III, IV, and V

NMFS will evaluate prospective participants based on their demonstrated track record and their capabilities in the following areas as described in their request:

1. Ability to provide description of [24-hour] on-call coverage for the proposed geographic area of response (e.g., established “hot-line” number, message phone, staffed pager, etc.).
2. Demonstrated ability to comply with standard instructions and collect Level A data from stranded marine mammals according to established protocols.
3. Ability to conduct full post-mortem exams, including obtaining histopathology samples and other biological samples (if feasible and requested by NMFS).
4. Willingness and ability to communicate in a professional manner, and demonstrated ongoing cooperation with NMFS, other network members, the general public, local and state agencies.
5. Willingness and ability to cooperate with authorized marine mammal researchers.
6. Ability to address health and safety when responding to dead or live stranded marine mammals, or marine mammals in rehabilitation (e.g., a description of the organization’s operational safety plan or protocols).
7. Demonstrated experience specific to the marine mammal species that are most likely encountered in the proposed area of geographic response.

3. Evaluation Criteria for Response to Dead Stranded Marine Mammals - First Response (Article III Authorization) ⁽¹⁾

In addition to the general criteria, Participants proposing to respond to dead stranded marine mammals should provide information that shows the Participant's plan for implementing Article III of the Stranding Agreement, and present evidence that the Participant has the skills, resources, and organizational capabilities to be successful.

3.1 Information for Article III Authorization

1. Key Personnel. The prospective Participant should have and maintain one primary representative [and at least two primary responders] (paid or unpaid), at least one of whom will be on-site or supervising when dead animals are being examined or handled.⁽²⁾ Additional personnel may be necessary, commensurate with the proposed geographic area of response and frequency of stranding events.
2. Equipment List. The prospective Participant should demonstrate they have and maintain equipment appropriate to dead animal stranding response – i.e., for dead animal response the equipment list should at least include items necessary for Level A data collection.

3.2 Qualifications for Article III Authorization

1. Key personnel should have experience or comparable training to collect Level A data and if possible to collect Level B data (i.e., complete necropsy). Requests should address key personnel qualifications as follows:
 - a. Experience conducting necropsies [on a minimum of six marine mammals with at least three of those necropsies on Code 2 animals.]⁽²⁾
 - b. Ability to identify species of marine mammals in the field (Code 2).
 - c. Ability to accurately identify code condition of marine mammals in the field (Code 1-5).
 - d. Ability to obtain accurate Level A stranding data and if possible, to conduct basic tissue sample (Level B) collection.
 - e. Knowledge and experience complying with Level A data reporting requirements.
 - f. Knowledge and experience complying with sampling protocols, sample processing, and shipping procedures.
 - g. Knowledge of marine mammal anatomy and physiology.
 - h. Knowledge of human health and safety precautions including potential zoonotic marine

mammal disease.

- i. Knowledge of state and local disposal policies and rules.

4. Evaluation Criteria for First Response, Triage, and Transport of Live Stranded Marine Mammals (Article IV Authorization) ⁽¹⁾

In addition to criteria in sections I and II, prospective Participants proposing to conduct response to live stranded marine mammals should provide information that shows the Participant's plan for implementing Article IV of the Stranding Agreement, and present evidence that the Participant has the skills, resources, and organizational capabilities to be successful.

4.1 Information for Article IV Authorization

1. Key Personnel. The prospective Participant should have and maintain one primary representative [and at least two personnel] (paid or unpaid), all with experience in marine mammal stranding response, triage, transport, and/or euthanasia, at least one of whom will be on-site or supervising when animals are being examined or handled. ⁽²⁾ Additional personnel may be necessary, commensurate with the proposed geographic area of response.
2. Veterinary Support. The prospective Participant should identify an attending veterinarian and identify at least one backup veterinarian or have a contingency plan for when the attending veterinarian is not available. Requests should provide documentation of the veterinarian's experience (e.g., CV, certificates, licenses, etc.).

4.2 Qualifications for Article IV Authorization

Requests should address key personnel and veterinarian qualifications as follows:

1. Key personnel should have experience or comparable training in all aspects of live animal response:
 - a. Experience responding to a minimum of [five] live marine mammal stranding events (note: a mass stranding is considered to be one event). ⁽²⁾
 - b. Experience providing triage and/or transport for a minimum of [three] live stranded marine mammals during separate stranding events. ⁽²⁾
 - c. Knowledge and experience monitoring marine mammal vital signs.
 - d. Ability to assess the condition of stranded marine mammals and make recommendations concerning immediate release, rehabilitation, or euthanasia.
 - e. Ability to accurately identify species of marine mammals in field conditions.
 - f. Experience responding to at least one mass stranding event (preferred but not required). ⁽²⁾

- g. Ability to [draw blood] and make basic measurements (e.g., length).
 - h. Ability to tag a marine mammal (e.g., for situations that involve immediate release following assessment).
 - i. Ability to communicate professionally with other members of the Stranding Network and take direction from NMFS and other on-site coordinators.
2. Attending veterinarians should meet the following criteria:
 - a. Be on-call 24-hours.
 - b. Knowledge and demonstrated experience in monitoring marine mammal vital signs.
 - c. Ability to assess the condition of stranded marine mammals and make recommendations concerning immediate release, rehabilitation, or euthanasia.
 - d. Ability to draw blood from a marine mammal.
 - e. Ability to perform humane euthanasia on marine mammals.
 - f. Demonstrated familiarity with marine mammal triage and transport.
 - g. Access to a list of veterinarians with marine mammal expertise to consult with if needed.
 - h. Compliance with any applicable state requirements for veterinary practice on stranded marine mammals.
3. The prospective Participant should have knowledge of national, state, and local laws relating to live animal response.
4. The prospective Participant should have provisions for, and willingness to conduct, humane euthanasia as necessary and appropriate.
5. Equipment List. The prospective Participant should have and maintain equipment appropriate to live stranding response, i.e., those items necessary for triage, transport, and/or euthanasia. A complete list of equipment available shall be provided by the prospective Participant.

5. Evaluation Criteria for Rehabilitation and Release of Live Stranded Marine Mammals (Article V Authorization)^(1,3)

In addition to the criteria in sections II, III, and IV (if applicable), Participants requesting authorization to conduct rehabilitation of marine mammals should provide information that shows the Participant's plan for implementing Article V of the Stranding Agreement, and present evidence that the Participant has the skills, resources, and organizational capabilities to be successful. The NMFS interim document, "Policies and Best Practices: Standards for Rehabilitation Facilities," provides additional detailed guidance for preparing Stranding Agreement requests (see <http://www.nmfs.noaa.gov/pr/health/eis.htm>). Facility operations should be consistent with applicable NMFS policies, guidelines, directives, regulations, and other applicable State and Federal policies, guidelines, directives, regulations, and laws.

5.1 Information for Article V Authorization

The prospective Participant should provide information on the following:

1. Facility Capabilities and Procedures. This should include, but not be limited to:
 - a. Information on facilities.
 - i. Pool type (or housing/pool for pinnipeds) design, description, and dimensions.
 - ii. Type of available shelter and/or shading.
 - iii. Maximum holding capacity. Description of facility's maximum holding capacity based on minimum standard space requirements and number of animals housed in each holding area and the availability of qualified personnel as provided in the NMFS interim document, "Policies and Best Practices: Standards for Rehabilitation Facilities," and Animal Welfare Act.
 - iv. Water Quality. Description of water, source, quality, and how it is maintained, including how water is tested and frequency of tests.
 - v. How the facility/rehabilitation area is secured from public access.
 - vi. Provisions for isolating marine mammals.
 - vii. How other wild and/or domestic animals will be kept isolated from marine mammals.
 - viii. How animals will be quarantined if necessary.

- b. Information on procedures for:
 - i. Food handling and sanitation.
 - ii. Human health and safety throughout the facility.
 - iii. How medical, husbandry, and other relevant records will be maintained for each animal. Samples of record forms are helpful.
 - iv. Efforts to reduce disease transmission.
 - v. Humane animal care, routine medical procedures, and euthanasia.
- c. Key Personnel. The prospective participant should submit documentation that they have, and will maintain, at least one primary representative and two primary animal care specialists, all with experience in marine mammal care and rehabilitation, at least one of whom will be on-site or supervising overall rehabilitation efforts. Additional personnel may be necessary, commensurate with the maximum holding capacity. Information regarding key personnel should also include:
 - i. Overview of staffing plan and capabilities for the rehabilitation facility (e.g., veterinarian technicians, food preparation, record keeping, volunteer/shift coordination, equipment, pool maintenance, etc.).
 - ii. Description of on-site experienced personnel who are caring for the animals, including resumes or CVs of all key personnel and documentation of relevant training.
 - iii. Description of how new personnel and volunteers are trained and monitored.
 - iv. Veterinary Support. The prospective Participant should identify an attending veterinarian and identify at least one backup veterinarian for when the attending veterinarian is not available. Requests should provide documentation of the veterinarian's background, experience, and licensing.
- 2. Contingency Plans. A copy of contingency plans for protecting or relocating marine mammals in rehabilitation in case of events such as hurricanes or other natural disasters, unusual mortality events, hazardous waste spills, fire, or planned events such as construction.
- 3. Copies of all applicable Federal, state, and local permits for rehabilitation facilities.
- 4. General plans for release and post-release monitoring of marine mammals in rehabilitation, including:
 - i. How animals will be assessed for release determinations and who makes the assessment.
 - ii. How the prospective Participant will follow the NMFS Interim Standards for Release of Rehabilitated Marine Mammals (available on the following website

[:http://www.nmfs.noaa.gov/pr/health/eis.htm](http://www.nmfs.noaa.gov/pr/health/eis.htm)).

- iii. How prospective Participant will conduct tagging, release, and post-release monitoring.
5. Resources. Sufficient physical and financial resources to maintain appropriate animal care for the duration of rehabilitation, including costs associated with release (e.g., long term rehabilitation, transport to release site, post release monitoring) or transport to another facility.

5.2 Qualifications for Article V Authorization

Requests should be evaluated based on the following:

1. Key personnel should have experience or comparable training in all aspects of marine mammal rehabilitation. Requests should address key personnel qualifications for each evaluation criteria below:
 - a. Experience or education leading to an understanding of the life history, behavior, biology, physiology, and animal husbandry of applicable marine mammals.
 - b. Familiarity with NMFS Interim Rehabilitation Standards, NMFS Interim Standards for Release of Rehabilitated Marine Mammals, and applicable regulations.
 - c. Experience in a supervisory role rehabilitating a minimum of three separate rehabilitation cases (Note: Multiple animals in rehabilitation from a mass stranding are considered to be one case).
 - d. Ability to humanely restrain a marine mammal to conduct basic medical procedures such as: drawing blood from at least two sites, taking fecal, gastric, blowhole/nasal samples, morphometrics, weighing, injections, and tubing.
 - e. Experience maintaining and operating a facility/pool for marine mammal care, including familiarity with maintaining proper water quality.
 - f. Ability to supervise and coordinate on-site personnel and volunteers.
 - g. Ability to conduct necropsies.
 - h. Experience with record keeping, such as food intake records, daily behavioral records, medical records, and water quality records (e.g., water temperature, salinity, etc.).
 - i. Knowledge of how to design and conduct a behavior ethogram (preferred but not required).
2. Attending veterinarians should meet the following criteria:
 - a. Have an active veterinary license in the United States (means a person who has

graduated from a veterinary school accredited by the American Veterinary Medical Association Council on Education, or has a certificate issued by the American Veterinary Graduates Association's Education Commission for Foreign Veterinary Graduates).

- b. Assume responsibility for diagnosis, treatment, and medical clearance for release or transport of marine mammals in rehabilitation (50 CFR 216.27).
- c. Ability to provide a schedule of veterinary care that includes a review of husbandry records, visual and physical examinations of all the marine mammals in rehabilitation, and a periodic visual inspection of the facilities and records.
- d. Be available on a 24-hour basis to answer veterinary-related questions, and be available in case of an emergency.
- e. Ability to perform routine diagnostic and medical procedures on the type of marine mammal most often admitted to the rehabilitation facility (e.g., draw blood, give injections, etc).
- f. Have marine mammal experience or be in regular consultation with a veterinarian who has marine mammal experience and have access to a list of expert veterinarians to contact for assistance.
- g. *[Reserved. {Have documented one-year clinical experience working with marine mammals, or have a written consulting agreement with an experienced marine mammal veterinarian, which assures availability of consultation when needed.}]*
- h. Ability to conduct full necropsy on marine mammals.
- i. Have access to the most recent edition of the CRC "Handbook of Marine Mammal Medicine."
- j. Be familiar with and comply with the standards of veterinary care in the NMFS Best Practices for Marine Mammal Stranding Response, Rehabilitation, and Release - Standards for Rehabilitation Facilities.
- k. Have the necessary state and federal licenses and arrangements to obtain and store medications required (license from Drug Enforcement Agency for controlled substances) for the animals housed at the rehabilitation facility.
- l. Be knowledgeable of species-specific pharmacology.
- m. Have provisions for performance of humane euthanasia.
- n. Ability to write and submit timely disposition recommendations for marine mammals in rehabilitation.
- o. Be knowledgeable of marine mammal zoonotic diseases and appropriate safety

precautions.

3. A trained volunteer base sufficient to initiate and maintain adequate and appropriate marine mammal care and husbandry and implementation of veterinary direction.
4. Knowledge of national, state, and local laws relating to live animal rehabilitation.
5. Familiarity with, and a copy of, the most current version of the NMFS Interim Rehabilitation Facility Standards and Interim Standards for Release of Marine Mammals.

6. Evaluation Criteria for Designee Organizations

The purpose of a Designee organization is to assist the Participant with sub-region coordination, response, and/or rehabilitation capability within the Participant's geographic area of responsibility and under the Participant's oversight. If a Participant is proposing oversight of a Designee organization(s), the Participant [must] should provide evidence that the Designee organization has the skills, resources, and organizational capability to respond to dead/live stranded marine mammals [or rehabilitate marine mammals]. In some cases, it may not be possible for each proposed Designee organization to meet all of the evaluation criteria listed below. If this is the case, NMFS needs written assurance and details specifying how the prospective Participant will take responsibility for fulfilling specific qualifications lacking for the Designee organization.

6.1 Information for Designee Organizations for Articles III, IV, and V

1. For each proposed Designee organization, the Participant should provide the same information required in sections II through V.
2. Justification for Designee. The Participant should submit a justification for the geographic need, and enhancement of response capabilities provided by the Designee organization to the Participant.
3. Copy of a written and signed Agreement between the Participant and the Designee that includes a statement that the Designee organization has read and agreed to the terms of the Participants current Stranding Agreement.

6.2 Qualifications for Designee Organizations for Articles III, IV, and V

1. Each proposed Designee organization will be evaluated according to the same required qualifications listed in sections II through V.



INTERIM

POLICIES AND BEST PRACTICES

MARINE MAMMAL STRANDING RESPONSE, REHABILITATION, AND RELEASE

STANDARDS FOR REHABILITATION FACILITIES

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Interim Standards for Rehabilitation Facilities

Table of Contents

1.	STANDARDS FOR CETACEAN REHABILITATION FACILITIES.....	1-1
1.1	Facilities, Housing, and Space.....	1-1
1.1.1	Space Requirements for Pool, Bay, or Ocean Pens.....	1-2
1.1.2	Pool or Pen Design.....	1-3
1.1.3	Shelter, Shading, and Lighting.....	1-4
1.1.4	Critical Care Animals and Calves.....	1-5
1.1.5	Housekeeping.....	1-6
1.1.6	Pest Control.....	1-7
1.1.7	Security for Facility.....	1-7
1.2	Water Quality.....	1-8
1.2.1	Source and Disposal of Water.....	1-9
1.3	Water Quality Testing.....	1-10
1.3.1	Water Quality Tests.....	1-11
1.3.2	Frequency of Testing in Closed, Semi-Open, or Open Systems.....	1-11
1.3.3	Chemical Additives.....	1-12
1.3.4	Water Circulation.....	1-12
1.3.5	Salinity.....	1-13
1.3.6	pH.....	1-13
1.3.7	Water Temperature.....	1-13
1.4	Quarantine.....	1-14
1.4.1	Prevention of Animal to Animal Transmission of Diseases.....	1-15
1.4.2	Prevention of Domestic Animal to Marine Mammal Transmission of Disease.....	1-16
1.4.3	Prevention of Wild Animal to Marine Mammal Transmission of Disease.....	1-16
1.4.4	Prevention of Marine Mammal to Domestic Animal Transmission of Disease.....	1-16
1.4.5	Prevention of Stranded Marine Mammal to Captive Marine Mammal Transmission of Disease.....	1-17
1.4.6	Methods to Reduce Spread of Disease from Animals Housed in Open Sea/Bay Pen Systems.....	1-17
1.4.7	Evaluation Requirements Before Placing Marine Mammals Together.....	1-18
1.4.8	Zoonotic Considerations.....	1-18
1.4.9	Pre-Release Guidelines.....	1-19
1.5	Sanitation.....	1-19
1.5.1	Primary Enclosure Sanitation.....	1-19
1.5.2	Sanitation of Food Preparation Areas and Food Receptacles.....	1-19
1.6	Food, Handling, and Preparation.....	1-20
1.6.1	Diets and Food Preparation.....	1-20
1.6.2	Food Storage and Thawing.....	1-21
1.6.3	Supplements.....	1-22
1.6.4	Feeding.....	1-22
1.6.5	Public Feeding.....	1-22
1.6.6	Feed Records.....	1-22
1.7	Veterinary Medical Care.....	1-23
1.7.1	Veterinary Experience.....	1-23
1.7.2	Veterinary Program.....	1-24
1.8	Laboratory Tests and Frequency of Testing.....	1-25

1.8.1	Laboratory Testing.....	1-25
1.9	Record Keeping and Data Collection	1-27
1.9.1	Record Keeping	1-27
1.9.2	Data Collection	1-28
1.10	Euthanasia Protocols.....	1-28
1.11	Health and Safety Plans for Personnel.....	1-29
1.12	Contingency Plans	1-29
1.13	Viewing.....	1-30
1.14	Training and Deconditioning Behaviors.....	1-30
2.	STANDARDS FOR PINNIPED REHABILITATION FACILITIES	2-1
2.1	Facilities, Housing, and Space	2-1
2.1.1	Pool Requirements	2-2
2.1.2	Dry Resting Area	2-3
2.1.3	Pool or Pen Design	2-3
2.1.4	Length of Stay and How it Affects Space.....	2-4
2.1.5	Shelter, Shading, and Lighting	2-4
2.1.6	Air Temperature.....	2-4
2.1.7	Housing for Critical Care Animals	2-5
2.1.8	Housing of Pups.....	2-6
2.1.9	Housing of Older Pups.....	2-6
2.1.10	Number of Animals Housed in Each Pen/Pool.....	2-7
2.1.11	Housekeeping	2-7
2.1.12	Pest Control	2-8
2.1.13	Security for Facility	2-8
2.2	Water Quality.....	2-9
2.2.1	Water Source and Disposal.....	2-10
2.3	Water Quality Testing.....	2-11
2.3.1	Water Quality Tests	2-12
2.3.2	Frequency of Testing in Closed, Semi-open, or Open Systems.....	2-12
2.3.3	Chemical Additives.....	2-13
2.3.4	Water Circulation.....	2-13
2.3.5	Salinity	2-14
2.3.6	pH	2-14
2.3.7	Water Temperature	2-14
2.4	Quarantine.....	2-15
2.4.1	Prevention of Animal to Animal Transmission of Diseases	2-15
2.4.2	Prevention of Domestic Animal to Marine Mammal Transmission of Disease.....	2-16
2.4.3	Prevention of Wild Animal to Marine Mammal Transmission of Disease.....	2-16
2.4.4	Prevention of Marine Mammal to Domestic Animal Transmission of Disease.....	2-17
2.4.5	Prevention of Stranded Marine Mammal to Captive Marine Mammal Transmission of Disease	2-17
2.4.6	Methods to Reduce Spread of Disease from Animals Housed in Open Sea/Bay Pen Systems	2-17
2.4.7	Evaluation Requirements before Placing Marine Mammals Together	2-18
2.4.8	Zoonotic Considerations	2-18
2.4.9	Pre-Release Guidelines	2-19
2.5	Sanitation	2-19
2.5.1	Primary Enclosure Sanitation	2-19
2.5.2	Sanitation of Food Preparation Areas and Food Receptacles	2-20

2.6	Food, Handling, and Preparation	2-20
2.6.1	Diets and Food Preparation.....	2-20
2.6.2	Food Storage and Thawing	2-21
2.6.3	Supplements.....	2-22
2.6.4	Feeding	2-22
2.6.5	Public Feeding	2-22
2.6.6	Feed Records	2-22
2.7	Veterinary Medical Care.....	2-23
2.7.1	Veterinary Experience	2-23
2.7.2	Veterinary Program.....	2-24
2.8	Laboratory Tests and Frequency of Testing	2-25
2.9	Record Keeping and Data Collection	2-27
2.9.1	Record Keeping	2-27
2.9.2	Data Collection	2-28
2.10	Euthanasia.....	2-28
2.11	Health and Safety for Personnel	2-29
2.12	Contingency Plans	2-29
2.13	Viewing.....	2-30
2.14	Training and Deconditioning Behaviors.....	2-30
2.15	References.....	2-31
3.	FREQUENTLY ASKED QUESTIONS.....	3-1

Introduction

As part of the National Marine Fisheries Service (NMFS) Stranding Agreements, the Agency will require that all rehabilitation facilities meet the Minimum Standards presented in this document. The goal of this document is to set **MINIMUM** facility, husbandry, and veterinary standards for rehabilitating marine mammals in order to meet the prescribed NMFS Best Practices Marine Mammal Stranding Response, Rehabilitation, and Release - Standards for Release. Likewise some of the standards put forth in this document are based on the U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS) Animal Welfare Act (AWA) regulations which define minimum standards for permanent captive marine mammals. However, there are some differences between the two documents in that these standards were developed for temporary care and all age groups. **RECOMMENDED** Standards are included in some sections, and consist of facility design and operational suggestions for optimizing the rehabilitation success rate. Meeting or exceeding the recommended standards may be considered a goal to strive towards when upgrading existing, or designing new facilities or protocols.

It is the intent of NMFS to provide a reasonable process for facilities to be upgraded to meet the minimum standards set forth in this document. Substandard facilities may be improved using funds that may be available through the John H. Prescott Rescue Assistance Grant Program (Prescott Grant). Likewise Prescott Grant funds may also be used to improve facilities that meet minimum standards with the goal to achieve or exceed the recommended standards.

Health and safety practices are highly stressed in this document. NMFS expects that all personnel and volunteers to be trained to the **HIGHEST LEVEL** of responsibility they are assigned. Rehabilitation facilities are encouraged to comply with Occupational Safety and Health Administration regulations.

Purpose

The purpose of rehabilitation is to provide humane care for stranded marine mammals and to optimize the success of releasing the animals back to the wild. Defining a successful release encompasses many factors. As mandated by Title IV Section 402 (a) of the Marine Mammal Protection Act, NMFS has developed guidance and criteria for release based on optimizing the chances for survival and minimizing the risk to wild populations (NMFS/FWS BEST PRACTICES for Marine Mammal Stranding Response, Rehabilitation, and Release – Standards for Release). These facility standards have been developed to achieve the goals set forth by the Standards for Release.

This document is organized by taxa similar to the Standards for Release. While many aspects of rehabilitating cetaceans and pinnipeds that are the same, there are likewise many significant differences. Water quality, pool space and design, and handling debilitated animals are examples of the bigger differences between facility design and equipment required for rehabilitation of these animals. Rehabilitation of cetaceans requires more expensive facilities, as there must be larger, deeper pools available, salt water systems, and more elaborate filtration in closed system situations. While some facilities have adequate equipment and personnel to rehabilitate pinnipeds, they may not meet the standards required for the rehabilitation of cetaceans. Having two sets of guidelines allows NMFS the flexibility of issuing agreements specific to the types of animals that may be rehabilitated at each facility.

1. Standards for Cetacean Rehabilitation Facilities

1.1 Facilities, Housing, and Space

Pools for stranded cetaceans must be appropriate for the basic needs of the animal including keeping the skin moist, to providing buoyancy, and aiding thermoregulation. Debilitated cetaceans often cannot swim and may require assistance when first introduced to a rehabilitation pool. Cetaceans arriving in a debilitated condition may have needs requiring smaller pools than those that are able to swim and dive upon arrival. Choice of pool size may be important and is case specific. Although chances of survival may be improved if animals capable of swimming are given larger space, deeper pools may make it more difficult and stressful to catch an animal for feeding, hydration, and treatment. Likewise with multiple strandings, grouping animals by size, ability to swim, species, and health status may improve overall survival rates. Placing the larger, more robust animals in separate pools or swimming areas away from the smaller, less dominant and/or more debilitated animals may enhance the success of the rehabilitation efforts for the weaker animals. Species of cetaceans known to be social in nature should be housed with other compatible species. Social compatibility should be considered an important part of appropriate housing. Animals should be closely monitored when introduced to a pool and carefully evaluated for social compatibility.

It is up to the attending veterinarian, as defined in Section 1.7, and experienced rehabilitation staff, to decide how to house the animal most appropriately based on their observations and physical examination.

Each animal admitted to a rehabilitation center should be placed in a quarantine holding area and have a full health evaluation performed by the attending veterinarian. Sufficient quarantine time should be allowed for results from tests and cultures to be evaluated before the animal is placed with animals that are apparently disease free. Cetaceans with evidence of infectious disease must be quarantined (See Section 1.4 Quarantine).

During multiple or unusual stranding situations such as hazardous waste spills, catastrophic weather events, toxic algal blooms, or other events leading to unusually high morbidity, rehabilitation center personnel may need to adjust the number of animals that would be normally housed in each pool, bay or ocean pen. The attending veterinarian is responsible for assuring that the number of animals housed in one pool or pen will be appropriate based on the situation. The number of animals housed should be determined not only by the amount of pool space and size of the animals, but also by the number of qualified personnel available on a per animal basis. The recommended number of

personnel to animals less than 250 kg is 3:1 for critical care cetaceans; 2: 1 - 4 once stabilized, and 1:4 when animals are eating regularly and no longer require regular handling. Larger critical care cetaceans will require more personnel per animal.

Unweaned neonate cetaceans shall not be admitted for rehabilitation without prior approval of NMFS. Unweaned cetaceans, once rehabilitated, are frequently not suitable for release or require stringent release criteria to ensure humane treatment and a successful outcome. Prior to receiving an unweaned cetacean calf for rehabilitation, facility personnel must submit a plan to the NMFS regional coordinator which will include options and a timeline for decisions regarding disposition. In addition the plan will include options and criteria for release, considerations for permanent care, and euthanasia.

NMFS Regulation, U.S.C. 50 CFR 216.27(c)(5) states that marine mammals undergoing rehabilitation shall not be subject to public display. The definition of public display under U.S.C. 50 CFR “is an activity that provides opportunity for the public to view living marine mammals at a facility holding marine mammals captive.” (See Section 1.13 Viewing).

1.1.1 Space Requirements for Pool, Bay, or Ocean Pens

MINIMUM STANDARD

- All pools or pens must be deep enough for animal(s) to float and submerge and shall be available for all rehabilitating cetaceans. The diameter and depth of the pool for critical care animals is at the discretion of the attending veterinarian.
- Pool depth for non-critical animals (animals able to swim unassisted) must equal one-half the body length or 0.9 meters (3 feet), whichever is greater.
- Pools shall have a minimum horizontal dimension (MHD) of 7.3 meters (24 feet) or two times the actual length of the largest species housed in the pool, whichever is greater.
- Animals housed longer than 6 months must be provided with pools at least 1.5 meters (5 feet) deep and must meet the USDA, APHIS AWA MHD standards unless otherwise directed by the attending veterinarian. This should be documented and justified with a signed veterinary statement in the medical records.

RECOMMENDED

- Pools shall have a depth equal to the body length or 1.8 meters (6 feet), whichever is greater.

- Pools shall have a minimum horizontal dimension of 9.75 meters (32 feet) or two times the average adult length of the largest species in the pool, whichever is greater.

1.1.2 Pool or Pen Design

Pools or pens designed to maximize the ease of handling, and to limit the amount of time the cetacean spends out of water for husbandry or veterinary procedures may help to decrease the stress of handling. Pools designed with a deep and a shallow end work well because the cetaceans may stay in the deep end while the pool level is dropped. The animal requiring treatment may be moved to the shallow end and immediately placed back in the deep end when the treatment has been completed. Pools equipped with a false bottom that can be lifted are ideal because the animal can be caught quickly without dropping the level of the pool water and the animal may be immediately returned to the pool once treatments have been completed. False bottoms in bay or ocean pens will facilitate capture, since there is no convenient way to drop the water level in those situations. Pools equipped with lift-bottoms and/or multi-level pools are recommended, however lift bottoms must be carefully designed when being retrofitted to existing pools.

Scoop-net or trampoline methods may also be used for capture, where a net is placed on the pool or pen bottom under the swimming animal and it is lifted by multiple personnel using tag lines. While this method is an inexpensive alternative to a false floor it may not be suitable for multiple or large animals.

New rehabilitation pools should be designed and constructed to minimize introduction of anthropogenic noise from life-support equipment or other sources. This can be accomplished through sloping of walls, insulation with soil or other materials around the sides of the pool and/or through isolation of noise-generating equipment. Existing pools that do not meet these specifications may be allowed, or a retrofit may be requested if the pools are substandard to the point of becoming an animal welfare issue.

MINIMUM STANDARD

- Any shape pool that meets minimum space standard
- Construction materials
 - Open water pens shall optimally be constructed of plastic or other rigid netting.
 - If cotton or nylon netting material is used it must be small enough gage to prevent entanglement.

RECOMMENDED

- Pools with long axes that provide relief from constant turning while swimming
- Pools designed to promote good water circulation and to minimize anthropogenic noise.
- Single depth pool with false bottom that can be lifted

OR

- Pool with a sloping bottom where the water level may be dropped in the shallow end to facilitate treatment

OR

- Single or multi-depth pool with an adjoining “med pool” with a false bottom that can be lifted

OR

- Ability to drop a pool in less than 2 hours and refill it to a “swimming level” in less than 30 minutes

1.1.3 Shelter, Shading, and Lighting

Rehabilitation facilities located where there is inclement weather need to provide shelter to rehabilitating animals that may be exposed to extreme heat or cold. Cetaceans held in rehabilitation facilities may not have normal activity levels and thin animals may be unable to thermoregulate properly. These animals may require shade structures to protect them from direct sunlight and extreme heat, or shelter to protect them from extreme cold.

Animals held in indoor facilities should be provided with appropriate light and dark photoperiods which mimic actual seasonal conditions. Light provided in indoor facilities shall be of sufficient intensity to clearly illuminate the pool.

MINIMUM STANDARD

- Shade structures or shelters must be provided to animals when local climatic conditions could compromise the health of the animal.
- Shade structures, where necessary, shall be large enough to provide shade to at least 50% of the MHD surface area determined for the species held in the pool. MHD is defined as 7.3 meters (24 feet) or two times the actual length of the largest species housed in the pool, whichever is greater.
- Lighting should be appropriate for the species.

RECOMMENDED

- Full spectrum lights or a natural source of lighting for animals housed indoors.

- Removable or adjustable shade structures in pens to provide more natural sunlight to animals that are swimming and diving normally.

1.1.4 Critical Care Animals and Calves

Debilitated and ill cetaceans are often sedentary and tend to float at the surface for long periods of time. Some are unable to swim and dive. Some may require support in order to stay afloat enough to breathe regularly. Young calves may be weak and require assistance. Support may be provided by floatation devices attached to the animal or rehabilitation personnel supporting the animal utilizing a variety of methods. A shallow area that allows the animal to rest on the bottom while keeping its blowhole above the surface may also suffice. This shallow resting shelf must be of sufficient depth for larger animals (over 50 kg) to provide adequate buoyancy to prevent organ-crushing. Small cetaceans may also be supported in a stretcher that is hung within an open aluminum frame while maintaining the water depth at the midline of the animal. These animals must be protected from sun-related skin damage by providing them with shade or covering their exposed skin with an appropriate, non-desiccating sun block that allows proper thermoregulation. Exposed skin may be protected from desiccation with the use of emollients applied to the skin or a water spray.

MINIMUM STANDARD

- Ensure support is available via floatation devices, a shallow resting shelf, sloping beach, suspended stretcher system, or other support for critically ill or neonatal cetaceans that are weak and/or cannot swim normally.
- Monitor animals requiring support.
- Provide sufficient shade.
- Provide a water spray or method for keeping skin moist for cetaceans that cannot swim or dive.
- Control air temperature above the pool between 50 – 80° F when appropriate to facilitate recovery, protect rehabilitating animals from heat or cold extremes, and prevent discomfort.

NUMBER OF ANIMALS HOUSED IN EACH POOL

During multiple or unusual mortality event (UME) strandings the number of cetaceans received by the facility is limited not only by the number and size of the holding pools or pens, but the number of qualified trained rehabilitation staff members available to care for the animals. Due to the intensive 24 hour assistance required for critical care cetaceans, a minimum of two qualified trained staff members are necessary for each and every dependent cetacean on the premises. The maximum

number of animals maintained in each pool and onsite at the facility shall be determined by the attending veterinarian and dictated by the number of qualified staff available to care for the animals.

MINIMUM STANDARD

- Provide enough pool space for each animal to swim, dive, and maintain an individual distance of one body length from other animals housed in the same pool.
- Provide 2 qualified trained rehabilitation staff members for every critical care or dependent cetacean weighing less than 250 kg. Larger critical care cetaceans will require more personnel to handle each animal.
- Staff must be available on a 24-hour basis for critical animal care.
- Provide one trained staff member for every 3-4 cetaceans undergoing less critical periods of rehabilitation; during reconditioning or during counter-conditioning if training or desensitization was used for feeding stations, medical procedure desensitization or transport approximations.
- Provide one trained staff member for every five cetaceans that are eating regularly and do not require handling.

RECOMMENDED

- Provide enough pools or pool space to house multiple animals in accordance with the calculated space outlined in the APHIS AWA standards for captive cetaceans.
- Provide three qualified trained rehabilitation staff members for every critical care or dependent cetacean.
- Provide two trained staff members for every 1 – 4 cetaceans undergoing less critical periods of rehabilitation; during reconditioning; or prior to reintroduction.

1.1.5 Housekeeping

MINIMUM STANDARD

- Keep support buildings and grounds as well as areas surrounding rehabilitation pools clean and in good repair.
- Maintain perimeter fences in good repair, and ensure they are an adequate height and construction to keep people, animals, and pests out.
- Ensure primary enclosures housing marine mammals do not have any loose objects, sharp projections, and/or edges which may cause injury or trauma to the marine mammals contained therein.

- Objects introduced as environmental enrichment must be too large to swallow and made of non porous cleanable material that is able to be disinfected. Likewise items such as rub ropes shall be secured to prevent entanglement.
- All drains and overflows must have screened covers.
- Ensure there are no holes or gaps larger than ½ the size of the head diameter of the calf of the smallest species to be housed.

RECOMMENDED

- Coat all pool and haul-out surfaces with a non-porous, non-toxic, nondegradable cleanable material that is able to be disinfected.

1.1.6 Pest Control

MINIMUM STANDARD

- Establish and maintain a safe and effective program for the control of insects, avian and mammalian pests. This should include physical barriers to prevent feral and/or wild animals from contact with the rehabilitating animals.
- Insecticides or other such chemical agents shall not be applied in a primary enclosure housing marine mammals or a food preparation area except as authorized in writing by the attending veterinarian.
- If applied, all appropriate measures must be taken to prevent direct contact with the insecticide/pesticide, whether airborne or waterborne, by the animal.

1.1.7 Security for Facility

Stranded marine mammals often attract public attention and must be protected from excessive commotion and public contact. Ensuring a quiet stress-free environment for rehabilitating animals may improve their chance to recover and survive. Public viewing of marine mammals is discussed in Section 1.13 of this document.

MINIMUM STANDARD

- Locate rehabilitation facilities at sites that have the ability to be secured from the public.
- Prevent direct public contact with the rehabilitating animals but utilizing appropriate fencing, staff and security personnel.

RECOMMENDED

- Maintain 24- hour monitoring when animals are present or maintain a secure perimeter fence with the ability to lock the area off to the public when staff is not present.

1.2 Water Quality

Water quality is an essential part of keeping cetaceans healthy. Sick or debilitated cetaceans should be housed in pools filled with clean, appropriately treated saltwater to facilitate their recovery.

There are four basic types of water systems:

- Pools with filtration systems (closed systems)
- Pools without filtration systems (dump and fill systems)
- Pools with periodic influx of natural seawater (semi-open systems)
- Open water systems (flow-through pools, bay or sea pens)

There are a number of variables which will affect water quality. The number and size of cetaceans utilizing each pool will vary throughout the year at most rehabilitation facilities. During unusual stranding events the number of cetaceans utilizing one pool may increase dramatically, creating a heavier load of waste which must be handled by the filtration system in closed systems and by the amount of water flow-through in semi-open and open systems.

Filtration or life support systems are essential to maintaining clean water for animals held in closed or semi-closed systems. Life support systems have three basic parts; mechanical filters that remove solids, biological filters or baffles to remove or detoxify chemicals in the water, and disinfecting methods to control or remove pathogens. In addition to maintaining clean water in the animal pools, these systems may be needed to treat waste water, depending on waste water disposal requirements. If a temporary increase in waste production overwhelms part or all of the life support system, a good water quality control program will require alternative options.

The source of water used in closed systems generally is fresh water obtained from municipal sources whereas water in open and semi-open systems comes from a bay or sea source. Municipal fresh water must have salt added to increase the salinity to appropriate levels to maintain cetaceans. Water in closed systems must be regularly filtered through sand and gravel filters to remove particulate matter, and disinfectants such as chlorine or bromine are added at appropriate levels to eliminate pathogens. More elaborate systems utilize ozone to oxidize pathogens in the water.

Factors that affect water quality are:

- Size of pool or pen
- Efficiency of filtration system or water flow-through rate (tides)
- Water turnover rate
- Number, size and species of animals housed in pool or pen
- Nature and amount of food consumed by animals in pool or pen
- Nature of bottom substrate
- Frequency of cleaning the pool
- Types, amounts, and the frequency with which chemicals are added to the system
- Temperature of the water
- Pathogens in the water
- Biotoxins in open water pens or in pools where the source water comes from the ocean or bay
- Contaminants (oil, pesticides, etc.) in open water pens
- Hazardous waste spills
- Inclement weather
- Sunlight contributing to algae production on pool surfaces, which in turn can support bacteria.

1.2.1 Source and Disposal of Water

The water source for cetaceans housed in closed or semi-closed systems may be municipal water, well water, or water brought into the facility from an adjacent body of water or estuary.

MINIMUM STANDARD

- Salt water must be readily available to fill pools housing rehabilitating cetaceans unless otherwise directed by the attending veterinarian.
- Fresh water must be available to clean and wash down surrounding areas.
- For pools without adequate filtration systems, drain water from pools daily or as often as necessary to keep the pool water quality within acceptable limits.
- Discharge wastewater in accordance with state or local regulations. Facility managers must seek appropriate authorization to dispose of waste water. Documents of authorization or necessary permits must be kept on site as part of the administrative record and may be requested by NMFS as part of the NMFS Stranding Agreement.

- Chemicals, when necessary, shall be added in appropriate amounts to disinfect the water or adjust the pH, but not added in a manner that could cause harm or discomfort to the animals.
- Have contingency protocols describing how water quality will be maintained during periods of peak animal use.

RECOMMENDED

- Enough salt water must be available to completely fill pools within two hours of draining.
- Maintain a filtration system designed to optimize water quality in each holding pool and decrease water waste.

1.3 Water Quality Testing

It is important to test the water in which the animals live on a regular basis. Coliform bacterial counts are used to monitor the efficiency of the filtration system to eliminate potentially harmful bacteria. Coliform counts should be done at least once per week and more frequently if there are very large or multiple animals utilizing the pool. While coliform numbers may be described as Most Probable Number (MPN) per 100 ml, a more accurate method of measuring coliforms is to determine the total coliform count, or the fecal coliform count.

Temperature of the water is especially important if the animal lacks the ability to thermoregulate. Water may require heating or chilling to aid debilitated animals in their ability to maintain optimal body temperature. Water temperature regulation is not feasible in open water pens, but keeping track of the water temperature in sea pens may aid the staff in making husbandry decisions.

If coliform counts or the water temperature become too high in any system, measures must be taken to correct the problem in a timely manner. A partial-to-total water change may be necessary to correct the problem in a closed or semi-closed system. If the coliform counts are considered too high in sea or bay pens, efforts should be made to circulate clean sea water through the pens using pumps, paddles or other methods of moving water.

Chemicals added to the water may damage eyes and skin, therefore levels must be monitored daily. Emergency chemicals should be on hand such as sodium thiosulfate in case of the accidental hyperchlorination of a system. Salinity may also have an impact on the health of the skin and eyes, as well as the comfort level of the animal, and should be monitored regularly.

1.3.1 Water Quality Tests

MINIMUM STANDARD

- Measure coliform growth weekly.
- Total coliform counts must not exceed 500 per 100 ml or a MPN of 1000 coliform bacteria per 100 ml water. Fecal coliform counts are not to exceed 400 per 100 ml.
- If the above tests yield results that exceed the allowable bacterial count, then two subsequent samples must be taken to repeat the test(s) where the level(s) is/are exceeded. The second sample is to be taken immediately after the initial test result, while the third sample would be taken within 48 hours of the initial test.
- If the averaged value of the three test results still exceeds the allowable bacterial counts, the condition must be corrected immediately or the animals must be moved to a contingency facility.
- Maintain pH between 6.5 and 8.5.
- Maintain salinity between 24 - 35 ppt.
- Maintain the temperature of the water so that it falls within parameters appropriate for the species.
- Measure oxidant levels in systems which require use of a chemical disinfectant and/or ozone in the system (for closed systems).

RECOMMENDED

- Maintain pH between 7.2 and 8.2.
- Total Coliforms with blanks and controls, fecal Coliform, fecal Strep, and yeast count performed at least weekly.

1.3.2 Frequency of Testing in Closed, Semi-Open, or Open Systems

MINIMUM STANDARD

- Measure water temperature, pH, salinity, chemical additives (if applicable) daily in all pools.
- Measure coliform counts weekly; and more frequently at the discretion of the attending veterinarian.

RECOMMENDED

- If ozone systems are used, measure ozone levels regularly in the animal pools. Ozone levels shall not exceed 0.02 mg/liter.

- Test source and discharge water at least once per day or more frequently for “flow through” systems.
- Maintain records for tests with time, level and results – reviewed and signed monthly by the attending veterinarian.

1.3.3 Chemical Additives

Total chlorine = Free chlorine + combined chlorine.

MINIMUM STANDARD

- Maintain total chlorine below 1.5 ppm, where the combined chlorine shall not exceed 50% of the total chlorine
- All additives must be recorded
- pH may be adjusted chemically – for example – pH may be raised with sodium carbonate, or soda ash; or lowered with HCl or CO₂; but not added in a manner that could cause harm or discomfort to the animals.
- Maintain Material Safety Data Sheet (MSDS) information and signage as well as appropriate handling equipment for the addition of chemicals.

1.3.4 Water Circulation

The amount of water turnover through the filtration system in a closed or semi-open system is important to maintain water quality by removing organic waste and particulate matter. Likewise the amount of water movement through an open water pen is also important in the maintenance of water quality. Generally, adequate tidal action will result in the equivalent of two complete water changes per day.

MINIMUM STANDARD

- Maintain sufficient turnover of water through the filtration system in closed or semi-open systems to keep the water quality at or above acceptable limits, with a minimum of two complete water changes per day.
- Ensure methods for moving water (water paddles, pumps, spray devices) are available to aerate and move water in open water pens with insufficient flow of tides or water through the enclosures. These methods should be sufficient to provide the equivalent of two water changes per day.

RECOMMENDED

- A minimum full water turnover rate of every four hours for each pool in closed or semi-open systems.

1.3.5 Salinity

Acceptable salinity levels are dependant on the species and condition of the cetacean and the duration of the stay. Most species of cetaceans require a salinity level greater than 24 ppt in order to maintain healthy skin and eyes. Occasionally the attending veterinarian may chose to house the cetacean in fresh or nearly fresh water for a period not exceeding 3 days. Reasons for maintaining cetaceans in fresh or brackish water should be noted in the veterinary record and signed by the veterinarian. Some species of cetacean are better adapted to live in brackish water and may do well in lower salinity levels than other species.

MINIMUM STANDARD

- Maintain salinity levels over 24 ppt unless a written veterinary plan calls for lower salinity levels, or if the animals are housed in sea pens nearby their resident range.

RECOMMENDED

- Ideal salinity levels should approach natural ocean salinity levels (30 – 33 ppt) but acceptable industry standards suggest maintaining cetaceans in water with salinity levels over 24 ppt.

1.3.6 pH

MINIMUM STANDARD

- Maintain pH in a range between 6.5 to 8.5.

RECOMMENDED

- Maintain pH between 7.2 –8.2.

1.3.7 Water Temperature

Many species of cetaceans are adapted to maintain normal body temperatures when living in a broad range of water temperatures. Healthy *Tursiops* have been housed successfully in water ranging from 50° to 80° F. Atlantic white-sided dolphins fail to thrive in water over 80° F and North Atlantic harbor porpoise do best in 45 to 65° F. Some warmer water species, such as a Vaquita, will require

consistent warm water environments. It is therefore important to know if the species being rehabilitated comes from a polar, temperate or tropical climate. It is of equal importance to know the temperature range of water in their primary habitat. Young, underweight, and debilitated animals may also require warmer water than found in their primary habitat.

Cetaceans such as bottlenose dolphins adjust their blubber thickness seasonally in response to water temperature. This must be considered when readying rehabilitated animals for release. Therefore animals should be acclimated to an appropriate seasonal water temperature prior to release.

MINIMUM STANDARD

- Hold water temperatures within the normal seasonal habitat temperature range for the species under rehabilitation unless otherwise authorized by the attending veterinarian in writing.
- Provide methods to heat and maintain warm water environments for species that require it, or for debilitated individuals that are incapable of maintaining appropriate body temperature.
- Monitor the temperature of water being heated or cooled.
- Design water systems to minimize the chance of rehabilitating cetaceans from becoming hyperthermic or hypothermic.

RECOMMENDED

- Monitor blubber thickness ultrasonically.

1.4 Quarantine

Cetaceans brought to a rehabilitation facility have no medical history and may carry diseases communicable to other marine mammals, other animals, or humans. Likewise, these animals are often debilitated and may suffer from a variety of illnesses which may compromise their immune systems making them susceptible to diseases from other animals and/or the rehabilitation environment. Quarantine areas must be available and proper biosecurity protocols must be in place for all incoming animals at rehabilitation facilities.

Direct contact between the general public and cetaceans undergoing rehabilitation should be avoided because of the zoonotic risk from pathogens carried by marine mammals. There have been documented cases of *Brucella*, *Erysipelothrix*, and *Blastomyces* being passed from cetaceans to humans.

Listed on the following website (see <http://www.vetmed.ucdavis.edu/whc/mmz/>) are numerous other potentially zoonotic marine mammal pathogens. See also: *2004 UC Davis Wildlife Health Center Report for the Marine Mammal Commission – Assessment of the Risk of Zoonotic Disease Transmission to Marine Mammal Workers and the Public: Survey of Occupational Risks.*

MINIMUM STANDARD

Maintain sufficient quarantine facilities and space for appropriate quarantine of incoming animals or for holding animals with contagious diseases.

1.4.1 Prevention of Animal to Animal Transmission of Diseases

- Quarantine all new animals in a separate dedicated quarantine area and provide pools that can be isolated with the use of dividers, tarps, or physical space from the rest of the animal housing areas.
- Have separate filtration and water flow systems for pools in quarantine/isolation areas.
- Use dedicated protective clothing for personnel.
- Use foot baths, glove baths, and methods to disinfect clothing, wet suits, or exposure suits between handling animals within quarantine area and outside of quarantine area.
- Maintain equipment and tools strictly dedicated to the quarantine areas.
- Provide dividers between pens and pools that prevent washdown or splash from moving from one pool to another.
- Provide sufficient space; ideally greater than 20 feet or 6 meters; or solid barriers between animal enclosures to prevent direct contact – including splashed pool water and airborne disease transmission.
- Ensure sufficient air turnover in indoor facilities to prevent transmission of disease. Air turnover should be enough to prevent build-up of heat or chemical fumes and provide a method of bringing fresh air into the facility. There should be sufficient venting or openings to allow movement of air throughout the facility.
- Implement specific quarantine and sanitation procedures to prevent transmission of disease through fomites (personnel, clothing, equipment).
- Thoroughly clean and disinfect buckets, hoses, scales, transport equipment, and cleaning equipment that is moved between animal areas to prevent transmission of pathogens via fomites.
- Place open water pens so effluent is not near water intake.

- Require evaluation and written veterinary approval before placing animals together after quarantine period has been met.

RECOMMENDED

- Provide separate air handling system in indoor facilities.
- Clean and disinfect quarantine pools between uses.

1.4.2 Prevention of Domestic Animal to Marine Mammal Transmission of Disease

- Ensure appropriate fencing and placement of holding pens prevents direct contact between rehabilitating cetaceans and domestic animals.
- Prohibit personal pets from entering the facility and facility grounds. Pets must stay outside the perimeter fence at all times.
- Place foot baths at the entry and exit of animal areas.
- Require quarantine and sanitation protocols are followed to prevent transmission of disease through fomites such as wet suits and equipment.

1.4.3 Prevention of Wild Animal to Marine Mammal Transmission of Disease

- Ensure perimeter fencing will prevent wildlife from entering the rehabilitation premises.
- Provide appropriate rodent and bird control on the premises. Ensure net pens and lagoon areas have sufficient secondary fencing to keep wildlife from coming in direct contact with the animals housed in the net pens.

1.4.4 Prevention of Marine Mammal to Domestic Animal Transmission of Disease

- Provide appropriate perimeter fencing.
- Require animal personnel to change contaminated clothing and/or disinfect before leaving the rehabilitation premises.
- Require that specific quarantine and sanitation procedures are taken to prevent transmission of disease through fomites such as clothing and equipment.

1.4.5 Prevention of Stranded Marine Mammal to Captive Marine Mammal Transmission of Disease

- Train volunteers and staff to follow appropriate quarantine protocols.
- Establish quarantine protocols that take into consideration the changing status of the stranded animal.
- Establish traffic flow so that volunteers or staff working with stranded animals do not inadvertently travel into a collection animal area.
- Establish decontamination protocols before volunteers or staff members exposed to stranded animals may enter a collection animal area.
- Establish separate restrooms, showers, changing rooms, food preparation areas, etc. for staff and volunteers working with rehabilitating vs. collection animals. Food for rehabilitating animals may be prepared in the collection animal kitchen and taken to the rehabilitation animal area, however any bucket, feed implement or other item must be thoroughly disinfected before it may return to the collection animal area.

1.4.6 Methods to Reduce Spread of Disease from Animals Housed in Open Sea/Bay Pen Systems

- Consideration of substrate, water depth and public access when selecting a site for a sea or bay pen.
- Placement of pens in a secluded area where wild animals and marine mammals are unlikely to come into direct contact with the animals housed in the sea/bay pens; nets should be sufficiently rigid to prevent entanglement by mammals or fish.
- Placing a second set of perimeter nets 10 meters from the sea/bay pens to prevent direct contact with wild marine mammals.
- Do not place sea/bay pens within 1000 meters of any major outflow of storm drains or sewage treatment plants and consider the flow direction or current from these major outflows.
- Place the sea/bay pens over 500 meters and downstream from water intake pipes that bring water into facilities that house marine mammals.
- Place pens in an area where there is ample flow-through of tides/currents.
- Ensure the pens are of sufficient size to minimize biomatter build-up. Each cetacean should be housed in a pen that has a minimum depth of half of their body length, and a minimum horizontal dimension of 24 feet or two full body lengths, whichever is greater.

- Avoid overcrowded pens. Animals may fight with each other when housed too closely together. Likewise they must be able to swim and dive normally to maintain optimal muscle condition.
- Have equipment to pump or aerate the water in pens that do not have sufficient tidal action to ensure a minimum of two complete water changes per day.
- Place pens in areas where there is sufficient depth to enhance water circulation and reduce pathogen build-up. Daily coliform testing will determine if pathogen build-up exists.
- Place quarantine pens such that tidal action or underwater currents will not flow through sea pens housing healthy animals.

1.4.7 Evaluation Requirements Before Placing Marine Mammals Together

- Complete blood count (CBC)/Chemistries, appropriate cultures, physical examination before moving animals out of quarantine area.
- Review current NMFS recommendations on diseases of concern (i.e. Morbillivirus) and reportable disease (i.e. Brucella and West Nile virus).
- Consider screening for morbillivirus, herpes virus, Brucella, Leptospira, and Toxoplasma utilizing the most current diagnostic tests available.
- If animals are part of a UME, then screening for diseases must be more thorough and in direct coordination with NMFS and through UME coordinators.
- Have contingency plan for animals that are carriers of or actively infected with reportable disease such as brucellosis, herpes virus, leptospirosis, toxoplasmosis, and morbillivirus.

1.4.8 Zoonotic Considerations

- Restrict public access and direct contact with cetaceans due to zoonosis potential and public health hazard of non-trained individuals interacting with sick and injured marine mammals.
- Train staff and personnel about how to prevent contracting zoonotic diseases.
- Train staff and personnel working directly with stranded cetaceans how to recognize symptoms of zoonotic disease.
- Provide safety equipment such as protective clothing, eye protection and face masks.
- Provide eye flushing stations as used with hazardous materials (HAZMAT) or normal saline bottles to irrigate the eyes.
- Staff with open wounds shall not enter the pool of animals carrying potentially infectious diseases.

- Persons with disabilities, respiratory conditions, infectious diseases or infectious skin conditions shall not enter pools with rehabilitating cetaceans.
- Train staff the basics of sanitation and properly handling contaminated equipment.

1.4.9 Pre-Release Guidelines

- Pre-release health screens and serologic requirements are directed by the NMFS Regional Stranding Coordinator, in coordination with Marine Mammal Health and Stranding Response Program.

1.5 Sanitation

MINIMUM STANDARD

1.5.1 Primary Enclosure Sanitation

- Remove animal and food waste in areas other than the rehabilitation pool from the rehabilitation enclosure at least daily, and more often when necessary to prevent contamination of the marine mammals contained therein and to minimize disease hazards.
- Remove particulate animal and food waste from rehabilitation/exercise pools at least once daily, but as often as necessary to maintain water quality and to prevent increased health hazards to the marine mammals that use the pools.
- Remove trash and debris from pools as soon as it is noticed, to preclude ingestion or other harm to the animals.
- Clean the walls and bottom surfaces of the rehabilitation/exercise pools as often as necessary to maintain proper water quality.
- Prevent animals from coming in direct contact with disinfectants or aerosolized disinfectants from spray or cleaning hoses.

RECOMMENDED

- Empty and allow pools to dry once each year but dry and hyperchlorine pool bottoms and walls after each use by sick cetaceans.

1.5.2 Sanitation of Food Preparation Areas and Food Receptacles

- Use separate food preparation areas and supplies for rehabilitation vs. collection animals.

- Clean food containers such as buckets, tubs, and tanks, as well as utensils, such as knives and cutting boards, or any other equipment which has been used for holding, thawing or preparing food for marine mammals after each feeding with detergent and hot water and sanitize with an appropriate disinfectant approved for use in food areas at least once a day.
- Clean kitchens and other food handling areas where animal food is prepared after every use, and sanitize at least once weekly using standard accepted sanitation practices.
- Store substances such as cleaning and sanitizing agents, pesticides and other potentially toxic agents in properly labeled containers away from food preparation areas.
- Post MSDS “right to know” documents for staff utilizing cleaning and animal treatment chemicals and drugs.

1.6 Food, Handling, and Preparation

During rehabilitation food for marine mammals shall be wholesome, palatable, free from contamination, and of sufficient quantity and nutritive value to allow the recovery of the animals to a state of good health. Live fish may be fed during rehabilitation but preferences should be given to native prey species. Live fish may contain parasites which could infect compromised animals. Feeding regimens should simulate natural patterns in terms of frequency and quantity to the extent possible while following a prescribed course of medical treatment. Most cetaceans feed repeatedly during a given day.

1.6.1 Diets and Food Preparation

MINIMUM STANDARD

- Prepare the diets with consideration for age, species, condition, and size of marine mammals being fed.
- Feed cetaceans a minimum of three times a day, except as directed by a qualified veterinarian or when following professionally accepted practices.
- Diets reviewed by a nutritionist and the attending veterinarian.
- Train staff to recognize good and bad fish quality.
- Feeding live fish may be required for release determination. See NMFS Standards for Release Guidelines for more information regarding feeding live fish.
- Food receptacles should be cleaned and sanitized after each use. Food preparation and handling should be conducted so as to minimize bacterial or chemical contamination and to ensure the wholesomeness and nutritive value of the food.

RECOMMENDED

- Feeding patterns should simulate natural patterns in terms of frequency and quantity which may require food to be offered 5 – 10 times daily.

1.6.2 Food Storage and Thawing

MINIMUM STANDARD

- Frozen fish or other frozen food shall be stored in freezers which are maintained at a maximum temperature of 0° F (-18°C).
- The length of time food is stored and the method of storage, as well as the thawing of frozen food should be conducted in a manner which will minimize contamination and which will assure that the food retains optimal nutritive value and wholesome quality until the time of feeding.
- Freezers should only contain fish for animal consumption. Human food or specimens should not be placed in the fish freezer.
- Experienced staff should inspect fish upon arrival to ensure there are no signs of previous thawing and re-freezing, and check temperature monitoring devices in the transport container. The fish shipment should be refused or the fish discarded if temperature fluctuations occurred during transport.
- Freezers shall be of sufficient size to allow for proper stock rotation.
- All foods shall be fed to the marine mammals within 24 hours following the removal of such foods from the freezers for thawing.
- If the food has been thawed under refrigeration it must be fed to marine mammals within 12 hours of complete thawing.
- When fish is thawed in standing or running water, the coldest available running water must be used to prevent excess bacterial growth.
- To ensure optimal quality of the fish, and to prevent bacterial overgrowth, do not allow fish to reach room temperature or sit in direct sunlight.
- The thawed fish shall be kept iced or refrigerated until a reasonable time before feeding. This time will vary with ambient temperature.
- Prepared formula should be fed immediately or refrigerated and fed to the marine mammals within 24 hours of preparation. Formula, once heated to an appropriate temperature for a feed, shall be discarded if it is not consumed within one hour.

RECOMMENDED

- Calculate kilocalories of each type of fish or food items fed to each animal daily.
- Conduct food analysis for protein, fat and water content of each lot of fish used.
- Culture the slime layer from the fish lot prior to thawing for *Erysipelothrix*.

1.6.3 Supplements

MINIMUM STANDARD

- Each animal shall receive appropriate vitamin supplementation which is sufficient and approved in writing by the attending veterinarian.

1.6.4 Feeding

MINIMUM STANDARD

- Food, when given to each marine mammal individually or in groups, must be given by personnel who have the necessary training and knowledge to assure that each marine mammal receives and eats an adequate quantity of food to maximize its recovery or maintain good health. Such personnel is required to recognize deviations in each animal being rehabilitated such that intake can be adjusted and/or supplemented accordingly.

1.6.5 Public Feeding

MINIMUM STANDARD

- Public feeding of animals that are being rehabilitated is **strictly** prohibited.
- Feeding must be conducted only by qualified, trained personnel.

1.6.6 Feed Records

MINIMUM STANDARD

- Maintain feed records on each individual animal noting the actual (not an estimate) individual daily consumption for each animal by specific food type.
- Weigh food before and after each feeding and the record the amount consumed.
- Obtain girth measurements at least weekly at the level of the axilla and the anterior insertion of the dorsal fin. Girth measurements are generally less stressful to obtain than weighing the animal.

1.7 Veterinary Medical Care

All rehabilitation facilities shall have an attending veterinarian. The attending veterinarian is critically involved in making decisions regarding medical care as well as housing and husbandry of resident and newly admitted patients.

1.7.1 Veterinary Experience

MINIMUM STANDARD

The attending veterinarian shall:

- Assume responsibility for diagnosis, treatment, and medical clearance for release or transport of marine mammals in rehabilitation (50 CFR 216.27).
- Ability to provide a schedule of veterinary care that includes a review of husbandry records, visual and physical examinations of all the marine mammals in rehabilitation, and a periodic visual inspection of the facilities and records.
- Be available to examine animals on a regular schedule and emergency basis; daily if necessary.
- Be available to answer veterinary questions on a 24 hour basis.
- Have marine mammal experience or be in regular consultation with a veterinarian who has marine mammal experience and have access to a list of expert veterinarians to contact for assistance.
- Have an active veterinary license in the United States (means a person who has graduated from a veterinary school accredited by the American Veterinary Medical Association Council on Education, or has a certificate issued by the American Veterinary Graduates Association's Education Commission for Foreign Veterinary Graduates).
- Have the skills to be able to draw blood from, and give injections to the species most commonly encountered at the rehabilitation center.
- Be available to examine animals immediately upon admittance to a facility.
- Be available to assess animals during a mass stranding.
- Have contingency plan for veterinary backup.
- Have a drug license and the ability to obtain necessary medications for the animals housed at that rehabilitation facility.
- Be able to conduct a full post-mortem examination on all species of cetaceans treated at the facility.
- Be knowledgeable and able to perform cetacean euthanasia.

- Be knowledgeable about species-specific pharmacology.
- Must certify in writing that animals are fit for transport.
- Ability to write and submit timely disposition recommendations for marine mammals in rehabilitation.
- Be knowledgeable of marine mammal zoonotic diseases.

RECOMMENDED

All of the above plus:

- Membership in the International Association for Aquatic Animal Medicine.
- Have access to a current version of the CRC “Handbook of Marine Mammal Medicine”
- Complete a course that offers basic medical training with marine mammals such as Seavet, Aquavet or MARVET.
- Have a minimum of one year of clinical veterinary experience post graduation.
- Have at least one year clinical experience working with the marine mammal type(s) most frequently admitted to the rehabilitation facility
- Be full time employees or contracted veterinarian of record at facilities managing an average of 10 cetacean cases per year.

1.7.2 Veterinary Program

MINIMUM STANDARD

- Veterinary care for the animals must conform with any State Veterinary Practice Act or other laws governing veterinary medicine which applies to the state in which the facility is located.
- Standard operating procedures should be reviewed and signed off by the attending veterinarian every 6 months and may be reviewed by NMFS as part of the NMFS Stranding Agreement or as part of inspections.
- Staff caring for animals should be sufficiently trained to assist with veterinary procedures under the direction of the veterinarian
- Veterinary decisions shall be based on “best practices” (i.e., based on informed opinions and expertise of veterinarians practicing marine mammal medicine).
- A schedule of veterinary care which includes a review of husbandry records, visual and physical examinations of the animals, and a visual inspection of the facilities should be implemented.

- A health and safety plan for the staff shall be written and accessible at all times. It shall be reviewed by the attending veterinarian annually or as prescribed by the NMFS Stranding Agreement. Staff will be familiar with the plan. The plan shall include protocols for managing bite wounds.

The following reports may be requested annually by NMFS as required under the NMFS Stranding Agreement or as a part of inspections:

- Standard Operating Procedure (SOP) reviews
- Health and Safety Plan reviews
- Animal acquisitions and dispositions
- National Oceanic and Atmospheric Administration (NOAA) Form 89864, Office of Management and Budget (OMB) #0648-0178 (Level A data)
- NOAA Form 89878, OMB#0648-0178 (Marine Mammal Rehabilitation Disposition Report)
- Case summaries for any rehabilitation performed at a facility, including narrative descriptions of the cases as well as spreadsheets of treatments, blood values, etc.

1.8 Laboratory Tests and Frequency of Testing

Recommendations for tests will be issued each year by the NMFS stranding coordinator in each region as outlined in the Marine Mammal Health and Stranding Response Program. NMFS must be provided adequate time and information including a veterinary certificate of health before an animal is released as directed in 50 CFR 216.27 (see NMFS release guidelines).

1.8.1 Laboratory Testing

MINIMUM STANDARD

- CBC/Serum Chemistry- All animals shall have a minimum of two blood samples drawn for CBC with differential and serum chemistry upon admission and prior to release (see NMFS Release Guidelines).
- Fecal analysis for parasites - Fecal tests for parasites shall be run upon admission of each animal at the discretion of the attending veterinarian.
- Serology as necessary for release determination based on direction of the NMFS stranding coordinator and the Marine Mammal Health and Stranding Program and for additional clinical diagnosis as deemed appropriate by the attending veterinarian.

- The administration of drugs with potential adverse side-effects may require additional testing. For example, the use of ototoxic antibiotics may require subsequent testing of hearing abilities of the animal prior to consideration for release.
- The attending veterinarian or a trained staff member shall perform a necropsy on every animal that dies within 24 hours of death.
- Carcass disposal shall be handled in a manner consistent with local and state regulations.
- Perform histopathology on select tissues from each animal that dies at the discretion of the attending veterinarian. A complete set of all major tissues should be evaluated if the animal dies of an apparent infectious disease process.
- Culture and other diagnostic sampling shall be conducted as directed by the attending veterinarian to determine the cause of stranding or death.
- Contact NMFS for additional laboratory test requirements in all cases of unusual mortality outbreaks or disease outbreaks. More complete testing may be required for diseases of concern.
- Serologic assays may only go to labs that have validated tests approved by NMFS, especially for release decisions or determinations.
- Notify NMFS within 24 hours of diagnosis of reportable diseases.
- NMFS must be provided adequate time and information (including vet certificate of health) before animal is released in all cases as directed in 50 CFR 216.27 (see NMFS Standards for Release).

RECOMMENDED

- Complete necropsy performed by the attending veterinarian or a pathologist.
- Full histopathology done on tissues from each animal that dies of apparent infectious disease.
- Bank 1cc of serum per blood draw in -80° F freezer.
- Bank heparinized plasma (green top) tube in -80° F one per animal.
- Reproductive status shall be evaluated upon admission and prior to release through analysis of serum progesterone and estrogen levels in females, and testosterone in males. Elevated hormone values in females upon admission will require re-sampling within the first two weeks to assess pregnancy. Monitoring by means of monthly blood sample collection and analysis through the course of rehabilitation is strongly advised. If possible, sampling will be done in conjunction with ultrasonic examination of reproductive tracts.

1.9 Record Keeping and Data Collection

Record keeping is an essential part of the rehabilitation process. Not only do accurate and complete medical records for each stranded cetacean allow the staff to provide consistent and optimal care for each animal, but retrospective records help scientists and veterinarians to make better evaluations on how to treat individuals.

1.9.1 Record Keeping

MINIMUM STANDARD

- Record and report the “Marine Mammal Stranding Report - Level “A””.
- Complete the require NMFS Marine Mammal Rehabilitation Disposition Report NOAA 89-878, OMB #0648-0178.as in accordance with the NMFS Stranding Agreement
- Maintain and update individual medical records daily on each animal at the rehabilitation center.
- Individually identify each animal with unique field number.
- Keep an accurate description of the animal, including identification/tag number, date and location of stranding, sex, weight, and length at stranding.
- Subjective, objective, assessment and plan (SOAP) based records are preferred.
- Include food intake and medication administered to each animal in the daily records.
- Weight
 - a. Recorded weekly for underweight cetacean calves or as authorized in writing by the attending veterinarian.
 - b. Taken as often as possible for underweight animals without causing undue stress to the animal.
 - c. Recorded on admission and prior to release for larger cetaceans.
- Measure body weight, girths (axilla and anterior insertion of the dorsal fin) and standard straight-line and length upon admission, and within one week of release/placement.
- Measure blubber thickness (ultrasonically) at standard sites upon admission, and monitor monthly throughout the course of rehabilitation, with a goal of matching blubber to seasonal water temperatures.
- Weigh the animal as practical, keeping in mind that obtaining the weight of the animal may be stressful.
- Record all treatments, bloodwork, test and results and daily observations in the medical records.

- Maintain individual medical records for each animal. Medical records remain on site where the animal is housed and are available for NMFS review upon request as stated in the NMFS Stranding Agreement.
- Maintain medical records on site for a minimum of 15 years.
- Maintain up to date water quality records.
- Maintain life support system maintenance records.
- Maintain records of water quality additives.

RECOMMENDED

- Full set of standard morphometrics prior to release.
- Photographic documentation, identifying marks, lesions.
- Caloric value of daily food intake calculated and recorded for each animal each day
- Daily weight of calves or emaciated animals at the discretion of the attending veterinarian.
- Maintain food acquisition and analysis records.
- Maintain “paper copy” archive of required NMFS records.

1.9.2 Data Collection

MINIMUM STANDARD

- Written documentation of the medical history, food and observation records must be kept.
- NMFS Required Forms to be completed:
 - a. Marine Mammal Stranding Report – Level A (NOAA 89-864, OMB #0648-0178)
 - b. Marine Mammal Rehabilitation Disposition Report (NOAA 89-878, OMB #0648-0178)

RECOMMENDED

- Computerized documentation with hard copies.
- Ability to network with other institutions.
- Maintain real-time accessible compiled comparative data.

1.10 Euthanasia Protocols

MINIMUM STANDARD

- Each institution must have a written euthanasia protocol signed by the attending veterinarian.

- Persons administering the euthanasia must be knowledgeable and trained to perform the procedure.
- Maintain a list of individuals authorized to perform euthanasia signed by the veterinarian.
- Euthanasia shall be performed in a way to minimize distress in the animal.
- Refer to both American Veterinary Medical Association euthanasia standards and the CRC Press Handbook of Marine Mammal Medicine.
- Appropriate drugs for euthanasia in appropriate amounts for the largest species admitted to the facility shall be maintained in stock on site in an appropriate lockbox or under the control of a licensed veterinarian with a current Drug Enforcement Administration (DEA) license.
- Drugs for euthanasia shall be kept with an accurate inventory system in place.
- DEA laws and regulations and any applicable State Veterinary Practice Acts must be followed when using controlled drugs.
- NMFS may request this information (protocols and DEA number) as part of the NMFS Stranding Agreement.

1.11 Health and Safety Plans for Personnel

There shall be a health and safety plan on site at each rehabilitation facility that identifies all health and safety issues that may be factors when working closely with wild marine mammals. The plan should identify all potential zoonotic diseases as well as including safety plans for the direct handling of all species and sizes of cetaceans seen at that facility. Rehabilitation facilities are encouraged to comply with Occupational Safety and Health Administration regulations.

MINIMUM STANDARD

- Identify all potential zoonotic diseases in a written document available to all personnel.
- Include safety plans for the direct handling of all species and sizes of cetaceans seen at that facility.
- Include safety plan for dealing with handling any untreated discharge water.

1.12 Contingency Plans

Contingency plans shall be in place at each facility and may be required by NMFS as part of the NMFS Stranding Agreement. NMFS may require approved variances or waivers prior to planned projects such as construction, and NMFS may not allow rehabilitation efforts to occur under some

circumstances. These plans should address in detail the operation of the facility and care of the animals under the following conditions:

- Inclement weather plan, including a hurricane/big storm plans where appropriate.
- Construction in the vicinity of the animal rehabilitation pools recognizing the potential and documented adverse impacts of construction on cetaceans, and including specific reference to how noise, dust, debris, and construction worker access will be controlled, how and how frequently animal health will be monitored, and specific criteria for when construction shall be halted or the animals will be moved to another site out of the construction area if the animals appear to be adversely impacted.
- Power outages, including plans of how to maintain frozen fish stores and life support systems.
- Water shortages.
- “Acts of God” plan which may include floods, earthquakes, hurricanes or other unpredictable problems known to occur on occasion in the region where the facility is located.

1.13 Viewing

NMFS Regulation, U.S.C. 50 CFR 216.2(c)(5) states that marine mammals undergoing rehabilitation shall not be subject to public display. The definition of public display under U.S.C. 50 CFR “an activity that provides opportunity for the public to view living marine mammals at a facility holding marine mammals captive”. Only remote public viewing will be allowed and only when there is no possible impact of the public viewing on the animals being rehabilitated. A variance or waiver will be required by NMFS for facilities planning to offer public viewing of any marine mammal undergoing rehabilitation.

1.14 Training and Deconditioning Behaviors

Basic behavioral conditioning of wild cetaceans for husbandry and medical procedure may be warranted during rehabilitation as long as every effort is made to limit reinforced contact with humans. Such conditioning may reduce stress for the animal during exams and acquisition of biological samples. Conditioning may assist with appetite assessment and ensuring that each animal in a group receives the appropriate amount and type of diet and medications.

In some cases, extensive contact with humans, including training, may benefit resolution of the medical case by providing mental stimulation and behavioral enrichment, and may facilitate medical

procedures. The relative costs and benefits of training should be evaluated by the staff veterinarian, and the likelihood of contact with humans following release should be considered.

Behavioral conditioning of cetaceans must be done for the shortest time necessary to achieve rehabilitation goals and is to be eliminated prior to release such that association of food rewards with humans is diminished. If an animal has become accustomed to hand-feeding or boat-following, the animal may approach humans after release. Therefore, these behaviors should be deconditioned or counter-conditioned before the animals can be considered for release. Most behaviors will extinguish through lack of reinforcement, but some may require more concentrated efforts.

Training for research that is above and beyond the scope of normal rehabilitation practices can be approved on a case-by case basis under a NMFS scientific research permit. An exception can be made if the attending veterinarian, facility, and NMFS officials all agree that the research will not be detrimental to the animals' health and welfare and will not impede their ability to be successfully released back to the wild.

2. Standards for Pinniped Rehabilitation Facilities

2.1 Facilities, Housing, and Space

Pools for stranded pinnipeds must be appropriate for the basic needs of the animal including buoyancy and thermoregulation. Debilitated pinnipeds often cannot swim and will avoid water if offered, preferring a haul-out space to a pool. Pinnipeds arriving in a debilitated condition have different needs and may not require pools initially. If no pool is provided to the animal, means of keeping it wet and protected from direct sunlight is essential. The upper critical temperature of California sea lions is lower than most land-dwelling mammals at 24°C (75°F) and with limited thermoregulatory ability, they have special habitat needs in captivity. While dry sea lion coats absorb about 74% and wet California sea lion coats absorb almost 92% of all types of shortwave radiation respectively, a California sea lion with a wet coat exposed to direct sunlight could easily overheat on a hot day if there were no other method to cool the animal. (Langman *et al.*, 1996).

Social compatibility should be considered as a part of appropriate housing. Pinnipeds known to be social should be housed with compatible species whenever possible. Placing larger, more robust animals in separate pens, away from the smaller, weaker, or less dominant animals may enhance the success of the rehabilitation efforts for the weaker animals.

It is up to the attending veterinarian and experienced rehabilitation staff, to decide how to house the animal most appropriately based on their experience, observations, and physical examination.

Each animal admitted to a rehabilitation center should be placed in a quarantine holding area and have a full health evaluation performed by the attending veterinarian. Sufficient quarantine time should be allowed for results from tests and cultures to be evaluated before the animal is placed with animals that are apparently disease free. Pinnipeds with evidence of infectious disease must be quarantined (See Section 2.4 Quarantine).

During multiple or unusual stranding situations such as hazardous waste spills, catastrophic weather events, toxic algal blooms, or other events leading to unusually high morbidity or mortality, rehabilitation centers may need to adjust the number of animals that would be normally housed in each pen, pool, or bay or ocean pen. The attending veterinarian will be responsible for assuring that numbers of animals housed in one pool or pen will be appropriate based on the situation. The number of qualified animal care personnel available to care for the animals could be a limiting factor on how many animals may be housed at each facility.

Care should be taken when hand rearing neonatal otariids, as some species frequently imprint on their caregivers rendering them unsuitable for release. A plan for placing animals in a permanent captive environment should be in place in advance for pinniped pups that are ultimately deemed unreleasable.

NMFS Regulation, U.S.C. 50 CFR 216.2(c)(5) states that marine mammals undergoing rehabilitation shall not be subject to public display. The definition of public display under U.S.C. 50 CFR is “an activity that provides opportunity for the public to view living marine mammals at a facility holding marine mammals captive.” (See Section 2.13 Viewing).

2.1.1 Pool Requirements

MINIMUM STANDARD

- Pools shall be available for all pinnipeds under rehabilitation. Critical care animals may be temporarily held without water access at the discretion of the attending veterinarian.
- Pools shall be deep enough for each animal to completely submerge, and shall be at least 0.91 meters or 3 feet deep. An exception to this would be temporary pools for young pups or debilitated animals.
- Pools shall be large enough in diameter to allow each animal housed therein to swim.

RECOMMENDED

- Pools shall have a MHD of 1 meter or 1.5 x the length of the largest animal utilizing the pool, whichever is larger.
- The minimum surface area of the pool shall be at least equal to the dry resting area required by USDA, APHIS AWA standards except for ill animals or young pups at the discretion of the veterinarian.
- The pool shall be at least 0.91 meters deep or ½ the actual length of the longest species contained therein, whichever is greater. Parts of the pool that do not meet the minimum depth requirement cannot be used in the calculation of the dry resting and social activity area, or as part of the MHD or required surface area of the pool.
- Facilities where numerous pinnipeds are rehabilitated consistently each year should be equipped with at least one pool and haul-out area that meet APHIS standards for at least one adult of the species where one or more per year strands as adults. If adult pinnipeds are commonly rehabilitated, facilities should be designed to accommodate at least the average number of adult-sized animals that strand each year.

2.1.2 Dry Resting Area

MINIMUM STANDARD

- 1 to 2 animals; area of dry resting area = 2 x (length of the longest animal)².
- Three or more animals in the same enclosure require the minimum space for two animals and, in addition, enough space for the animals to lay separately with at least one body length from one another, to turn around completely, and to move at least two body lengths in one direction.
- The facility must have the ability to house adult males separately from one another.
- Animals may be temporarily housed in smaller areas at the discretion of the veterinarian. Minimum space required will be appropriate for the age or medical condition of the animal.
- Critical care animals and young pups may be temporarily supplied smaller pools and less dry resting area.

RECOMMENDED

- Three or more animals in the same enclosure: (length of each animal)² x number of animals in enclosure = number of square feet of required dry resting area (DRA).

2.1.3 Pool or Pen Design

New rehabilitation pools should be designed and constructed to minimize introduction of anthropogenic noise from life-support equipment or other sources. This can be accomplished through sloping of walls, insulation with soil or other materials around the sides of the pool and/or through isolation of noise-generating equipment. A special exception may be granted by NMFS if existing pools do not meet these specifications and a retrofit is not feasible as long as animal welfare is maintained.

MINIMUM STANDARD

- Pools or pens shall be designed for ease of cleaning and handling the animals.
- Open water pens shall optimally be constructed of plastic or other rigid netting.
- If cotton or nylon netting material is used it must be small enough gage to prevent entanglement.

RECOMMENDED

- Pools designed to promote good water circulation and to minimize anthropogenic noise.
- Ability to drop a pool in less than 2 hours and refill it to a “swimming level” in less than 30 minutes.

2.1.4 Length of Stay and How it Affects Space

Facilities which handle adult animals that are kept for periods longer than six months but less than one year should meet USDA APHIS AWA standards. However the actual length of each animal may be used for each DRA calculation rather than the adult length. After one year holding must meet APHIS standards.

2.1.5 Shelter, Shading, and Lighting

Animals housed at rehabilitation facilities must be provided with shelter to prevent exposure to extreme heat or cold. Pinnipeds held in rehabilitation facilities may not have normal activity levels and thin animals may be unable to thermoregulate properly. These animals may require shade structures to protect them from direct sunlight and extreme heat, or shelter to protect them from cold temperatures or inclement weather. Animals held in indoor facilities should be provided with appropriate light and dark photoperiods which mimic actual seasonal conditions.

MINIMUM STANDARD

- Provide shade structures or shelters to animals to aid thermoregulation when local climatic conditions could compromise the health of the animal.
- Provide shade and/or water spray to all pinnipeds that cannot swim and are housed in areas where ambient air temperatures reach > 80° F (26.6° C).
- Lighting in indoor facilities shall be appropriate for the species and shall clearly illuminate the DRA and pool during daylight hours.

RECOMMENDED

- All of the above, and a source of natural or full spectrum light for animals housed indoors.
- Removable or adjustable shade structures in pens to provide more natural sunlight to animals that are swimming and diving normally.

2.1.6 Air Temperature

MINIMUM STANDARD

- Attention to ambient air temperature and humidity should be considered to facilitate recovery, protect rehabilitating animals from extremes of heat or cold, and to prevent discomfort.
- Method to raise or lower air temperature, as appropriate to maintain proper body temperature should be available. Access to full shade, constant water sprays and fans may be used for animals

that have no access to pools during times when the ambient temperature exceeds 85°F (29.4°C). Likewise heating devices may be utilized when temperatures fall below the comfort level of the animal, which will be determined by the species, age, and body condition of the animal.

- Large fans or “swamp coolers” available to move air across animals with no access to pools when ambient temperatures reach over 85°F (29.4°C).

RECOMMENDED

- Provide temperature-controlled shelter or holding space for critical care animals or pups.
- Monitor temperature of additional heaters such as heating pads infrared heaters and heat lamps. Animals should be able to move away from point source heaters. If animals are too debilitated to move, temperature of heaters can not exceed the safe range of 50-80°F at skin surface or animals must be monitored every 4 hours.

2.1.7 Housing for Critical Care Animals

Debilitated and ill pinnipeds are often sedentary and haul out or float at the surface of a pool for long periods of time. Young pups may be weak and require assistance moving in and out of pools. A shallow area that allows the animal to rest on the bottom with gradually sloping sides or a ramp equipped with a gripping surface to allow ease in entering and exiting the pool are considered optimal.

MINIMUM STANDARD

- Individual dry haul out space or individual enclosures shall be appropriate in size for the most common species of pinnipeds rehabilitated routinely at the facility.
- Housing for critically ill animals that will provide shelter from the extremes of heat or cold, and will provide heat as appropriate for animals held in cold climates.
- Access to shallow water and/or water spray for all pinnipeds as advised by the attending veterinarian.
- Structurally separate facility to quarantine incoming animals until the attending veterinarian determines them to be free from contagious disease (See Section 2.4 Quarantine).

RECOMMENDED

All of the above minimum standards, plus:

- Individual enclosures for each critical care animal where the dry resting area = (length of the animal)².
- Housing which provides optimal temperature control for critically ill animals (heating and/or air conditioning).

2.1.8 Housing of Pups

Pups of all species have special housing and management needs and require careful monitoring when introducing them to pools. Premature pups may require more time than full-term pups before introducing them to water.

MINIMUM STANDARD

Phocids less than 1 week old:

- Individual housing with fully supervised access to shallow water (< 0.5 meters deep) pools. Full supervision may stop when animals demonstrate ability to swim and haul out.

Otariids less than 3 weeks old:

- Individual housing or housing with similarly sized pups with fully supervised access to shallow water pools (< 0.5 meters deep) Full supervision may stop when animals demonstrate ability to swim and haul out.
- Access to raised Platforms in dry resting areas for pups of all ages so they are not required to lay on concrete or other hard/cold surfaces. Platforms must be low enough for easy access yet high enough to allow the floor to dry under platform. Platforms should be made of material with a sealed cleanable surface and designed to allow for waste to pass through.

RECOMMENDED

- All of the above and with pools designed with a gently sloping side/beach area with “gripping surface” to allow pups to easily haul out without assistance.

2.1.9 Housing of Older Pups

Full term phocids greater than 1 week old and otariids greater than three weeks old

MINIMUM STANDARD

- House pups with similar conspecific age group.
- House pups as individuals or groups with frequent or constant access to deeper water (> 0.5 meters deep).
- Provide a platform or shallow shelf in each pool that allows pups to easily haul out on their own.
- Provide platforms in dry resting areas allowing pups an alternative to laying on concrete or other hard/cold surfaces (as above).

RECOMMENDED

- Provide a pool designed with a gently sloping side leading to a level beach area that allows pups to easily haul out.

2.1.10 Number of Animals Housed in Each Pen/Pool

During UME strandings, the number of pinnipeds received by the facility is limited not only by the number and size of the holding pools or pens, but the number of qualified trained rehabilitation staff members available to care for the animals. The maximum number of animals maintained in each pool and onsite at the facility shall be determined by the attending veterinarian and dictated by the number of qualified staff available to care for the animals.

MINIMUM STANDARD

- Provide a minimum of three qualified trained rehabilitation staff members on site for the first 25 pinnipeds housed at the facility, and two more trained rehabilitation staff members for every additional 25 pinnipeds. More staff will be required when animals are housed simultaneously in quarantine holding and recovering animal holding areas. Staff must be available on a 24-hour basis for critical animal care.

2.1.11 Housekeeping

MINIMUM STANDARD

- Keep support buildings and grounds as well as areas surrounding rehabilitation pools clean and in good repair.
- Maintain perimeter fences in good repair, and ensure they are an adequate height and construction to keep people and animals and pests out.

- Ensure primary enclosures housing marine mammals do not have any loose objects, sharp projections, and/or edges which may cause injury or trauma to the marine mammals contained therein.
- No holes or gaps larger than ½ the size of the head diameter of the pup of the smallest species to be housed.
- All drains and overflows must have screened covers.
- Objects introduced as environmental enrichment must be too large to swallow and made of non porous cleanable material.

RECOMMENDED

- Coat all pool and haul-out surfaces with a non-porous, non-toxic, nondegradable cleanable material that is able to be disinfected.

2.1.12 Pest Control

MINIMUM STANDARD

- Establish and maintain a safe and effective program for the control of insects, avian and mammalian pests. This should include physical barriers to prevent feral and/or wild animals from contact with the rehabilitating animals.
- Insecticides or other such chemical agents shall not be applied in a primary enclosure housing marine mammals or a food preparation area except as authorized in writing by the attending veterinarian.
- If applied, all appropriate measures must be taken to prevent direct contact with the insecticide/pesticide, whether airborne or waterborne, by the animal.

2.1.13 Security for Facility

Stranded marine mammals often attract public attention and must be protected from excessive commotion and public contact. Ensuring a quiet stress-free environment for rehabilitating animals may improve their chance to recover and survive. Public viewing of marine mammals is discussed in Section 2.13 of this document.

MINIMUM STANDARD

- Locate rehabilitation facilities at sites that are able to be secured from the public.

- Prevent direct public contact with the rehabilitating animals by utilizing appropriate fencing, staff and security personnel.

RECOMMENDED

- Maintain 24- hour monitoring when animals are present or maintain a secure perimeter fence with the ability to lock the area off to the public when staff are not present.

2.2 Water Quality

There are four basic types water systems:

- Pools with filtration systems (closed systems)
- Pools without filtration systems (dump and fill systems)
- Pools with periodic influx of natural seawater (semi-open systems)
- Open water systems (Bay or sea pens).

There are a number of variables which will affect water quality. The number and size of pinnipeds utilizing each pool will vary throughout the year at most rehabilitation institutions. During the busy season or during unusual stranding events, the number of pinnipeds utilizing one pool may increase dramatically creating a heavier load of waste which must be handled by the filtration system in closed systems and by the amount of water flow-through in semi-open and open systems. A life support system is used as one tool in a program of water quality maintenance to provide safe and clean water to the animals.

Filtration or life support systems are essential to maintaining clean water for animals held in closed or semi-closed systems. Life support systems have three basic parts; mechanical filters that remove solids, biological filters or baffles to remove or detoxify chemicals in the water, and disinfecting methods to control or remove pathogens. In addition to maintaining clean water in the animal pools, these systems may be needed to treat waste water, depending on waste water disposal requirements. If a temporary increase in waste production overwhelms part or all of the life support system, a good water quality control program will require alternative options.

Water used in closed systems generally is fresh water obtained from municipal sources, whereas water in open and semi-open systems comes from a bay or sea source. Water in closed systems must be regularly filtered through sand and gravel filters to remove particulate matter, and disinfectants

such as chlorine or bromine may be added to eliminate pathogens. More elaborate systems utilize ozone to oxidize pathogens in the water.

Factors that affect water quality are:

- Size of pool or pen
- Efficiency of filtration system or water flow-through rate (tides)
- Water turnover rate
- Number, size and species of animals housed in pool or pen
- Type and amount of food consumed by animals in pool or pen
- Nature of bottom substrate
- Frequency of cleaning the pool
- Types, amounts, method and the frequency with which chemicals are added to the system
- Temperature of the water
- Pathogens in the water
- Biotoxins in open water pens or in pools where the source water comes from the ocean or bay
- Contaminants (oil, pesticides, etc.) in open water pens
- Hazardous waste spills
- Inclement weather
- Sunlight contributing to algae production on pool surfaces, which in turn can support bacteria.

2.2.1 Water Source and Disposal

The water source for pinnipeds housed in closed or semi-closed systems may be municipal water, well water, or water brought into the facility from an adjacent body of water or estuary.

MINIMUM STANDARD

- Fresh or salt water must be readily available to fill pools, and fresh water to clean and wash down holding pens daily.
- Drain water from pools daily, or as often as necessary to keep the pool water quality within acceptable limits.
- Discharge waste water in accordance with state or local regulations. Facility managers must seek appropriate authorization to dispose of waste water. Documents of authorization or necessary permits must be kept on site as part of the administrative record and may be requested by NMFS as part of the NMFS Stranding Agreement.

- Chemicals, when necessary, shall be added in appropriate amounts to disinfect the water or adjust the pH, but not added in a manner that could cause harm or discomfort to the animals.
- Have contingency protocols describing how water quality will be maintained during periods of peak animal use.
- Water will be clear enough to see animals and bottom of pool and free from obvious solid waste and noxious odors.

RECOMMENDED

- Fresh or ideally salt water must be available to fill pools within two hours of draining.
- Maintain a filtration system designed to optimize water quality in each holding pool and decrease water waste.
- Ability to dechlorinate fresh water for species which require this (i.e. fur seals).
- Protocols in place for maintenance of water quality throughout the year.
- Testing of source and discharge water.

2.3 Water Quality Testing

It is important to test the water in which the animals live on a regular basis. Coliform bacterial counts are used to monitor the efficiency of the filtration system to eliminate potentially harmful bacteria. Coliform counts should be done at least once per week and more frequently if there are very large or multiple animals utilizing the pool. While coliform numbers may be described as Most Probable Number (MPN) per 100 ml, a more accurate method of measuring coliforms is to determine the total coliform count, or the fecal coliform count.

Temperature of the water is especially important if the animal lacks the ability to thermoregulate. Water may require heating or chilling to aid debilitated animals in their ability to maintain optimal body temperature, although debilitated pinnipeds are likely to haul out, in such case the water temperature becomes less important. Water temperature regulation is not feasible in open water pens, but keeping track of the water temperature in sea pens may aid the staff in making husbandry decisions. If coliform numbers or the water temperature becomes too high in any system, measures must be taken to correct the problem in a timely manner. A partial-to-total water change may be necessary to correct the problem in a closed or semi-closed system. If the coliform counts are considered too high in sea or bay pens, efforts should be made to circulate clean sea water through the pens using pumps, paddles or other methods of moving water.

Chemicals added to the water may damage eyes and skin and must be monitored daily. Salinity, when utilized for rehabilitating pinnipeds, may also have an impact on the health of the skin and eyes, as well as the comfort level of the animal, and should be monitored regularly. Emergency chemicals should be on hand such as sodium thiosulfate in case of the accidental hyperchlorination of a system.

2.3.1 Water Quality Tests

MINIMUM STANDARD

- Measure coliform growth weekly.
- Total coliform counts must not exceed 500 per 100 ml or a MPN of 1000 coliform bacteria per 100 ml water. Fecal coliform counts are not to exceed 400 per 100 ml.
- If the above tests yield results that exceed the allowable bacterial count, then two subsequent samples must be taken to repeat the test(s) where the level(s) is/are exceeded. The second sample is to be taken immediately after the initial test result, while the third sample would be taken within 48 hours of the initial test.
- If the averaged value of the three test results still exceeds the allowable bacterial counts, the condition must be corrected immediately or the animals moved to a contingency facility.
- Maintain pH between 6.5 and 8.5.
- Maintain the temperature of the water so that it falls within parameters appropriate for the species, generally between 50-80°F.
- Measure oxidant levels in systems which require use of a chemical disinfectant and/or ozone in the system (for closed systems).

RECOMMENDED

- Maintain pH between 7.2-8.2.
- Total Coliforms with blanks and controls, fecal Coliform, fecal Strep, and yeast count performed weekly or as needed.

2.3.2 Frequency of Testing in Closed, Semi-open, or Open Systems

MINIMUM STANDARD

- Measure water temperature, pH, salinity (if applicable), chemical additives (if applicable) daily in all pools.
- Measure coliform counts weekly; and more frequently at the discretion of the attending veterinarian.

RECOMMENDED

- If ozone systems are used, measure ozone levels regularly in the animal pools. Ozone levels shall not exceed 0.02 mg/liter.
- Test source and discharge water at least once per day (more frequently for “flow through” systems).
- Maintain records for tests with time, level and results – reviewed and signed monthly by the attending veterinarian.

2.3.3 Chemical Additives

Total chlorine = Free chlorine + combined chlorine.

MINIMUM STANDARD

- Maintain total chlorine below 1.5 ppm, where the combined chlorine shall not exceed 50% of the total chlorine.
- All additives must be recorded.
- pH may be adjusted chemically – for example – pH may be raised with sodium carbonate, or soda ash; or lowered with HCl or CO₂; but not added in a manner that could cause harm or discomfort to the animals.
- Maintain MSDS information and signage as well as appropriate handling equipment for the addition of chemicals.

2.3.4 Water Circulation

The amount of water turnover through the filtration system in a closed or semi-open system is important to maintain water quality by removing organic waste and particulate matter. Likewise the amount of water movement through an open water pen is also important in the maintenance of water quality. Generally, adequate tidal action will result in the equivalent of two complete water changes per day.

MINIMUM STANDARD

- Maintain sufficient turnover of water through the filtration system in closed or semi-open systems to keep the water quality at or above acceptable limits, with a minimum of two complete water changes per day.

- Ensure methods for moving water (water paddles, pumps, spray devices) are available to aerate and move water in open water pens with insufficient flow of tides or water through the enclosures. These methods should be sufficient to provide the equivalent of two water changes per day.

RECOMMENDED

- A minimum full water turnover rate of every four hours for each pool in closed or semi-open systems.

2.3.5 Salinity

Pinnipeds under rehabilitation may be housed in fresh water. However salinity may play a part in eye health, may enhance wound healing, or may be desirable in some other instances. In some cases animals will drink fresh water which may aid in rehydration. Placing animals in water of appropriate salinity shall be left to the discretion of the attending staff in consultation with the attending veterinarian.

2.3.6 pH

MINIMUM STANDARD

- pH shall be held in a range between 6.5 to 8.5.

RECOMMENDED

- Maintain pH between 7.2 –8.2.

2.3.7 Water Temperature

MINIMUM STANDARD

- Hold water temperatures within the normal habitat temperature range for the species under rehabilitation or as authorized in writing by the attending veterinarian.
- Provide methods to heat and maintain warm water environments for species that require it, or for debilitated or critically ill individuals that are incapable of maintaining appropriate body temperature.
- Monitor temperature of water being heated or cooled.

2.4 Quarantine

Pinnipeds brought to a rehabilitation facility have no medical history and may carry diseases communicable to other marine mammals, other animals, or humans. Likewise, these animals are often debilitated and may suffer from a variety of illnesses which may compromise their immune systems making them susceptible to diseases from other animals. Quarantine areas must be available and proper biosecurity protocols must be in place for all incoming animals at rehabilitation facilities.

Direct contact between the general public and pinnipeds undergoing rehabilitation should be avoided because of the zoonotic risk of some organisms carried by marine mammals. There have been documented cases of Brucella, Leptospira, Mycoplasma (Seal Finger), San Miguel Sea Lion Virus, Influenza A, and Sealpox, being passed from pinnipeds to humans.

Listed on the following website (see <http://www.vetmed.ucdavis.edu/whc/mmz/>). are numerous other potentially zoonotic marine mammal pathogens. See also: *2004 UC Davis Wildlife Health Center Report for the Marine Mammal Commission – Assessment of the Risk of Zoonotic Disease Transmission to Marine Mammal Workers and the Public: Survey of Occupational Risks*

2.4.1 Prevention of Animal to Animal Transmission of Diseases

MINIMUM STANDARD

- Quarantine all new animals in a separate dedicated quarantine area and provide pens/pools that can be isolated with the use of dividers, tarps, or physical space from the rest of the animal housing areas.
- Provide dividers between pens and pools that prevent washdown or splash from moving from one pool or pen to another.
- Use dedicated protective clothing for personnel- including eye shields or safety glasses and gloves.
- Use foot baths, glove baths, and methods to disinfect clothing between handling animals within quarantine area and outside of quarantine area.
- Maintain equipment and tools strictly dedicated to the quarantine areas.
- Provide sufficient space or solid-surfaced barriers between animal enclosures to prevent direct contact between animals.
- Provide sufficient air turnover in indoor facilities to prevent transmission of disease. Air turnover should be enough to prevent build-up of heat and provide a method of bringing fresh air into the

facility. There should be sufficient venting or openings to allow movement of air throughout the facility.

- Implement specific quarantine and sanitation procedures to prevent transmission of disease through fomites (e.g., clothing, equipment):
 - Thoroughly clean and disinfect buckets, hoses, scales, transport equipment, and cleaning equipment that is moved between animal areas to prevent transmission of pathogens via fomites.
- Place open water pens so effluent is not near water intake.
- Require evaluation and written veterinary approval before placing animals together after quarantine period has been met.

RECOMMENDED

- Provide separate air handling system in indoor facilities.
- Separate entries to quarantine areas with no crossover with the rest of the facility.
- Clean and disinfect quarantine areas between uses.

2.4.2 Prevention of Domestic Animal to Marine Mammal Transmission of Disease

- Ensure appropriate fencing and placement of holding pens to prevent direct contact between rehabilitating pinnipeds and domestic animals.
- Prohibit personal pets within outermost perimeter of facility.
- Require that specific quarantine and sanitation procedures are taken to prevent transmission of disease through fomites such as clothing and equipment.
- Use dedicated carriers for pinnipeds – carriers should not be used for other mammals or birds unless they are thoroughly scrubbed and disinfected between uses.

2.4.3 Prevention of Wild Animal to Marine Mammal Transmission of Disease

- Ensure perimeter fencing will prevent wildlife from entering the rehabilitation premises.
- Provide rodent control on the premises.
- Ensure net pens and lagoon areas have sufficient secondary fencing to keep wildlife from coming in direct contact with the animals housed in the net pens.

2.4.4 Prevention of Marine Mammal to Domestic Animal Transmission of Disease

- Provide appropriate perimeter fencing.
- Require animal personnel to change contaminated clothing and/or disinfect before leaving the rehabilitation premises.
- Require that specific quarantine and sanitation procedures are taken to prevent transmission of disease through fomites such as clothing and equipment.
- Follow appropriate release guidelines.

2.4.5 Prevention of Stranded Marine Mammal to Captive Marine Mammal Transmission of Disease

- Train volunteers and staff to follow appropriate quarantine protocols.
- Establish quarantine protocols that take into consideration the changing status of the stranded animal.
- Establish traffic flow so that volunteers or staff working with stranded animals do not inadvertently travel into a collection animal area.
- Establish decontamination protocols before volunteers or staff members exposed to stranded animals may enter a collection animal area.
- Establish separate restrooms, showers, changing rooms, food preparation areas, etc. for staff and volunteers working with rehabilitating vs. collection animals. Food for rehabilitating animals may be prepared in the collection animal kitchen and taken to the rehabilitation animal area, however any bucket, feed implement or other item must be thoroughly disinfected before it may return to the collection animal area.

2.4.6 Methods to Reduce Spread of Disease from Animals Housed in Open Sea/Bay Pen Systems

- Place pens in a secluded area where wild animals and marine mammals are unlikely to come into direct contact with the animals housed in the sea/bay pens.
- Place a second set of perimeter nets 30 feet from the sea/bay pens to prevent direct contact with wild marine mammals. Nets should be sufficiently rigid to prevent entanglement by mammals or fish.
- Do not place sea/bay pens within 1000 meters any major outflow of storm drains or sewage treatment plants and consider the flow direction or current from these major outflows.

- Place the sea/bay pens 500 meters and downstream from water intake pipes that bring water into facilities that house marine mammals.
- Place pens in an area where there is ample flow-through of tides/currents.
- Ensure the pens are of sufficient size to minimize biomatter build-up. Each pinniped should be housed in a pen that has a minimum depth of half of their body length, and a minimum horizontal dimension of two full body lengths.
- Avoid overcrowded pens. Animals may fight with each other when housed too closely together.
- Have equipment to pump or aerate the water in pens that do not have sufficient tidal action to ensure a minimum of two complete water changes per day.
- Place pens in areas where there is sufficient depth to enhance water circulation and reduce pathogen build-up. Daily coliform testing will determine if pathogen build-up exists.
- Place quarantine pens such that tidal action or underwater currents will not flow through sea pens housing healthy animals.

2.4.7 Evaluation Requirements before Placing Marine Mammals Together

- CBC/Chemistries, appropriate cultures, physical examination before moving animals out of quarantine area.
- Review current NMFS recommendations on diseases of concern and reportable disease such as morbillivirus.
- Consider screening for morbillivirus, herpes virus, brucellosis, leptospirosis, and toxoplasmosis utilizing the most current diagnostic tests available.
- If animals are part of an Unusual Mortality Event, then screening for diseases must be more thorough and in direct coordination with NMFS and the UME On-site Coordinators.
- Have contingency plan for animals that are actively infected with or carriers of a reportable disease such as brucellosis, leptospirosis, toxoplasmosis, herpes virus, and morbillivirus.

2.4.8 Zoonotic Considerations

- Restrict public access and direct contact with pinnipeds due to zoonosis potential and public health hazard of untrained individuals interacting with sick and injured marine mammals.
- Train staff and personnel about how to prevent contracting zoonotic diseases.
- Train staff and personnel working directly with stranded pinnipeds how to recognize symptoms of zoonotic disease.

- Train staff the basics of sanitation and properly handling contaminated equipment.
- Provide appropriate safety equipment such as protective clothing, eye protection and face masks to all staff who may be exposed to zoonotic diseases.
- Provide eye flushing stations as used with HAZMAT or normal saline bottles to irrigate the eyes.
- Staff with open wounds shall not handle animals carrying potentially infectious diseases without appropriate precautions to protect their wound(s).

2.4.9 Pre-Release Guidelines

- Pre-release health screens and serologic requirements are determined by the NMFS Regional Stranding Coordinator and the Marine Mammal Health and Stranding Response Program (See NMFS Best Practices for Marine Mammal Stranding Response, Rehabilitation, and Release – Standards for Release).

2.5 Sanitation

2.5.1 Primary Enclosure Sanitation

MINIMUM STANDARD

- Remove animal and food waste in areas other than the rehabilitation pool from the rehabilitation enclosure at least daily, and more often when necessary to prevent contamination of the marine mammals contained therein and to minimize disease hazards.
- Remove particulate animal and food waste, trash, or debris that enter rehabilitation/exercise pens or pools at least once daily, but as often as necessary to maintain water quality and to prevent increased health hazards to the marine mammals that use the pools.
- Remove trash and debris from pools as soon as it is noticed, to preclude ingestion or other harm to the animals.
- Clean the walls and bottom surfaces of the rehabilitation/exercise pens and pools as often as necessary to maintain a clean environment and proper water quality.
- Ensure appropriate disinfectants mixed to recommended dilutions are utilized to clean pens, equipment, utensils, and feed receptacles and to place in foot baths. These disinfectants should have both bacteriocidal and virocidal qualities.
- Rotate disinfectants on a regular basis to prevent bacterial resistance.
- Prevent animals from coming in direct contact with disinfectants or aerosol from spray or cleaning hoses (i.e., water splashed from floor).

RECOMMENDED

- Empty and allow pools to dry once each year but dry and hyperchlorinate pool bottoms and walls and haul-out areas after each use by sick pinnipeds.

2.5.2 Sanitation of Food Preparation Areas and Food Receptacles

- Use separate food preparation areas and supplies for rehabilitation vs. collection animals.
- Clean food containers such as buckets, tubs, and tanks, as well as utensils, such as knives and cutting boards, or any other equipment which has been used for holding, thawing or preparing food for marine mammals after each feeding, and sanitize at least once a day. Equipment should be cleaned with detergent and hot water, sanitized and dried before reuse.
- Clean kitchens and other food handling areas where animal food is prepared after every use, and sanitize at least once weekly using standard accepted sanitation practices.
- Store substances such as cleaning and sanitizing agents, pesticides and other potentially toxic agents in properly labeled containers away from food preparation areas.
- Post MSDS “right to know” documents for staff utilizing cleaning and animal treatment chemicals and drugs.

2.6 Food, Handling, and Preparation

During rehabilitation food for marine mammals shall be wholesome, palatable, free from contamination, and of sufficient quantity and nutritive value to allow the recovery of the animals to a state of good health. Live fish may be fed during rehabilitation but preferences should be given to native prey species. Live fish may contain parasites which could infect compromised animals. Feeding regimens should simulate natural patterns in terms of frequency and quantity to the extent possible while following a prescribed course of medical treatment. Most pinnipeds feed several times during a given day

2.6.1 Diets and Food Preparation

MINIMUM STANDARD

- Prepare the diets with consideration for age, species, condition, and size of marine mammals being fed.
- Feed pinnipeds a minimum of twice a day, except as directed by a qualified veterinarian or when following professionally accepted practices.

- Diets reviewed by a nutritionist and the attending veterinarian.
- Train staff to recognize good and bad fish quality.
- Feeding live fish may be required for release determination. See NMFS Standards for Release for more information regarding feeding live fish.
- Food receptacles should be cleaned and sanitized after each use. Food preparation and handling should be conducted so as to minimize bacterial or chemical contamination and to ensure the wholesomeness and nutritive value of the food.

2.6.2 Food Storage and Thawing

- Frozen fish or other frozen food shall be stored in freezers which are maintained at a maximum temperature of 0° F (-18° C).
- The length of time food is stored and the method of storage, as well as the thawing of frozen food should be conducted in a manner which will minimize contamination and which will assure that the food retains optimal nutritive value and wholesome quality until the time of feeding.
- Freezers should only contain fish for animal consumption. Human food or specimens should not be placed in the fish freezer.
- Experienced staff should inspect fish upon arrival to ensure there are no signs of previous thawing and re-freezing, and check temperature monitoring devices in the transport container. The fish shipment should be refused, or fish should be discarded if temperature fluctuations occurred during transport.
- Freezers shall be of sufficient size to allow for proper stock rotation.
- All foods shall be fed to the marine mammals within 24 hours following the removal of such foods from the freezers for thawing.
- If the food has been thawed under refrigeration it must be fed to marine mammals within 12 hours of complete thawing.
- When fish is thawed in standing or running water, the coldest available running water must be used to prevent excess bacterial growth.
- To ensure optimal quality of the fish, and to prevent bacterial overgrowth, do not allow fish to reach room temperature or sit in direct sunlight.
- The thawed fish shall be kept iced or refrigerated until a reasonable time before feeding. This time will vary with ambient temperature.

- Prepared formula should be fed immediately or refrigerated and fed to the marine mammals within 24 hours of preparation. Formula, once heated to an appropriate temperature for a feed, shall be discarded if it is not consumed within one hour.

RECOMMENDED

- Calculate kilocalories of each type of fish or food items fed to each animal daily.
- Conduct food analysis for protein, fat and water content of each lot of fish used.

2.6.3 Supplements

MINIMUM STANDARD

- Each animal shall receive appropriate vitamin supplementation which is sufficient and approved in writing by the attending veterinarian.
- Salt supplements shall be given to pinnipeds housed in fresh water as necessary and as approved by the attending veterinarian.

2.6.4 Feeding

Food, when given to each marine mammal individually or in groups, must be given by an employee or trained personnel who has the necessary training and knowledge to assure that each marine mammal receives an adequate quantity of food to maximize its recovery or maintain good health. Such personnel are required to recognize deviations in each animal being rehabilitated such that food intake can be adjusted accordingly.

2.6.5 Public Feeding

MINIMUM STANDARD

- Public feeding is not allowed for animals that are being rehabilitated.
- Feeding must be conducted only by qualified, trained rehabilitation staff members.

2.6.6 Feed Records

MINIMUM STANDARD

- Maintain feed records for each individual animal noting the individual (not an estimate) daily consumption by specific food type.
- Weigh food before and after each feeding and the record the amount consumed.

- Weigh the animal as practical, keeping in mind that obtaining the weight of the animal may be stressful.
- If weighing the animal is not an option, obtain the girth measurement at the level of the axilla if possible.

2.7 Veterinary Medical Care

All rehabilitation facilities shall have an attending veterinarian. The attending veterinarian is critically involved in making decisions regarding medical care as well as housing and husbandry of resident and newly admitted patients.

2.7.1 Veterinary Experience

MINIMUM STANDARD

The attending veterinarian shall:

- Assume responsibility for diagnosis, treatment, and medical clearance for release or transport of marine mammals in rehabilitation (50 CFR 216.27).
- Ability to provide a schedule of veterinary care that includes a review of husbandry records, visual and physical examinations of all the marine mammals in rehabilitation, and a periodic visual inspection of the facilities and records.
- Be available to examine animals on a regular schedule and emergency basis.
- Be available to answer veterinary questions on a 24 hour basis.
- Have marine mammal experience or be in regular consultation with a veterinarian who has marine mammal experience and have access to a list of expert veterinarians to contact for assistance.
- Have an active veterinary license in the United States (means a person who has graduated from a veterinary school accredited by the American Veterinary Medical Association Council on Education, or has a certificate issued by the American Veterinary Graduates Association's Education Commission for Foreign Veterinary Graduates).
- Have the skills to be able to draw blood and give injections to the species most commonly encountered at the rehabilitation center.
- Have contingency plan for veterinary backup.
- Have a drug license and the ability to obtain necessary medications for the animals housed at that rehabilitation facility.

- Be able to conduct a full post-mortem exam on all species of pinnipeds treated at the facility.
- Be knowledgeable and able to perform pinniped euthanasia.
- Be knowledgeable about species-specific pharmacology.
- Must certify in writing that animals are fit for transport.
- Ability to write and submit timely disposition recommendations for marine mammals in rehabilitation.
- Be knowledgeable of marine mammal zoonotic diseases.

RECOMMENDED

All of the above plus:

- Membership in the International Association for Aquatic Animal Medicine.
- Complete a course which offers basic medical training with marine mammals such as Seavet, Aquavet or MARVET.
- Have at least one year of clinical experience outside of veterinary school.
- Have access to a current version of the “Handbook of Marine Mammal Medicine” Have basic hands-on veterinary experience with the species most frequently rehabilitated at the facility.
- Be full time employee or the contract veterinarian of record at facilities managing over 50 pinniped cases per year.

2.7.2 Veterinary Program

MINIMUM STANDARD

- Veterinary care for the animals must conform with any State Veterinary Practice Act or other laws governing veterinary medicine which applies to the state in which the facility is located.
- Standard operating procedures shall be reviewed and signed off by the attending veterinarian every 6 months and may be reviewed by NMFS as part of the NMFS Stranding Agreement or as a part of inspections.
- Staff caring for animals should be sufficiently trained to assist with veterinary procedures under the direction of the veterinarian.
- Veterinary decisions shall be based on “best practices” (i.e., based on informed opinions and expertise of veterinarians practicing marine mammal medicine).
- A schedule of veterinary care which includes a review of husbandry records, visual and physical examinations of the animals, and a visual inspection of the facilities should be implemented

- A health and safety plan for the staff shall be written and accessible at all times. It shall be reviewed by the attending veterinarian annually or as prescribed by the NMFS Stranding Agreement. Staff will be familiar with the plan. The plan shall include protocols for managing bite wounds.

The following reports may be requested annually by NMFS as required under the NMFS Stranding Agreement or as a part of inspections

- SOP reviews
- Health and Safety Plan reviews
- Animal acquisitions and dispositions
- NOAA Form 89864, OMB#0648-0178 (Level A data)
- NOAA Form 89878, OMB#0648-0178 (Marine Mammal Rehabilitation Disposition Report)
- Case summaries for any rehabilitation performed at a facility, including narrative descriptions of the cases as well as spreadsheets of treatments, blood values, etc.

2.8 Laboratory Tests and Frequency of Testing

Recommendations for tests will be issued each year by the NMFS stranding coordinator in each region as outlined in the Marine Mammal Health and Stranding Response Program.

MINIMUM LABORATORY TESTING

- CBC/Serum Chemistry- All animals shall have a minimum of two blood samples drawn for CBC with differential and serum chemistry; upon admission and prior to release (see NMFS Release Guidelines).
- Fecal analysis for parasites- Fecal tests for parasites shall be run upon admission of each animal at the discretion of the attending veterinarian.
- Serology as necessary for release determination based on direction of the NMFS stranding coordinator and the Marine Mammal Health and Stranding Program each year and for additional clinical diagnosis as deemed appropriate by the attending veterinarian.
- If serology is positive for pathogens of concern NMFS must give final sign off before animal is released.
- Measure body weight, girth and length upon admission, and within one week of release/placement.

- The attending veterinarian or a trained staff member shall perform a necropsy on every animal that dies within 24 hours of death.
 - a. Carcass disposal shall be handled in a manner consistent with local and state regulations.
- Perform histopathology on select tissues from each animal that dies at the discretion of the attending veterinarian. A complete set of all major tissues should be evaluated if the animal dies of an apparent infectious disease process.
- Culture and other diagnostic sampling shall be conducted as directed by the attending veterinarian to determine the cause of stranding or death.
- Contact NMFS for additional laboratory test requirements in all cases of unusual mortality outbreaks or disease outbreaks. More complete testing may be required for diseases of concern.
- Serologic assays may only go to labs that have validated tests approved by NMFS, especially for release decisions or determinations.
- Notify NMFS within 24 hours of diagnosis of reportable disease.
- NMFS must be provided adequate time and information (including vet certificate of health) before animal is released in all cases as directed in 50 CFR 216.27 (see NMFS Standards for Release).

RECOMMENDED

- CBC/Serum Chemistry with electrolytes on admission, within the week prior to release, and every other week during rehabilitation if restraint for sampling is not detrimental to the health of the animal.
- More frequent blood sampling at the discretion of the veterinarian.
- Weight measured on admission, just before release, and weekly for growing pups and underweight animals.
- Weights should be measured monthly for all animals unless the stress of capturing the animal to weigh it outweighs the benefits of the data.
- Complete necropsy performed by a veterinarian or a pathologist.
- Full histopathology done on tissues from each animal that dies of apparent infectious disease.
- Bank 1cc of serum per blood draw in -80°F freezer.
- Bank “buffy coat” from heparinized plasma (green top) tube in -80°F one per animal.

2.9 Record Keeping and Data Collection

Record keeping is an essential part of the rehabilitation process. Not only do accurate and complete medical records for each stranded pinniped allow the staff to provide consistent and optimal care for each animal, but retrospective records help scientists and veterinarians make better evaluations on how to treat individuals.

2.9.1 Record Keeping

MINIMUM RECORDS

- Record and report “Level A”, and disposition reports as advised by Regional Coordinator and Marine Mammal Rehabilitation Disposition Report (NOAA 89-878, OMB #0648-0178) as in accordance with the NMFS Stranding Agreement .
- Maintain and update individual medical records daily on each animal at the rehabilitation center.
- Individually identify each animal with unique identifier
- Keep an accurate description of the animal, including identification/tag number, date and location of stranding, sex, weight, and length at stranding.
- Subjective, objective, assessment and plan (SOAP) based records are preferred
- Include food intake and medication administered to each animal in the records each day.
- Weight
 - a. Recorded weekly for underweight pinnipeds or pups, and more often if the attending veterinarian feels it is necessary to properly care for the animal.
 - b. Recorded on admission and release for larger pinnipeds.
- Record all treatments, bloodwork, test and results and daily observations in the medical records.
- Maintain individual medical records for each animal. Medical records remain on site where the animal is housed and are available for NMFS review upon request as stated in the NMFS Stranding Agreement.
- Hold medical records for a minimum of 15 years on site.
- Maintain up to date water quality records.
- Maintain life support system maintenance records.
- Maintain records of water quality additives.

RECOMMENDED RECORD KEEPING

All of the above plus:

- Full set of standard morphometrics prior to release.
- Photographic documentation of the animal, lesions, identifying marks.
- Caloric value of daily food intake calculated and recorded for each animal.
- Daily weight of pups.
- Monthly weights of larger pinnipeds (where the stress of capture to weigh does not adversely affect the rehabilitation efforts).
- Maintain food acquisition and analysis records.
- Maintain “paper copy” archive of required NMFS records.

2.9.2 Data Collection

MINIMUM STANDARD

- Written documentation of the medical history, food and observation records must be kept.
- NMFS Required Forms to be completed:
 - a. NOAA Form 89864, OMB#0648-0178 (Level A data)
 - b. NOAA Form 89878, OMB#0648-0178 (Marine Mammal Rehabilitation Disposition Report).

RECOMMENDED

- Computerized documentation with hard copies.
- Ability to network with other institutions.
- Maintain real-time accessible compiled comparative data.

2.10 Euthanasia

- Each institution must have a written euthanasia protocol signed by the attending veterinarian.
- Persons administering the euthanasia must be knowledgeable and trained to perform the procedure.
- Maintain a list of individuals authorized to perform euthanasia signed by the veterinarian.
- Euthanasia shall be performed in a way to minimize distress in the animal.
- Refer to both American Veterinary Medical Association euthanasia standards and the CRC Press Handbook of Marine Mammal Medicine.

- Appropriate drugs for euthanasia in appropriate amounts for the largest species admitted to the facility shall be maintained in stock on site in an appropriate lockbox or under the control of a licensed veterinarian with a current DEA license.
- Drugs for euthanasia shall be kept with an accurate inventory system in place.
- DEA laws and regulations and State Veterinary Practice Acts must be followed when using controlled drugs
- NMFS may request this information (protocols and DEA number) as part of the NMFS Stranding Agreement.

2.11 Health and Safety for Personnel

There shall be a health and safety plan on site at each rehabilitation facility that identifies all health and safety issues that may be factors when working closely with wild marine mammals. The plan should identify all potential zoonotic diseases as well as including safety plans for the direct handling of all species and sizes of pinnipeds seen at that facility. Rehabilitation facilities are encouraged to comply with Occupational Safety and Health Administration regulations.

MINIMUM STANDARD

- Identify all potential zoonotic diseases in a written document available to all personnel.
- Include safety plans for the direct handling of all species and sizes of pinnipeds seen at that facility.
- Include safety plan for dealing with handling any untreated discharge water.

2.12 Contingency Plans

Contingency plans shall be in place at each facility and may be required by NMFS as part of the NMFS Stranding Agreement. NMFS may require approved variances or waivers prior to planned projects such as construction. These plans should address in detail the operation of the facility and care of the animals under the following conditions:

- Inclement weather plan, including a hurricane/big storm plans where appropriate.
- Construction in the vicinity of the animal rehabilitation pens or pools.
- Power outages, including plans of how to maintain frozen fish stores and life support systems.
- Water shortages.

- “Acts of God” plan which may include floods, earthquakes or other unpredictable problems known to occur on occasion in the region where the facility is located.

2.13 Viewing

NMFS Regulation, U.S.C. 50 CFR 216.2(c)(5) states that marine mammals undergoing rehabilitation shall not be subject to public display. The definition of public display under U.S.C. 50 CFR is “an activity that provides opportunity for the public to view living marine mammals at a facility holding marine mammals captive”. Only remote public viewing will be allowed and only when there is no possible impact of the public viewing on the animals being rehabilitated. A variance or waiver will be required by NMFS for facilities planning to offer public viewing of any marine mammal undergoing rehabilitation.

2.14 Training and Deconditioning Behaviors

Basic behavioral conditioning of wild pinnipeds for husbandry and medical procedure may be warranted during rehabilitation as long as every effort is made to limit reinforced contact with humans. Such conditioning may reduce stress for the animal during exams and acquisition of biological samples. Conditioning may assist with appetite assessment and ensuring that each animal in a group receives the appropriate amount and type of diet and medications. In some cases, extensive contact with humans, including training, may benefit resolution of the medical case by providing mental stimulation and behavioral enrichment, and may facilitate medical procedures. The relative costs and benefits of training should be evaluated by the staff veterinarian, and the likelihood of contact with humans following release should be considered.

Behavioral conditioning of pinnipeds must be done for the shortest time necessary to achieve rehabilitation goals and is to be eliminated prior to release such that association of food rewards with humans is diminished. If an animal has become accustomed to hand-feeding the animal may approach humans after release. Therefore, these behaviors should be deconditioned before the animals can be considered for release. Most behaviors will extinguish through lack of reinforcement, but some may require more concentrated efforts.

Training for research that is above and beyond the scope of normal rehabilitation practices can be approved on a case-by case basis under a NMFS scientific research permit. An exception can be made if the attending veterinarian, facility, and NMFS officials all agree that the research will not be

detrimental to the animals' health and welfare and will not impede their ability to be successfully released back to the wild.

2.15 References

Langman VA, Rowe M, Forthman D, Whitton B, Langman N, Roberts T, Kuston K, Boling C, and Maloney D. 1996. Thermal Assessment of Zoological Exhibits I: Sea Lion Enclosure at the Audubon Zoo. *Zoo Biology* 15:403-411.

3. Frequently Asked Questions

Why are there two sets of standards, “minimum” and “recommended”, in the facilities guidelines?

The thought behind the two sets of guidelines was to establish a bare minimum standard which every facility should have to meet in order to rehabilitate either pinnipeds or cetaceans. The “recommended” standards are standards considered more ideal to help maximize the success of the rehabilitation effort, and to minimize the potential spread of disease. Many facilities exceed the recommended standard.

Facilities that just meet the minimum standards may wish to improve their facility over time. The Facilities Guidelines could serve as a method of justifying and helping to secure Prescott Funds or other funding to make improvements to bring a facility up to the recommended standards.

Why are there separate standards for pinnipeds and cetaceans?

While many aspects of rehabilitating cetaceans and pinnipeds that are the same, there are likewise many significant differences. Water quality, pool space and design, and handling debilitated animals are examples of the bigger differences between facility design and equipment required for rehabilitation of these animals. Rehabilitation of cetaceans requires more expensive facilities, as there must be larger, deeper pools available, salt water systems, and more elaborate filtration in closed system situations. While some facilities have adequate equipment and personnel to rehabilitate pinnipeds, they may not meet the standards required for the rehabilitation of cetaceans. Having two sets of guidelines allows NMFS the flexibility of issuing agreements specific to the types of animals that may be rehabilitated at each facility.

Many of the standards listed appear to be directly from the AWA standards. Why don't you just state that the facilities will meet all of the AWA regulations? What if the AWA regulations change?

AWA regulations have specific engineering standards to cover captive marine mammals. These standards for pool size and depth are based on captive adult-sized animals. The majority of pinnipeds admitted to most rehabilitation facilities are pups, juveniles, and sub-adults, and because they are not going to be permanent members of a collection, pool size may be smaller than the minimum sizes

stated in the AWA regulations. Cetacean facility guidelines minimum pool sizes are closer to the AWA regulations in pool size, but not identical, as these animals are not considered to be permanent residents.

AWA regulations may change, however these Facilities Guidelines were created with the consideration that animals being rehabilitated are not permanent residents of the facility. Therefore even if AWA regulations change, it is likely, the Stranding Network Facilities Guidelines will remain the same. Facilities Guidelines apply to the wild animals held by participants of the stranding network, whereas the AWA regulations refer to captive animals owned by the licensees.

Under Water Quality, no mention is made regarding protecting staff and public from discharged water.

This is covered by the statement that “All water must be discharged according to State and Local Regulations”. Since state and local regulations vary, it is up to each institution to ensure their discharge policy conforms with the regulations in their area. These regulations should take into consideration the public exposure to the discharged water from the rehabilitation facility. Likewise all rehabilitation facilities should have Standard Operating Procedures in place to protect their staff from hazards which may be posed by the rehabilitation of marine mammals.



National Oceanic and Atmospheric Administration
National Marine Fisheries Office of Protected Resources
Marine Mammal Health and Stranding Response Program



U.S. Fish and Wildlife Service
Fisheries and Habitat Conservation
Marine Mammal Program

INTERIM

BEST PRACTICES **MARINE MAMMAL STRANDING RESPONSE,** **REHABILITATION, and RELEASE:**

STANDARDS FOR RELEASE

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Interim Standards for Release

Table of Contents

1. INTRODUCTION.....	1-1
1.1 Background.....	1-1
1.2 Review of Key Legislation Pertinent to Marine Mammal Rehabilitation and Release to the Wild	1-2
1.3 Structure of the Document	1-3
1.4 Funding	1-4
2. GENERAL PROCEDURES	2-1
2.1 Stranding Agreements, MMPA 109(h) Authority, and Permits for Stranding Response for ESA species	2-1
2.1.1 NMFS Policies.....	2-1
2.1.2 FWS Policies	2-1
2.2 Parties Responsible for Release Determinations and Overview of Agency Approval	2-1
2.3 Documentation for Rehabilitation and Release of Marine Mammals.....	2-4
2.3.1 NMFS	2-4
2.3.2 FWS	2-6
2.4 Assessment Process for a Release Determination.....	2-8
2.5 Emergency or Special Situations.	2-15
3. GUIDELINES FOR RELEASE OF REHABILITATED CETACEANS	3-1
3.1 Introduction.....	3-1
3.2 Overview of “Release Categories” for Cetaceans.....	3-1
3.3 Historical Assessment of Cetaceans	3-3
3.4 Developmental Assessment of Cetaceans.....	3-4
3.5 Behavioral Assessment of Cetaceans.....	3-5
3.5.1 Breathing, Swimming and Diving	3-6
3.5.2 Aberrant Behavior.....	3-7
3.5.3 Auditory and Visual Acuity	3-7
3.5.4 Prey Capture	3-7
3.5.5 Predatory Avoidance.....	3-8
3.5.6 Social Factors.....	3-8
3.6 Medical and Rehabilitation Assessment of Cetaceans.....	3-9
3.7 Release Site Selection for Cetaceans	3-11
3.8 Marking for Individual Identification of Cetaceans Prior to Release	3-12
3.9 Post-Release Monitoring of Cetaceans	3-12
3.10 Decision Tree – Cetacean Release Categories.....	3-13
3.10.1 Releasable	3-13
3.10.2 Conditionally Releasable	3-15
3.10.3 Non-Releasable.....	3-17
4. GUIDELINES FOR RELEASE OF REHABILITATED PINNIPEDS.....	4-1
4.1 Introduction.....	4-1
4.2 Overview of Release Categories for Pinnipeds.....	4-2
4.3 Historical Assessment of Pinnipeds.....	4-4
4.4 Developmental Assessment of Pinnipeds	4-5
4.5 Behavioral Assessment of Pinnipeds	4-6

4.5.1	Breathing, Swimming, Diving, Locomotion on Land	4-7
4.5.2	Aberrant Behavior.....	4-7
4.5.3	Auditory and Visual Function.....	4-7
4.5.4	Prey Capture	4-8
4.6	Medical Assessment of Pinnipeds	4-8
4.7	“Recommended” Standard Checklist to Determine Release Category of all Rehabilitated Pinnipeds (except walrus).....	4-10
4.8	Release Site Selection for Pinnipeds.....	4-12
4.9	Identification of Rehabilitated Pinnipeds Prior to Release	4-14
4.10	Post-Release Monitoring of Pinnipeds.....	4-14
5.	GUIDELINES FOR RELEASE OF REHABILITATED MANATEES	5-1
5.1	Introduction.....	5-1
5.2	Overview of Release Categories for Manatees	5-2
5.3	Historical Assessment of Manatees	5-3
5.4	Developmental Assessment of Manatees.....	5-4
5.5	Behavioral Assessment of Manatees	5-4
5.6	Medical Assessment of Manatees.....	5-5
5.7	Decision Tree for Release Categories - Manatees	5-5
5.7.1	RELEASABLE.....	5-6
5.7.2	CONDITIONALLY RELEASABLE	5-7
5.7.3	CONDITIONALLY NON-RELEASABLE	5-8
5.7.4	NON-RELEASEABLE	5-9
5.8	Pre-release Requirements for Manatees.....	5-9
5.9	Release and Post-release Logistics for Manatees	5-10
5.10	Manatee Rescue, Rehabilitation, and Rescue Program Reporting/Requesting Requirements	5-11
6.	GUIDELINES FOR RELEASE OF REHABILITATED SEA OTTERS	6-1
6.1	Introduction.....	6-1
6.2	Developmental Assessment of Sea Otter Pups	6-1
6.3	Behavioral Assessment of Sea Otters	6-2
6.4	Medical Assessment of Sea Otters.....	6-2
6.5	Release Categories for Sea Otters.....	6-3
6.6	Identification of Sea Otters Prior to Release.....	6-3
6.7	Release Site Selection for Sea Otters.....	6-4
6.8	Post-Release Monitoring of Sea Otters.....	6-4
7.	POLICIES REGARDING RELEASE OF REHABILITATED POLAR BEARS	7-1
8.	REFERENCES (INCOMPLETE).....	8-1
9.	GLOSSARY (INCOMPLETE)	9-2

Figures

Figure 2.1	Documentation and Procedures Following Submission of the Written “Release Determination Recommendation.”	2-7
Figure 2.2	Steps and General Parameters for Animal Release Assessment	2-16

Executive Summary

The process of rescue, rehabilitation, and release of wild marine mammals is allowed for specific categories of people under listed conditions by the Marine Mammal Protection Act (MMPA) [16 U.S.C. 1379 Section 109(h)]. Section 402 (a) of Title IV of the MMPA specifically mandates that “The Secretary shall... provide guidance for determining at what point a rehabilitated marine mammal is releasable to the wild” [16 U.S.C. 1421 Section 402 (a)]. This document fulfills the statutory mandate and is not intended to replace marine mammal laws or regulations.

In accordance with the MMPA [Title IV, Sec.402 (a)], these guidelines were developed through NMFS and FWS in consultation with marine mammal experts through review and public comment of the 1997 draft NOAA Technical Memorandum “Release of Stranded Marine Mammals to the Wild: Background, Preparation, and Release Criteria.” Comments from the public review process and other outstanding issues were compiled by NMFS and FWS. The agencies consulted with experts in three areas: cetaceans, pinnipeds and sea otters, and manatees. The experts reviewed and discussed the public comments and provided individual recommendations. This current document encompasses revisions and updates to the 1997 draft and is titled differently.

These guidelines provide an evaluative process to aid in the determination of a stranded wild marine mammal following a course of treatment and rehabilitation is suitable for release to the wild. These guidelines describe “Release Categories” for rehabilitated marine mammals of each taxonomic group, i.e. cetaceans, pinnipeds, manatees, sea otters and polar bears. After completing a thorough assessment as prescribed, the release candidates are to be assigned to a Release Category as follows: **Releasable**, **Conditionally Releasable**, **Conditionally Nonreleasable (Manatees only)**, and **Nonreleasable**. This document establishes essential release criteria that trained experts should use to determine whether or not individual animals are healthy enough to release into the wild. The essential release criteria are assessed in the following categories:

- 1) Historical Assessment
- 2) Developmental and Life History Assessment
- 3) Behavior Assessment and Clearance
- 4) Medical Assessment and Clearance
- 5) Release Logistics
- 6) Post Release Monitoring

By using clearly defined Release Categories for rehabilitated marine mammals, NMFS and FWS can evaluate and support the professional discretion of the attending veterinarian and his or hers assessment team (i.e., biologists, veterinarians, animal care supervisors, and other team members of the marine mammal stranding network). Based on these Release Categories, NMFS and FWS can consult experts on challenging cases in which the survival of the rehabilitated marine mammal or its potential to pose a health risk to wild marine mammals is in question.

Refinement of requirements and guidelines for release of rehabilitated marine mammals to the wild is a dynamic process. Use of these standardized guidelines will also aid in the evaluation of rehabilitation procedures, successes, and failures, and will allow for on-going improvement of such protocols. These guidelines are based on the best available science and thus will be revised periodically.

1. Introduction

1.1 Background

For NMFS species prior to the early 1990s, release decisions were made by individual rehabilitation facilities without much direction or input from NMFS. Decisions were inconsistent and did invoke controversy especially for cetacean cases. The Marine Mammal Commission and NMFS sponsored several workshops focusing on procedures and needs regarding marine mammal strandings, rehabilitation, and release (see Appendix A). Discussions at these workshops provided starting points for establishing objective release criteria. A stronger impetus to formalize these release guidelines came in 1992 when, as part of the Marine Mammal Health and Stranding Response Act, Congress mandated establishing objective guidelines for determining releasability of rehabilitated marine mammals. The MMPA was amended to include Title IV, Section 402(a) and provides that: *“The Secretary [of Commerce] shall, in consultation with the Secretary of Interior, the Marine Mammal Commission, and individuals with knowledge and experience in marine science, marine mammal science, marine stranding network participants, develop objective criteria, after an opportunity for public review and comment, to provide guidance for determining at what point a rehabilitated marine mammal is releasable to the wild.”*

In accordance with the MMPA [Title IV, Sec.402 (a)], these guidelines were developed through NMFS and FWS in consultation with marine mammal experts through review and public comment of the 1997 draft NOAA Technical Memorandum “Release of Stranded Marine Mammals to the Wild: Background, Preparation, and Release Criteria.” Comments from the public review process and other outstanding issues were compiled by NMFS and FWS. The agencies consulted with experts in three areas: cetaceans, pinnipeds and sea otters, and manatees. The experts reviewed and discussed the public comments and provided individual recommendations. This current document encompasses revisions and updates to the 1997 draft and is titled differently.

The purposes of this document are as follows:

1. To provide guidance for determining release of rehabilitated marine mammals to the wild including marine mammal species under the jurisdiction of the Department of Commerce's National Marine Fisheries Service (NMFS) and those under the jurisdiction of the Department of the Interior's Fish and Wildlife Service (FWS),
2. To state the NMFS and FWS legal requirements and provide recommendations for medical, behavioral, and developmental assessment of rehabilitated marine mammals prior to release,

3. To identify the persons and agencies responsible for completing an assessment of a rehabilitated marine mammal for release determination and to describe the communication requirements and process with NMFS or FWS,
4. To state the NMFS and FWS requirements and recommendations for identification of rehabilitated marine mammals prior to release, release site selection, and post-release monitoring,
5. This document does not include guidance for the following situations:
 - a. Immediate release following health assessment and/or emergency triage typically associated with mass stranding events, out of habitat rescues, and disentanglement efforts.
 - b. Release following relocation of healthy marine mammals.

1.2 Review of Key Legislation Pertinent to Marine Mammal Rehabilitation and Release to the Wild

Congress delegates the responsibility for implementing the MMPA to the Secretary of Commerce and the Secretary of the Interior. Cetaceans and pinnipeds exclusive of walruses are the responsibility of NMFS (i.e., NMFS species). Walruses, polar bears, manatees, and sea otters are the responsibility of FWS (i.e., FWS species). NMFS and FWS responsibilities for these species are regulated under Title 50 of the Code of Federal Regulations (CFR) (See Appendix B).

Rehabilitation and release of wild marine mammals is authorized by key statements within the MMPA 16 U.S. Code 1379, Section 109(h) entitled “Taking of Marine Mammals as Part of Official Duties.” By listed categories of people (i.e., Federal, State, or local government official or employee or a person designated under section 112(c) of the MMPA), this section allows for humane taking of a marine mammal for its protection or welfare and states that an animal so taken is to be returned to its natural habitat whenever feasible. Regulations that implement the MMPA for NMFS species (50 CFR Sec. 216.27(a)(1)) require that a marine mammal held for rehabilitation be released within six months unless “...the attending veterinarian determines that: (i) The marine mammal might adversely affect marine mammals in the wild (ii) Release of the marine mammal to the wild will not likely be successful given the physical condition and behavior of the marine mammal; or (iii) More time is needed to determine whether the release of the marine mammal in the wild will likely be successful...” and (b)(1) “The attending veterinarian shall provide the Regional Director or Office Director with a written report setting forth the basis of any determination.” Also, (a)(iii) “releasability must be re-evaluated at intervals of no less than six months until 24 months from

capture or import, at which time there will be a rebuttable presumption that release into the wild is not feasible.”

For NMFS species, the 112(c) *Stranding Agreements* are formally established between the *NMFS Regions* and *Stranding Network Participants* (formerly Letters of Agreement or LOAs). Understanding and following the MMPA and implementing regulations, policies, and guidelines, **is the responsibility of all persons involved** in marine mammal rescue, rehabilitation, and release. These guidelines are founded on and support the MMPA and related regulations. The laws and regulations outlined below are therefore fundamental to proper enactment of marine mammal rehabilitation and release. Appendix B contains the full text of these laws and regulations.

1.3 Structure of the Document

This document is organized as follows: General Procedures (Section 2), Guidelines for Release of Rehabilitated Cetaceans (Section 3), Guidelines for Release of Rehabilitated Pinnipeds (Section 4), Guidelines for Release of Rehabilitated Manatees (Section 5), Guidelines for Release of Rehabilitated Sea Otter (Section 6), Policies Regarding Release of Rehabilitated Polar Bears (Section 7), References (Section 8), Glossary of Terms (Section 9), and Appendices (Section 10).

The approach developed in this document primarily involves a complete assessment of animal’s health, behavior and release logistics. The assessment is completed by the attending veterinarian and his or hers Assessment Team following this standardized guidance for determining the disposition of a marine mammal after treatment and rehabilitation. Section 2, “General Procedures,” summarizes the pertinent laws and regulations and outlines the release requirements and recommendations for all species of rehabilitated marine mammals. This section provides an overview of documentation required throughout rehabilitation and release. Parties responsible for release determinations are identified. General principles for developmental, behavioral, and medical assessments of rehabilitated marine mammals are described, as well as methods for post-release identification (i.e. marking and tagging), monitoring, and selection of appropriate release sites.

Because there are several critical variables among each taxonomic group such as natural history, social organization, and species specific rehabilitation and release considerations, these variables are addressed in separate chapters (Sections 3-7) (i.e. cetaceans, pinnipeds, manatees, sea otters, and polar bears). These chapters provide greater detail and rationale for the release guidelines for each marine mammal group.

The reference section lists current literature on marine mammal biology, medicine, rehabilitation, and release. A Glossary of Terms is provided to define key terms initially noted in the text with italics. The Appendices provide ready access to marine mammal laws and regulations and examples of required documentation for rehabilitated marine mammals. Additional appendices include examples correspondence letters between the Stranding Participant and NMFS and lists of Diseases of Concern and related references for cetaceans, pinnipeds, manatees, and sea otters.

1.4 Funding

Funding of marine mammal rehabilitation is the responsibility of the rehabilitation facility. Specific resources such as freezers for serum banking, histopathology services, equipment and personnel for post-release monitoring may be provided through NMFS and FWS to support the biomonitoring program. Some costs associated with response and rehabilitation during a Marine Mammal Unusual Mortality Event (UME) may be reimbursed through the UME National Contingency Fund (in accordance with Section 405 of the MMPA). For additional information regarding expense reimbursement, contact the appropriate NMFS or FWS coordinator. For NMFS species, the Prescott Stranding Grant Program is also available as a funding source for marine mammal stranding response and rehabilitation. More information on this program can be found on the following web site: <http://www.nmfs.noaa.gov/pr/health/>.

2. General Procedures

2.1 Stranding Agreements, MMPA 109(h) Authority, and Permits for Stranding Response for ESA species

2.1.1 NMFS Policies

NMFS may enter into a Stranding Agreement (formerly known as a Letter of Agreement or LOA) with a person or organization for stranding response and rehabilitation. The NMFS Stranding Agreements state that the Stranding Network Participant obey laws, regulations, and guidelines governing marine mammal stranding response and rehabilitation, which include requirements for communications with NMFS, *humane care* and husbandry and veterinary care of rehabilitated marine mammals, and documentation of each stranding response and rehabilitation activity. The Stranding Agreement does not authorize the taking of any marine mammal species listed as endangered or threatened under the Endangered Species Act of 1973 (ESA), as amended. However, authorization to take ESA listed species by the Stranding Network is currently provided under *MMPA/ESA permit #932-1489-01* as amended and requires authorization and direction from with NMFS Regional Stranding Coordinator in the event of a stranding involving a threatened or endangered marine mammal.

2.1.2 FWS Policies

Rescue, rehabilitation, and release of non-ESA listed marine mammal species under FWS responsibility is authorized with a *Letter of Authorization (LOA)* issued by the *Division of Management Authority (DMA)* in the FWS Headquarters Office in Arlington, VA. For ESA listed species, an LOA holder is authorized under a permit issued by the DMA. The *FWS Field Offices* in the lower 48 states or the *Marine Mammals Management Office in Alaska* coordinate with LOA and permit holders for all rescue, rehabilitation, and release activities for species under their jurisdiction.

2.2 Parties Responsible for Release Determinations and Overview of Agency Approval

The *attending veterinarian* and his or her *Assessment Team* (i.e., veterinarians, lead animal care supervisor, and consulting biologist with knowledge of species behavior and life history) representing the Stranding Network Participant, Designee, or 109(h) Stranding Participant will assess the animal and make written recommendation for release or nonrelease. **For NMFS species, the recommendations are sent to the NMFS Regional Administrator. For FWS species, the**

recommendations are sent to the FWS Field Office and any recommendations for nonrelease are coordinated with the FWS Division of Management Authority.

In general for NMFS species, animals that are deemed “Releasable,” a 15-day advance written notification is necessary; however, 50 CFR Section 216.27 (a)(2)(i)(A) allows for waiving this advance notification in writing by the Regional Administrator. Generally, these cases are anticipated (e.g., the typical annual cluster of cases where the etiology is known and diagnosis and treatment is routine) and can be appropriately planned. For such waivers, the Stranding Network Participant should submit a protocol for such cases including location of release. These waivers will require pre-approval by the NMFS Regional Administrator on a schedule as prescribed in the Stranding Agreement. The *release determination recommendation* includes a signed statement from the attending veterinarian, in consultation with his or her Assessment Team, stating that the **marine mammal is medically and behaviorally suitable for release in accordance with the release criteria** (i.e., similar to a health certificate) and include a written *release plan and timeline*. NMFS may also require a concurrence signature from the “*Authorized Representative*” or *Signatory* of the Stranding Agreement. The Regional Administrator (i.e., NMFS staff) will review the recommendation and release plan and provide a signed written notification to the Stranding Network Participant indicating concurrence and authorization to release or direct an alternate disposition (50 CFR Section 216.27) (*letter of concurrence from the Regional Administrator*). For more challenging cases and potential “Conditionally Releasable” cases, plans for release should be submitted well in advance of the 15-day period to provide adequate time for evaluation. Also, it is highly recommended that dissenting opinions among members of the Assessment Team regarding an animal’s suitability for release and/or the release plan be communicated to NMFS well in advance of the required 15-day advance notice so that additional consultation can be arranged in adequate time for resolution and planning.

By regulation (50 CFR Sec. 216.27 (a)(3), Appendix B), the NMFS Regional Administrator (or Office Director of Protected Resources) has the authority to modify requests for release of rehabilitated marine mammals. In accordance with 50 CFR 216.27 (a)(1), any marine mammal held for rehabilitation must be evaluated for releasability within six months of collection unless the “attending veterinarian determines that the marine mammal might adversely affect other marine mammals in the wild, release of the marine mammal to the wild will not likely be successful given the physical condition and behavior of the marine mammal, or more time is needed to determine whether the release of the marine mammal will likely be successful.” If more time is needed, then NMFS will

require periodic reporting in writing from the attending veterinarian including a description of the condition(s) of the animal that precludes release and a prognosis of release. NMFS may require that the marine mammal remain at the original rehabilitation facility or be transferred to another rehabilitation facility for an additional period of time, be placed in permanent captivity, or be euthanized. NMFS may also require a change of conditions of the release plan including the release site and post-release monitoring. An expanded release plan may be required including a justification and detailed description of the logistics, tagging, location, timing, crowd control, media coordination (if applicable) and post release monitoring. NMFS may require contingency plans should the release be unsuccessful including recapture of the animal following a specified time after release.

Generally for animals deemed “Nonreleasable” and with the concurrence from the NMFS Regional Administrator, the animal can be permanently placed in a public display or research facility or euthanized. If the animal is to be placed in permanent captivity, the receiving facility must be registered or hold a license from APHIS [7 USC 2131 et seq.] and comply with MMPA (16 USC 1374 Section 104(c)(7)). These facilities (i.e., the rehabilitation facility or another authorized facility) are required to send a *Letter of Intent* to the Office of Protected Species Permits, Conservation and Education Division (http://www.nmfs.noaa.gov/pr/permits/mmpa_permits.htm) (NMFS PR1) to permanently retain or acquire the animal. This letter should include a signature of the “*Responsible Party of Record*”. As part of the decision making process, NMFS will consult with APHIS and may review the qualifications and experience of staff, transport protocols, and placement plans (i.e., integration based on appropriate composition of species, sex and age and the intended proposed plan for public display or scientific research). Once approved, NMFS PR1 will respond with a *Transfer Authorization Letter* and include Marine Mammal Datasheets (MMDS), OMB form 0648-0084, to be returned to NMFS PR1 within 30 days of transfer. Upon receipt of the MMDS, NMFS PR1 will acknowledge the transfer in writing and return updated MMDS to the receiving facility.

For FWS species, LOA and permit holders provide recommendations to the FWS Field Offices for decisions regarding releasability of rehabilitated marine mammals (see Appendix H for contact information). The FWS retains the authority to make the final determination on the disposition of these animals. If FWS determines that a marine mammal is non-releasable, the holding facility may request a permit for permanent placement in captivity as prescribed in Section 104(c)(7) of the MMPA for non-depleted species, or Section 104(c)(4) and Section 10(a)(1)(A) of the ESA for depleted species.

Manatee releases require a minimum 30-day advance notice (although exceptions may be made in the event of extenuating circumstances) and must also include a signed statement from the attending veterinarian that the **animal is medically and behaviorally suitable for release in accordance with the release criteria** (i.e., similar to a health certificate) and include a written release plan and timeline. Upon receipt, FWS will evaluate and determine the suitability of the release site and release conditions (see taxa specific sections for further guidance).

For cases involving declared *Marine Mammal Unusual Mortality Events*, the *Working Group on Marine Mammal Unusual Mortality Events* will be consulted to determine if event specific release standards should be implemented as stated in the **1996 NOAA Technical Memorandum – National Contingency Plan for Response to Unusual Marine Mammal Mortality Events**. Priority will be given to protecting the health of wild populations over the disposition of an individual animal. Provisions may require monitoring a representative subset of released animals to determine survivability impact on the affected population or holding rehabilitated animals beyond the projected release time to determine long term health effects.

2.3 Documentation for Rehabilitation and Release of Marine Mammals

2.3.1 NMFS

Pursuant to the Stranding Agreement between the Stranding Network Participant and appropriate NMFS Regional Offices that allows a stranding organization to respond to and/or rehabilitate marine mammals, the Stranding Network Participants must provide documentation to NMFS regarding their activities that involve the taking and disposition of marine mammals as described below. The same holds true for actions under 109(h). Figure 2.1 presents the documentation and procedures following submission of the written “release determination recommendation.”

- **Marine Mammal Stranding Report Level A Data**, NOAA form 89-864, OMB No. 0648-0178 (Appendix C).

This report is mandatory for all stranding events and includes basic information regarding the site and nature of the stranding event, a statement that the animal was found alive or a description of the condition of its carcass, morphologic information, photo or video documentation, initial disposition of any live animal, tag data, and information on disposal, disposition, and necropsy of dead animals. This report must be sent to appropriate NMFS Regional Office within the time stated in the Stranding Agreement.

- **Marine Mammal Rehabilitation Disposition Report**, NOAA form 89-878, OMB No. 0648-0178 (Appendix C)

This report is mandatory for all rehabilitation cases (i.e., long term and short term temporary holding) and includes a brief history of the stranding and related findings of an individual marine mammal. It also includes the disposition of samples taken from the animal and disposition of the animal including release site and tagging information. This report includes verification and date that a pre-release health screen was done on the animal. This document must be sent to the appropriate NMFS Regional Office no later than 30 days following the final disposition (e.g. released or non-released) of the marine mammal or as prescribed in the Stranding Agreement. NMFS compiles these data annually to monitor success of rehabilitation and identify where changes and enhancements should be made.

- **Release Determination Recommendation 50 CFR Sec. 216.27 (a)(2)** (Appendix B)

This regulation states that the custodian of a rehabilitated marine mammal must provide the appropriate NMFS Regional Office with written notification at least 15 days prior to the release of any marine mammal to the wild, including a release plan. The pre-notification requirement may be waived in writing for certain circumstances (e.g., the typical annual cluster of cases where the etiology is known and diagnosis and treatment is routine) by the NMFS Regional Administrator in accordance with specific requirements as stated in the Stranding Agreement. The required notification (release determination recommendation) should provide information sufficient for determining the appropriateness of the release plan, including a description of the marine mammal, that is, physical condition and estimated age, the date and location of release, and the method and duration of transport prior to release (50 CFR 216.27(a)(2)(ii)). The release recommendation should include a signed report or statement from the attending veterinarian that the marine mammal is medically and behaviorally suitable for release in accordance with NMFS release criteria (i.e., similar to a health certificate under the Animals Welfare Act). NMFS may also require a concurrence signature from the “Authorized Representative” or Signatory of the Stranding Agreement. In the case of more challenging releases such as animals considered Conditionally Releasable,” requests for release should be submitted well in advance of the 15-day period to provide adequate time for review and planning. NMFS reserves the right to request additional information and impose additional requirements in any release plan to improve the likelihood of success or to protect wild populations (50 CFR Sec. 216.27 (a)(3)). NMFS also can order

other disposition as authorized upon receipt of the report (release determination recommendation) (50 CFR 216.27 (b)(2) and (b)).

- **Notification of Nonrelease/Transfer of Custody**

For animals deemed “Nonreleasable” and with the concurrence from the NMFS Regional Administrator, the animal can be permanently placed in a public display or research facility or euthanized. If the animal is to be placed in permanent captivity, the receiving facility must be registered or hold a license from APHIS [7 USC 2131 et seq.] and comply with MMPA (16 USC 1374 Section 104(c)(7)). Facilities wishing to obtain nonreleasable animals should send a *Letter of Intent* to the Office of Protected Species Permits, Conservation and Education Division (http://www.nmfs.noaa.gov/pr/permits/mmpa_permits.htm) (NMFS PR1) to permanently retain (i.e., if affiliated with the rehabilitation facility) or acquire the animal. This letter should include a signature of the “*Responsible Party of Record*”. As part of the decision making process NMFS will consult with APHIS and may review the, qualifications and experience of staff, transport, and placement plans (i.e., integration based on appropriate composition of species, sex and age and the intended proposed plan for public display or scientific research). Once approved, NMFS PR1 will respond with a *Transfer Authorization Letter* and include Marine Mammal Datasheets (MMDS), OMB form 0648-0084, to be returned to NMFS PR1 within 30 days of transfer. Upon receipt of the MMDS, NMFS PR1 will acknowledge the transfer in writing and return updated MMDS to the receiving facility.

2.3.2 FWS

Requirements for the rehabilitation and release of marine mammals under FWS jurisdiction are specified under individual permits or LOAs. These requirements are specific to the species, the organization, and the activity being conducted. An example of required documentation for manatee rescue, rehabilitation, and release activities is provided in Appendix C.

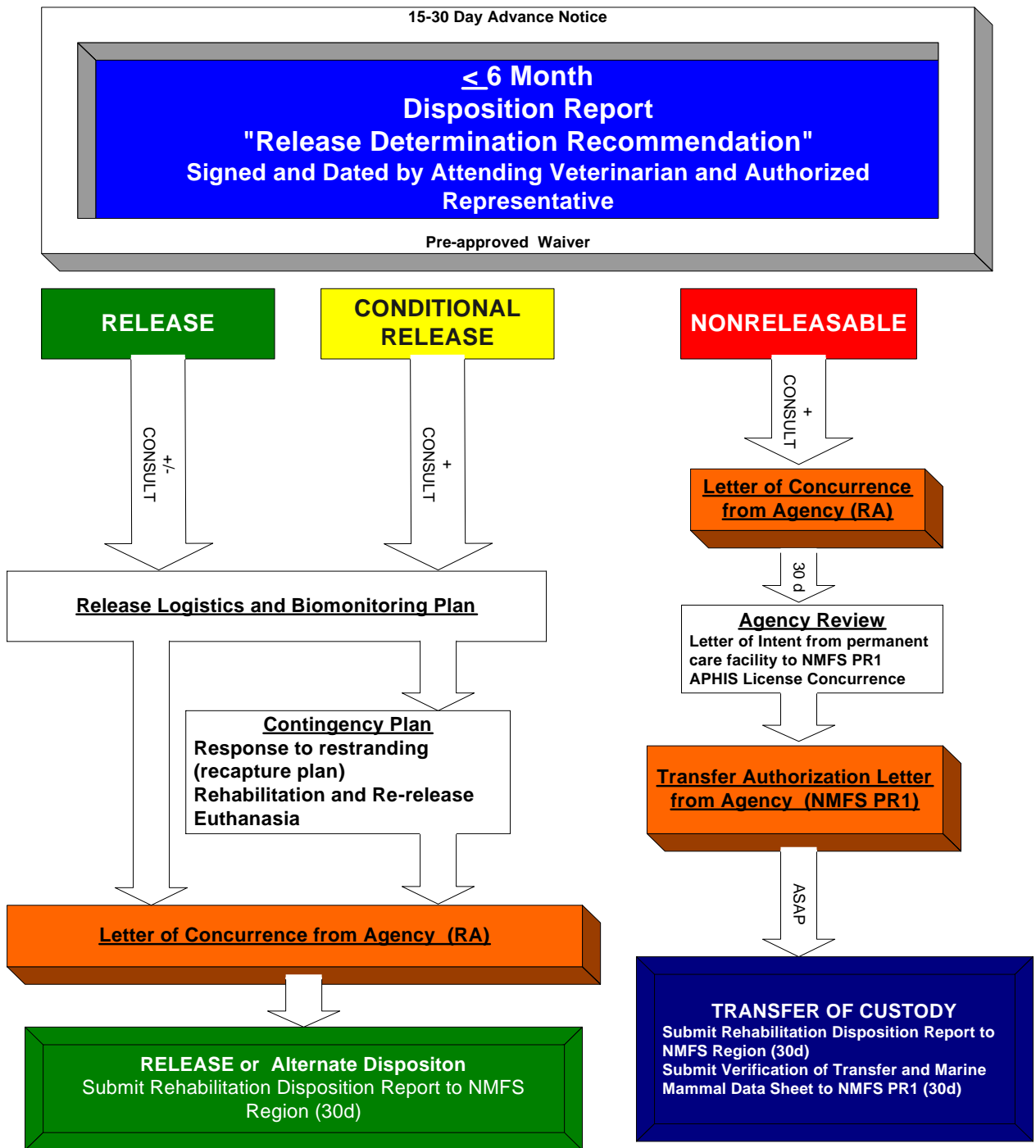


Figure 2.1 Documentation and Procedures Following Submission of the Written “Release Determination Recommendation.”

2.4 Assessment Process for a Release Determination

These guidelines provide an evaluative process to determine if a stranded wild marine mammal, following a course of treatment and rehabilitation, is suitable for release to the wild. The basic format for these guidelines provides assignments for each taxonomic group (e.g., cetaceans, pinnipeds, manatees, sea otters, walrus, and polar bears) of rehabilitated marine mammals into “Release Categories.” Release potential is characterized and categorized based on a thorough assessment of the health, behavior, and *ecological status* of the animal, as well as the release plan. It is critical that detailed historical, medical, and husbandry records are maintained and reviewed. Following a complete evaluation, the attending veterinarian and Assessment Team should categorize the animal into one of the following Release Categories: **Releasable**, **Conditionally Releasable**, **Conditionally Non-releasable (for manatees only)**, and **Nonreleasable**. Based on the findings from the Assessment Team, the attending veterinarian provides a recommendation on releasability to NMFS or FWS. The Agencies will review and consider this information as a part of the release determination review process.

In most release cases, NMFS requires release of marine mammals within six months of admission to rehabilitation (50 CFR 216.27(a)). This assessment can be done at more frequent intervals or earlier in the process of rehabilitation such as for obvious nonrelease cases (e.g., neonatal cetaceans, blind or deaf animals, etc). Rather than staying in a rehabilitation situation for up to six months, it may be in the best interest of the animal to immediately assess, determine releasability and transfer to a more suitable permanent care facility. This is particularly important for all marine mammals that need socialization or expert care.

The Assessment should include the following steps and general parameters (see Figure 2.2 on page 2-16):

- 1. Historical Assessment.** The Assessment Team should complete a historical evaluation that includes information from the time of stranding through the duration of rehabilitation. Such information can impact the management of the case and determination of release. The following circumstances should be documented: an ongoing epidemic among other wild marine mammals, presence of environmental events such as a harmful algal bloom or hazardous waste spill, acoustic insult, and special weather conditions (e.g., El Nino, hurricane, extreme cold, extreme heat, changes in oceanographic parameters, etc). It should be noted if the animal has previously stranded and been released, if the animal was part of an

official Marine Mammal Unusual Mortality Event, if the animal had been exposed to other wild or domestic animals just prior to and/or during rehabilitation or if the animal had attacked and/or bitten a human while being handled. This assessment should also include if the animal is evidence and part of a *human interaction* or criminal investigation. Such information can help guide the diagnostic and treatment strategy during rehabilitation and may impact the plan for post-release monitoring. It should be noted that strict measures are to be in place to prevent any disease transmission from other wild and domestic animals and humans during the rehabilitation process. Other considerations that should be taken into account include whether the animal was transferred from another facility (i.e., short-term triage/holding facility or rehabilitation facility) and the quality of care and treatment of each rehabilitation facility.

2. **Developmental and Life History Assessment.** In order to be deemed “Releasable,” all rehabilitated marine mammals should have achieved a developmental stage wherein they are nutritionally independent or released with their mothers. **Nursing nutritionally dependent animals should not be released in the absence of their mothers.** The ability of a young marine mammal to hunt and feed itself independently of its mother is critical to successful integration into the wild. Also of great importance is achievement of a robust body condition such that the animal has adequate reserves for survival. Other developmental issues such as reproductive status and advanced age seldom stand alone as determinants of release candidacy but are evaluated in conjunction with the overall health assessment. The Assessment Team should seriously consider information concerning the natural life history for the species; therefore, it is important that the makeup of the team include someone with expertise or working understanding of the species behavior and life history. Important questions to be addressed include: 1. Does the species depend on a social unit for survival or does it exist solitarily in the wild?; 2. Has the animal developed the skills necessary to find and capture food in the wild?; 3. Has the animal developed the social skills required to successfully integrate into wild societies?; 4. Is there knowledge of their home range or migratory routes?; and 5. Does the animal have skills in predator recognition and avoidance? In other words, how important is it to the survival of the animal to be released with or near other cohorts. The Assessment Team can work with NMFS to consult with outside experts to evaluate the animal and address these questions. Greater details regarding developmental assessment are included in the appropriate section for each taxonomic group.

- 3. Behavioral and Ecological Assessment and Clearance.** In order to be deemed "Releasable," a marine mammal should meet basic behavioral criteria and some of which are specific for taxa. Across taxonomic groups, behavioral requirements for release include demonstration of normal breathing, swimming, and diving with absence of aberrant (i.e., abnormal) behavior, auditory, and/or visual dysfunction that may significantly compromise survival in the wild and/or suggest diseases of concern. The rehabilitated animal should also demonstrate the ability to recognize, capture, and consume live prey prior to its release when access to live natural prey is feasible, or, in the case of manatees, the ability to identify and feed on appropriate forage types. Because abnormal behavior may reflect illness or injury, this should be done in concert with the attending veterinarian and the medical assessment. The "**behavioral clearance**" should be part of the overall recommendation for release that is passed on to NMFS or FWS. Outstanding concerns regarding the behavioral suitability of the marine mammal for release are to be discussed with NMFS or FWS. Additional information is included in the behavioral assessment section for each taxonomic group.

Also included in this thought process, is the concept of "**ecological status.**" This concept attempts to integrate the medical and behavioral evaluations into an extrapolation of how the animal would likely do in the wild when exposed to typical ecological pressures (personal communication Wells 2005). It goes beyond the assessment of the current condition of the animal in an artificial environment of temporary captivity at the rehabilitation facility relative to a limited set of immediately observable or measurable parameters. It places the animal in its current rehabilitated condition in the context of everyday life in the wild. This process recognizes the importance of a team approach, involving complementary expertise, to evaluate the probability that a rehabilitated animal will survive and thrive back in the wild. It would be useful to include in the deliberations an expert such as a behavioral ecologist with knowledge of the species specific (or closely related species) solutions to ecological challenges in the wild, who is familiar with the habitat including oceanographic parameters, ranging patterns, life history, feeding ecology, potential predators, social structure, and anthropogenic threats likely to be faced by the animal once it is released.

- 4. Medical Assessment and Clearance.** Although this document focuses on the evaluation and preparation of rehabilitated marine mammals for release, the medical assessment spans the entire time the animal is in rehabilitation and is critical to understanding the animal's health prior to release. The medical assessment includes information related to any diagnostic testing, treatment, and response to treatment. The attending veterinarian should perform a

hands-on physical examination upon admission and prior to the release determination. The attending veterinarian should review the animal's complete history including all stranding information, diagnostic test results (i.e., required by NMFS or FWS), and medical and husbandry records. The goal of required testing requested by NMFS or FWS is to safeguard the health of wild marine mammal populations and this is achieved by testing for diseases (reportable diseases) that pose a significant morbidity or mortality risk to wild populations.

Other reportable diseases include those that are of zoonotic or public health and safety concern and the agencies will require immediate notification to assure proper protocols are put into place. The agencies may request testing for other emerging diseases as part of a surveillance program to identify potential epidemics of concern or to determine health trends. Additional testing will be required if the animal was part of an official Marine Mammal Unusual Mortality Event. Specific testing requirements (i.e., pre-release health screen) will come from the NMFS Regional stranding coordinator through the Marine Mammal Health and Stranding Response Program and follows the term and responsibilities stated in the NMFS Stranding Agreement. For FWS species, contact the appropriate Field Office for guidance (see Appendix H for contact information).

Throughout the rehabilitation period, the frequency of physical exams and decisions for performance of additional diagnostic testing are determined by the attending veterinarian. The animal should be closely monitored for disease throughout rehabilitation. Regardless of the precise cause of the animal's stranding, the stranding event itself and the animal's abrupt transition to a captive environment can cause significant stress, which may increase its susceptibility to disease. (St. Aubin and Dierauf 2001). The rehabilitation facility may also harbor pathogens not encountered in the wild or new antibiotic resistant strains (Stoddard *et al.* 2005). Should the animal become infected with such a pathogen during rehabilitation, it could become ill or become a carrier of that pathogen and may pose a threat to a naïve wild population or even public health if it is released. Introduction of pathogens from rehabilitated animals to free-ranging wild animals is a significant concern for diseases with serious *epizootic or zoonotic* potential. (Gilmartin *et al.* 1993, Griffith *et al.* 1993, Spalding and Forrester 1993). Pathogens, particularly viruses, bacteria and some protozoans, can quickly replicate in their hosts and are susceptible to selective forces that can drive microbial adaptation and evolution leading to changes in transmission rates, virulence, and pathogenicity via genetic modification (Ewald 1980,

1983, 1994; Su *et al.* 2003). Thus, infectious agents may become more pathogenic as they pass through new individuals and naïve species.

The attending veterinarian is urged to utilize the full spectrum of diagnostic modalities available for health assessment of the animal. In addition to basic blood work, serology, microbial culture, cytology, urinalysis, and fecal exam, advanced techniques for pathogen detection such as Polymerase Chain Reaction (PCR), microarrays, and toxicology techniques are also available. A number of imaging techniques including radiology, bronchoscopy, and laparoscopy may also be utilized. The marine mammal literature has expanded to include numerous references on the performance and interpretation of diagnostic tests.

Except as otherwise noted, acquisition of blood for a complete blood count (CBC) and chemistry profile plus serum banking may be required by NMFS and FWS upon admission of a marine mammal to a rehabilitation facility. Such blood work should to be repeated by the original laboratory to avoid problems with inter-laboratory variability prior to release of the marine mammal. Microbial culture and isolation (aerobic and anaerobic bacterial, viral, fungal) should be a part of the medical evaluation and done upon admission and before exit from rehabilitation centers. Such paired tests help determine the types of pathogens that a marine mammal may have acquired in the wild and those that may have been acquired during its rehabilitation. This testing will be required for each cetacean entering a rehabilitation facility. Because the number of pinnipeds entering a rehabilitation facility annually may be quite high and presenting with similar diagnosis, particularly in El Nino years, NMFS may waive a thorough clinical evaluation as mentioned above for each pinniped but instead require that a percentage of these animals entering a facility have a through clinical work-up. This will be dependent on several factors such as the stranding location, time of year, the clinical diagnosis upon admission, and disease status of the wild population (e.g., ongoing outbreaks, Marine Mammal Unusual Mortality Events, etc). For walrus and polar bears, testing requirements will be on a case-by-case basis. The NMFS or FWS stranding coordinator can provide guidance on this and other recommendations mentioned above.

The attending veterinarian interprets the results of blood work and additional diagnostic tests in light of physical exam findings, the animal's age, reproductive status, molt status, and other relevant or historical factors. Circumstances surrounding the stranding, recent environmental events, known health issues of resident wild marine mammals, and exposure to other animals are examples of historical factors that may provide information regarding the health status of the stranded marine mammal. The attending veterinarian should also consider if the animal was held

in close proximity to other animals (e.g., penmates) undergoing rehabilitation and the disease history of those animals (e.g., within facility transmission). A number of references provide data useful for the interpretation of marine mammal diagnostic tests. Appendices E, F, G and H provide information on diseases of concern for cetaceans, pinnipeds, manatees and sea otters.

5. Release Considerations.

- a. Required Identification Prior to Release.** Marine mammals must be marked prior to release for individual identification in the wild (see 50 CFR Sec. 216.27(a)(5) for species under NMFS jurisdiction). Examples of identification systems include flipper roto tags, flipper All-Flex tags, Flipper Temple tags, passive integrated transponder tags (PIT tags), radio tags, and freeze branding (Geraci and Lounsbury 2005). Invasive procedures should be done under the direct supervision of the attending veterinarian and will need prior approval from NMFS and FWS. Proper photo identification can also be considered part of this protocol. Standard identification protocols exist for various groups of marine mammals that detail the methods and procedures for marking for future identification in the wild, and are included in the appropriate section for each taxonomic group. Contact the Agency stranding coordinator for more direction on tagging.

As described, roto tags or flipper tags (basic tags) for cetaceans and pinnipeds (except walrus) are to be obtained from or coordinated through the NMFS Regional Stranding Coordinator. For FWS species, tags for walrus are to be obtained from the *USGS* and tags for polar bears are obtained from FWS. Tags for manatees are to be obtained from FWS or the appropriate *State Agency*. Tags for sea otters are obtained by each individual LOA or permit holder.

Depending on the species, if the animal restrands or the tag is found, this information should be reported to the appropriate NMFS or FWS and/or USGS Stranding Coordinator. The recent rollout of the NMFS National Marine Mammal Stranding Database does centrally archive tag data for NMFS species. The FWS and/or USGS track these data for walruses, sea otters, and polar bears. For manatees, the State agencies maintain the tag data.

- b. Release Site Requirements and Recommendations.** Rehabilitated marine mammals are to be released to the wild under circumstances that reflect the natural

history of their species and maximize the likelihood for their survival. This will vary with age and sex of the individual. Timing should be set to minimize additional energetic and social demands and maximize foraging success and ease of social acceptance with conspecifics. For NMFS species, information regarding the date, location, and logistics of the release and any other information requested are included in the required 15-day advance notification of the Agency prior to release as cited in 50 CFR Sec. 216.27 (a)(2). Key factors in determining a release site include specific geographic and environmental factors such as weather, past successful releases, public use, potential for predators, and availability of prey as well as transport time. Maintenance of stock fidelity, proximity of conspecifics, timing in relation to breeding seasons and migration activities are also crucial considerations. As the natural history of each species provides the framework for planning a release, greater details for each taxonomic group are provided in the appropriate section of this document.

- 6. Post-Release Monitoring.** Post-release monitoring is a key method by which the efficacy of rehabilitation efforts can be assessed and revised. Such monitoring may also provide an opportunity to recover individuals that are unable to readjust to the wild. Simple post-release monitoring plans include such methods as visually tracking tagged or marked animals by land, air, or sea. Although more costly, radio-telemetry and satellite tracking are highly desirable methods of post-release monitoring as they provide detailed information of the movement and behavior of released marine mammals. Post-release monitoring is recommended for all rehabilitated marine mammals and is required for some taxonomic groups such as cetaceans and manatees depending on “release category.” The intensity of post-release monitoring efforts is determined by such factors as the age and species of the marine mammal, its status as threatened or endangered, and concerns regarding its health or developmental issues that may impact its ability to readjust to the wild. Advanced post-release monitoring techniques may be required for "Conditionally Releasable" animals when significant concerns regarding their chances of survival exist. All post-release monitoring plans for rehabilitated marine mammals are to be approved in writing by and coordinated with NMFS or FWS. NMFS may require the submission of follow-up monitoring summaries at specified intervals post-release (e.g., 90 day intervals), until such time as contact with the animal has ended. The final update should include tracking data and an evaluation of the success of the rehabilitation and release along with recommendations for future cases. NMFS

may use these data in order to make future revisions to marine mammal rehabilitation and release guidelines. In order to compare individual cases, standardization of data collection protocols for monitoring released animals may be helpful. Formal study of monitoring data and its dissemination to the stranding network will aid in the assessment of marine mammal rehabilitation and release programs.

2.5 Emergency or Special Situations

NMFS and FWS are responsible for monitoring and protecting the health of wild marine mammal populations. To fulfill this responsibility and as stated in the NMFS Stranding Agreements, these agencies may require or recommend increased documentation, testing, and/or post-release monitoring of rehabilitated marine mammals when a stranding event appears to be related to wide spread environmental events such as algal blooms, hazardous waste spills, outbreaks of disease, Marine Mammal Unusual Mortality Events, etc. An increased incidence of illness or injury to marine mammals may prompt NMFS or FWS to require specific diagnostic testing as part of a surveillance program of stranded animals and additional communication regarding case outcomes. NMFS and FWS personnel are to provide Stranding Network Participants and rehabilitation facilities with this information and may be able to provide additional funding and other support regarding such circumstances. For example, NMFS holds contracts with specific diagnostic labs that can provide services for rehabilitation facilities free of charge.

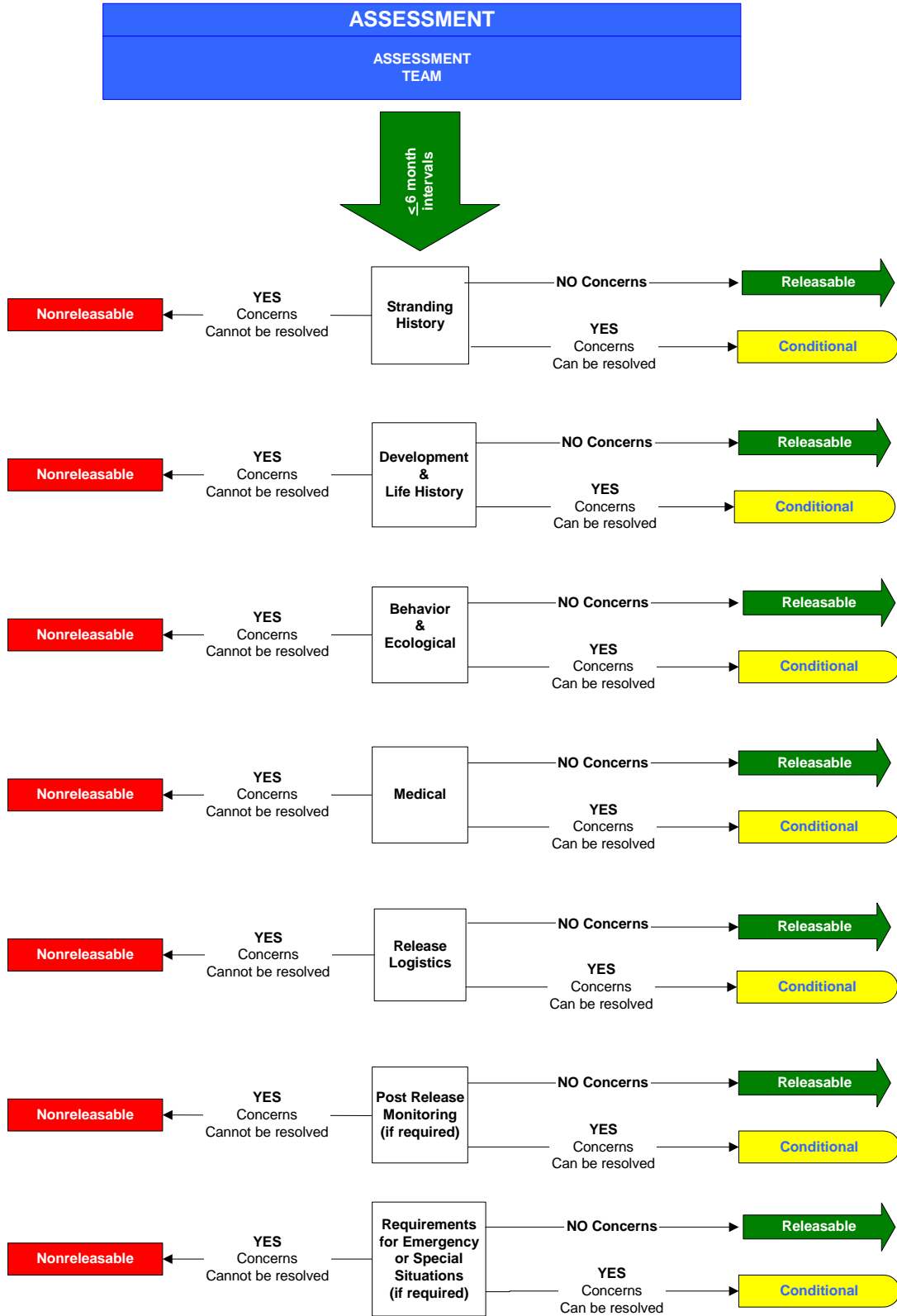


Figure 2.2 Steps and General Parameters for Animal Release Assessment

3. Guidelines for Release of Rehabilitated Cetaceans

3.1 Introduction

Few species of cetaceans (generally odontocetes) are rehabilitated in the United States each year. Although the natural history of cetacean differs among species, the general release criteria set forth in this document are applicable to all cetaceans in the United States. NMFS oversees rehabilitation and release of all cetacean species. Prior to release, NMFS requires that a thorough evaluation of the historical, developmental, behavioral, and medical records and status be completed by the Assessment Team (i.e., Stranding Network Participant, attending veterinarian, animal care supervisor, and biologist with knowledge of species behavior, ecology, and life history). For all cetacean cases, a release determination recommendation must be sent to the NMFS Regional Administrator at least 15 days (typically 30 day advance notice) in advance of a proposed release date. Waivers for advanced notice are not generally considered in cetacean cases. The release determination recommendation must include a signed statement from the attending veterinarian in consultation with his or her Assessment Team that the animal is **medically and behaviorally suitable for release in accordance with the release criteria** and include a written release plan and timeline. The request should also include a statement(s) from an expert biologist(s) with knowledge of the species or similar species that is being considered for release and should state that the animal meets behavior and ecological criteria for release in accordance with the release criteria. NMFS may recommend or require additional testing beyond these guidelines for reportable diseases in light of new findings regarding various disease and health issues. A release plan will require a justification statement and detailed description of the logistics for transporting, tagging, location, timing, crowd control, media coordination (if applicable), post release monitoring, and recovery should the animal fail to thrive. NMFS may require recapture contingency plan if the animal appears to be in distress or poses a risk following a specified time after release. NMFS may consult with individual experts for further guidance. NMFS reserves the right to impose additional requirements in the release plan as stated in 50 CFR 216.27 (a)(3).

3.2 Overview of “Release Categories” for Cetaceans

As further detailed in this chapter, cetaceans evaluated at rehabilitation facilities should fit into one of three “**RELEASE CATEGORIES:**”

1. “**RELEASABLE**”: There are no significant concerns related to likelihood of survival in the wild and/or risk of introducing disease into the wild population. Also, the animal meets basic

historical, developmental, behavioral, ecological, and medical release criteria. The release plan (post-release identification, release site, and post-release monitoring) has been approved in writing by NMFS Regional Administrator via a letter of concurrence.

2. **“CONDITIONALLY RELEASABLE”**: There are concerns about the historical, developmental, behavioral, ecological, and/or medical status of the animal raising a question of survival or health risk to wild marine mammals. A cetacean may be deemed conditionally releasable if requirements for release cannot be currently met but may be met in the future without compromising the health and welfare of the individual animal. In such cases, more time may be needed to determine the feasibility of release (see 50 CFR 216.27(a)(1)(iii)).

All “Conditionally Releasable” cetaceans must be discussed with NMFS. NMFS may consult with individual experts to discuss specific cases. Experts include scientists and veterinarians with expertise in cetacean biology and medicine (particularly experts with species-specific knowledge). Such discussions will clarify the most appropriate disposition. For example, additional medical testing, rehabilitative therapy, and strategies for post-release monitoring may be required to release a "Conditionally Releasable" cetacean.

3. **“NON-RELEASABLE”**: There are significant historical, developmental, behavioral, ecological, and/or medical concerns regarding its release to the wild. It has a documented condition demonstrating little chance for survival in the wild and/or a diagnosed health risk to wild marine mammals. This category also includes animals that have been in rehabilitation greater than two years (see 50 CFR 216.27(a)(1)(iii)). Additionally, a cetacean may be deemed “Non - Releasable” if an appropriate release site or post-release monitoring plan cannot be arranged.

For animals deemed “Nonreleasable” and with the concurrence from the NMFS Regional Administrator, the animal can be permanently placed in a public display or research facility or euthanized. If the animal is to be placed in permanent captivity, the receiving facility must be registered or hold a license from APHIS [7 USC 2131 et seq.] and comply with MMPA (16 USC 1374 Section 104(c)(7)). Facilities wishing to obtain nonreleasable animals should send a Letter of Intent to the NMFS Office of Protected Resources, Permits, Conservation and Education Division (NMFS PR1) (http://www.nmfs.noaa.gov/pr/permits/mmpa_permits.htm) to permanently retain (i.e., if affiliated with the rehabilitation facility) or acquire the animal. This letter should include a signature of the “Responsible Party of Record”. As part of the decision making process will consult with APHIS and may review the, qualifications and experience of staff, transport, and placement plans (i.e., integration based on appropriate composition of species, sex and age and the intended

proposed plan for public display or scientific research). Once approved, NMFS PR1 will respond with a Transfer Authorization Letter and include Marine Mammal Datasheets (MMDS), OMB form 0648-0084, to be returned to NMFS PR1 within 30 days of transfer. Upon receipt of the MMDS, NMFS PR1 will acknowledge the transfer in writing and return updated MMDS to the receiving facility.

3.3 Historical Assessment of Cetaceans

Historical stranding information may guide the management of rehabilitation and the plan for post-release monitoring. Important historical information should include:

- 1. A record of previous stranding** – Cetaceans that have previously stranded and been released, and subsequently strand again, are deemed “Conditionally Releasable” pending consultation with NMFS. Such animals should be reassessed and as they may have underlying health issues requiring additional evaluation, diagnostic testing and advanced post-release monitoring. Alternatively, such cetaceans may be assessed as “Non-Releasable” and be transferred to permanent captivity or euthanized.
- 2. A mother-calf pair** – A stranding of a mother/calf pair may be the result of illness or injury to either the mother or calf or both. If the calf dies or is euthanized, the mother may be conditionally releasable to her known social group or with conspecifics. If the mother dies or is euthanized, the calf is likely non-releasable as it is dependent and cannot forage on its own and should be placed in permanent captivity or euthanized.
- 3. An association with an ongoing epidemic among other wild marine animals or a Marine Mammal Unusual Mortality Event** - If the stranding of a cetacean occurs in close temporal or geographic proximity to an ongoing epidemic or Unusual Marine Mammal Mortality Event, fish kill, harmful algal bloom, hazardous waste spill, or other such environmental event, the cetacean is deemed “Conditionally Releasable” and consultation with NMFS is required. The agencies may request additional testing, documentation, and/or post-release monitoring of such cetaceans.
- 4. Stranding location and active/ home range** - Areas that may require additional assessment related to increased human activity (e.g. active fishery, increased recreational use, military activity, shipping activity, etc.) or hazardous environmental conditions (e.g., harmful algal bloom or hazardous waste spill, and/or special weather conditions like El Nino, hurricane, extreme cold, extreme heat, etc). Information on areas of human activity and environmental hazards is also vital for determining an appropriate release site.

5. **Exposure to (or injury from) other wild or domestic animals** – Cetaceans with a history of exposure to terrestrial wild or domestic animals are deemed “Conditionally Releasable” and must be discussed with NMFS. Should a rehabilitating cetacean contract such a pathogen, it could transmit the illness to its wild cohorts. Such transmission of pathogens can occur even when a rehabilitated cetacean is not showing clinical signs of disease. Consultation with NMFS is thus required for cetaceans that have a history of exposure to terrestrial animals.
6. **Was transferred from another holding, triage or rehabilitation facility** – The opportunity for exposure to pathogens can occur at different stages of response and rehabilitation; therefore, it is important to obtain medical records and document the quality of care and treatment at each stage of this process.
7. **Is evidence or part of a human interaction or criminal investigation;**
8. **Part of a Mass Stranding (stranding involving more than one cetacean if not a cow-calf pair)** – Mass strandings are typically influenced by behavior with the majority of animals stranding healthy but in need of assistance to return to the ocean. If a stranding response can be mounted quickly and safely and the animals are assessed and deemed healthy, individuals of a mass stranding may be relocated for immediate release. However, some individuals may be admitted into rehabilitation and may be conditionally releasable based on the pathologic findings of the pod mates that perished during the event.

3.4 Developmental Assessment of Cetaceans

A fundamental criterion for developmental clearance of a rehabilitated cetacean is that it has attained a sufficient age to be nutritionally independent, including the ability to forage and hunt. The cetacean calf grows from a state of total nutritional dependence through nursing to partial maternal dependence as it learns to forage for fish and/or squid. Eventually the young cetacean achieves total nutritional independence and forages completely on its own. Factors including individual and species variations, rehabilitation practices, health status plus environmental factors affect the rate at which such development occurs (see Appendix I for Developmental Stages by Cetacean Species). For *Tursiops truncatus*, the age at which a calf may be completely weaned is approximately 1-4 yrs. Calves that are nutritionally dependant at the time of admission to rehabilitation are automatically placed in the “Conditionally Releasable” category and must be discussed with NMFS. In situations where a nursing dependent calf strands with its mother and both animals achieve medical, behavioral and ecological clearance, the calf must be released with its mother. Very young nursing calves that strand

alone or whose mothers die may lack socialization and basic acquired survival skills as they grow older. Neonatal and very young nursing calves will be deemed “Non-Releasable.” Cases involving older calves and juveniles having some foraging skills must also be discussed with NMFS. With thorough assessment and optimum plans for release and subsequent monitoring, some of these older calves and young juveniles may be “Conditionally Releasable.”

Reproductive status in and of itself does not impact release candidacy unless a female strands with its calf or gives birth during rehabilitation. For instance, a single pregnant female should be returned to the wild as soon as both medical and behavioral clearance has been achieved and NMFS approves of the release plan. However, all mother-calf cetacean pairs are deemed "Conditionally Releasable" and must be fully discussed with NMFS and its advisors. The well-being of both the mother and the calf is to be carefully considered in such cases. Efforts should be made to reduce their time in captivity and to keep the mother-calf pair together, yet allow for continued treatment and rehabilitation of either or both individuals if warranted by medical conditions.

Cases involving cetaceans showing signs of advanced age should also be discussed with NMFS. Although it is not always feasible to precisely determine the age of a living adult cetacean, the physical condition of the animal may suggest to the Assessment Team that it is geriatric. Geriatric animals may have underlying clinical conditions that contributed to their stranding or may be behaviorally or ecologically unsuited for continued life in the wild. Thus, these animals should be deemed "Conditionally Releasable" and thoroughly evaluated.

3.5 Behavioral Assessment of Cetaceans

Complete assessment of the behavior and ecological potential may be limited by the confines of a temporary captive environment and behavior of the animal will differ from that displayed in the wild. A full understanding of what constitutes “normal” for a given cetacean species also may be lacking. Behavioral and ecological clearance is thus founded on evaluation of basic criteria necessary for the survival of the animal in the wild. Behavioral evaluation often overlaps with medical evaluation as abnormal behavior may indicate an underlying disease process. Experts with species specific knowledge of cetacean behavior and ecology, in addition to the attending veterinarian, should each assess the behavior of the rehabilitated cetacean. These assessments should involve closely evaluating and documenting behavior throughout rehabilitation (i.e. *ethogram*), relating the behavioral, sensory, and physical capabilities of the animal to its prospects of surviving and thriving in the wild.

To achieve basic behavioral clearance, a cetacean should breathe normally (including rate, pattern, quality, and absence of respiratory noise), swim and dive effectively without evidence of aberrant behavior, auditory, or visual dysfunction that may compromise its survival in the wild or suggest underlying disease that may threaten wild marine mammals. Behavioral clearance also should include confirmation that the cetacean is able to recognize, capture, and consume live prey when such tests are practical (for example, it may not be possible to obtain live prey for offshore or deep water species). Documented dependency on or attraction to humans and human activities in the wild would warrant special consideration as a possible conditional release or non-release decision.

Basic behavioral conditioning of wild cetaceans for husbandry and medical procedures may be necessary during rehabilitation as long as every effort is made to limit reinforced contact with humans. Station training may be necessary to assure animals are appropriately fed and to control social dominance when multiple animals are being treated in the same pool or pen. Also, such conditioning may reduce stress for the animal during examinations and acquisition of biological samples. Behavioral conditioning of cetaceans is to be done for the shortest time necessary to achieve rehabilitation goals and is to be eliminated prior to release such that association of food rewards with humans is diminished. Additional information on behavioral conditioning of marine mammals is provided in the references.

3.5.1 Breathing, Swimming and Diving

The Assessment Team should evaluate respiration to determine that the animal does not exhibit abnormal breathing patterns or labored breathing. Respiratory measurements should be standardized to record the number of breaths per five-minute intervals. Evaluation of swimming and diving should confirm that the cetacean moves effectively and does not display abnormalities such as listing, difficulty submerging, asymmetrical motor patterns, or other potentially disabling conditions. In small pools (i.e., less than 50ft diameter), cetaceans may not be able to demonstrate a full range of locomotor and maneuvering abilities; therefore, evaluation in larger pools is highly recommended. Cetaceans exhibiting persistent abnormalities of breathing, swimming, or diving, are to be considered “Conditionally” or “Nonreleasable” and must be discussed with NMFS. Medical records should document the level of organ evaluation, such as thoracic x-rays, ultrasound, bronchoscopy, etc. Discussions of releasability by the Assessment Team should be based on these records.

3.5.2 Aberrant Behavior

The behavioral clearance of the cetacean should include confirmation that the animal does not exhibit aberrant behavior. Examples of aberrant behavior include but are not limited to regurgitation, head pressing, postural abnormalities such as repetitive arching or tucking, decreased range of motion, abnormal swimming or breathing as described above or excessive interest in interaction with humans. Cetaceans displaying abnormal behavior may have an underlying disease process or may have permanent injury or tendencies that will decrease their chance of survival in the wild. Cetaceans displaying aberrant behavior are considered “Conditionally Releasable” or “Nonreleasable” and thus are to be reported to and fully discussed with NMFS.

3.5.3 Auditory and Visual Acuity

The behavioral and ecological clearance of the cetacean should include evaluation of auditory and visual acuity. Auditory dysfunction, involving production or reception of typical sounds or signals occurring in the wild, may be a reflection of active disease, permanent injury, or degenerative changes associated with aging. Evaluators may suspect that a cetacean has compromised auditory function if it appears to have difficulty locating prey items or various objects via echolocation or if it minimally responds to novel noises. In each case, it is highly recommended that hydrophone-recording systems with an appropriate frequency response be used to record sound production by the cetacean to document production or normal classes and qualities of sounds. It is required that cetaceans assessed as having compromised auditory function be discussed with NMFS, as reduced auditory abilities can compromise the ecological functionality and social abilities of some species, thus reducing the probability of survival in the wild. Additional diagnostic testing such as evoked auditory potential may be necessary to further evaluate the animal and this requires approval and coordination with NMFS. Cetaceans having discoloration, swelling, abnormal shape, position or appearance of the eye or eyelids may have visual dysfunction and also require discussion with NMFS.

3.5.4 Prey Capture

The rehabilitated cetacean should demonstrate foraging behavior (i.e., the ability to hunt and capture live prey) prior to its release when practical. Consumption of solid food should also be part of the medical assessment (able to swallow and free of pharyngeal and/or gastrointestinal abnormalities). Prey items normally found in the animal’s environment and of good quality should be used whenever possible. Natural prey items may not be available for rehabilitating pelagic cetacean species; evaluators may try to utilize other prey species. However, many cetaceans often will not consume

non-prey species. For social species, it may be just as important to look for cooperative or coordinated feeding behavior. NMFS should be notified if a rehabilitated cetacean appears compromised in its ability to recognize and/or capture live prey or if logistical issues preclude assessment of this behavior.

Cetaceans that are believed to have had limited foraging experience prior to stranding (i.e., young juveniles) require particularly careful assessment of prey capture ability. This behavior is learned and cetaceans that strand at a young age may not have gained adequate foraging skills to sustain themselves in the wild. Also, knowledge of the natural history of the species may be useful. If the species forages and hunts as a social unit, this may affect its ability to survive in the wild if released as a solitary animal. Similarly, amputated appendages may preclude the use of some specialized feeding techniques or attainment of sufficient speed or maneuverability for prey capture, or diminished auditory function may prevent individuals that prey on soniferous (i.e., noise-producing) fishes from locating sufficient prey to survive (e.g., coastal bottlenose dolphins).

3.5.5 Predatory Avoidance

Testing a cetacean's ability to avoid predators is not practical in most cases, but indirect evidence of abilities can be evaluated. If the individual is determined to have stranded primarily as a direct result of a shark attack (as opposed to secondarily, as an attack on an otherwise compromised animal), then this suggests that the animal may lack the skills or physical abilities to continue to survive in the wild. This would be especially important in the case of young animals, recently separated from their mothers. For social species, observations of group behavior may indicate the cohesiveness of the group.

3.5.6 Social Factors

The survival of an individual cetacean may be critically dependant on social organization and conspecifics (see Appendix I for Cetacean Species Specific Group Occurrence). A tremendous range of variability of sociality exists across the cetaceans. Members of species involved in mass strandings (i.e., presumably a social species) should not be rehabilitated singly or in unnatural groups (e.g., a group of neonates without their mothers). The composition of these groups should be carefully considered when animals are recovered from a stranding. It would be naïve to assume that any two cetacean species can be put together to form a functional social unit or that even two unfamiliar members of the same species will bond into a functional social unit. Therefore for social species, it is important to assess the group dynamics and behavior (*reasonable social group*) in the same manor as

for individuals. Cetaceans that do not live in social groups do not necessarily require conspecifics for release, as long as they are released into an appropriate habitat where conspecifics are likely to occur. Indications of social problems that may be a contributing factor or direct cause of the stranding (e.g., evidence of extensive fresh tooth raking marks in the absence of other medical factors) should be considered. Medical concerns related to dentition, appendages, or hearing and sound production capabilities may be missing tools for socialization and require special consideration.

3.6 Medical and Rehabilitation Assessment of Cetaceans

The medical assessment includes information related to any diagnostic testing, treatment, and response to treatment. The attending veterinarian should perform a hands-on-physical examination upon admission and prior to the release determination. The attending veterinarian should review the animal's complete history including all stranding information and diagnostic testing (i.e., required by NMFS and any additional data), and medical and husbandry records (including food consumption and weight and length progression). The primary goal of the testing required by NMFS is to determine the risk to the health of wild marine mammal populations. This is achieved by testing for diseases that pose a significant morbidity or mortality risk to wild populations (i.e., reportable diseases). Those that are zoonotic or public health and safety concern require immediate NMFS notification to assure proper protocols are put into place. Additional testing will be required if the animal was part of an official Marine Mammal Unusual Mortality Event. NMFS may request testing for other emerging diseases as to support surveillance for potential epidemics of concern and to monitor changes in disease status due to rehabilitation practices. The directive for the pre-release health screen will come from the NMFS Regional Stranding Coordinator through the Marine Mammal Health and Stranding Response Program. Appendix D lists diseases of concern for cetaceans.

A complete health screen should be completed upon admission and just prior to release including basic blood collection for a CBC, chemistry profile (Chem-12 including BUN and creatinine, enzymes and electrolytes), serology, microbial and fungal culture (i.e., blow hole, rectal, and lesions), cytology, urinalysis, and fecal exam. If the animal is female and at reproductive age, it is advisable that pregnancy be ruled out prior to prescribing potentially fetal toxic medication. Serum (3ml) should be banked at the time of admission and just prior to release for retrospective studies. Cessation of antibiotics should occur two weeks prior to release examination to assure that the animals is no longer dependant on the medication and that the drug has cleared based on the pharmacokinetics and requirements made by the veterinary community and the Food and Drug Administration. Some antibiotics clear the body quickly and require shorter withdrawal time; therefore, when this

recommendation cannot be met seek advice from NMFS. The attending veterinarian should provide written notification to the NMFS Regional Stranding Coordinator that a health screen and assessment of the cetacean scheduled to be released has been performed. The notification must also include the final release plan and a plan for hands-on physical examination by the attending veterinarian (including last blood draw and evaluation) within 72 hours of its release. The required documentation and signed release determination recommendation will be part of the administrative record along with the signed (by the NMFS Regional Administrator) letter of concurrence approval for release.

It is of extreme importance that the cetacean be monitored closely for disease throughout its rehabilitation. Regardless of the stranding etiology, handling and care can cause significant stress increasing susceptibility to disease. If not properly managed, rehabilitation facilities provide an environment where genetically altered or novel pathogens not typically encountered in the wild can easily be transmitted from animal to animal. This scenario can be problematic when an animal is exposed and becomes a carrier of that pathogen to a naïve wild population if released. Introduction of pathogens from rehabilitation centers to the wild is a significant concern as diseases with serious epizootic potential have previously been detected (Stoddard *et al.* 2005). Infectious agents may become more pathogenic as they pass through new individuals and naïve species or become genetically altered from indiscriminant use of antibiotics.

The attending veterinarian is urged to utilize the full spectrum of diagnostic modalities available for health assessment of the cetacean. In addition to basic blood work, serology, microbial and fungal culture (i.e., blow hole, rectal, and lesions), cytology, urinalysis, and fecal exam, advanced techniques for pathogen detection such as PCR and toxicology analyses are available. A number of diagnostic imaging techniques including radiology, CAT scans and MRI may be used as well as bronchoscopy and laparoscopy. The cetacean literature has expanded to include numerous references on the performance and interpretation of diagnostic tests.

Both agencies may request testing for other *emerging diseases* as part of a *surveillance program* to identify potential *epidemics of concern*. Additional testing will be required if the animal was part of an official Marine Mammal Unusual Mortality Event. Specific testing requirements (i.e., pre-release health screen) will come from the NMFS Regional stranding coordinator through the Marine Mammal Health and Stranding Response Program and follows the term and responsibilities stated in the NMFS Stranding Agreement.

3.7 Release Site Selection for Cetaceans

Ideally, the rehabilitated cetacean is released into its home range, genetic stock, and social unit. For species such as coastal resident bottlenose dolphins, returning the animal to its exact home range may be extremely important. For widely ranging species such as the pilot whale, specificity of the release site may be less critical as the genetics of these cetaceans may be more *panmictic*. Returning the animal to its home range or species range may increase the likelihood that the animal will have a knowledge of available resources, potential predators, environmental features, and social relationships that would support its successful return to the wild. Also, consideration should be given to time of year since the range of the animal may change based on season and where conspecifics are along their migration route at a given point in time.

In many cases, the precise home range of the individual will not be known. There may not be any information regarding the animal's social unit or its individual ranging patterns prior to its stranding. In some cases, photographic identification records may help identify the home range or social group for some species. When the home range of the cetacean is unknown, the animal should be released at a location near to its stranding site that is occupied regularly by its conspecifics, ideally those of the same genetic stock. Genetic analyses of a tissue sample via a qualified laboratory and appropriate tissue archive may aid with determining the appropriate stock of origin. Pelagic cetaceans are to be released offshore into a habitat occupied by conspecifics at that time of year. For animals that mass strand depending on the life history, social units should be maintained whenever possible thus cetaceans that stranded together should be released together as a group. Because much of cetacean behavior is learned, juveniles should be released with adults or in the presence of conspecifics and mothers with their dependant young.

Other factors to be considered in release site selection are availability of resources and condition of the habitat. NMFS and the Stranding Network Participant are to ensure that severely depleted resources or degraded habitat at the release site do not pose an obvious threat to the released animal. Release plans should include alternative release sites or schedules if there is a substantial decline in resources or habitat quality such as massive fish kills, significant declines in commercial and/or recreational fish landings, harmful algal blooms, or high concentrations of environmental contaminants. Animals should not be released into areas of dense public use and/or high commercial and recreational fishing activity.

3.8 Marking for Individual Identification of Cetaceans Prior to Release

If feasible, three forms of identification should be obtained and/or applied including photo-identification (documenting individual identifying physical characteristics such as scars, color pattern, dorsal fin shape, etc.), freeze branding, and dorsal fin tag. For delphinids, photo-identification should include body, face, dorsal fin, flukes, and pectoral flippers. A numerical freeze brand, at least 2” high, is to be placed on both sides of the dorsal fin and on the animal’s side just below the dorsal fin, except for species that lack a dorsal fin or have small dorsal fins such as the harbor porpoise. Roto-tags should be attached on the trailing edge of the dorsal fin. Tag application and freeze branding should only be done by experienced personnel as improper tagging may cause excessive tissue damage, infection or premature loss of the tag or mark. Marking of non-delphinid cetaceans can be more challenging due to unique anatomical features and should be determined in consultation with NMFS. NMFS must receive advance notification of and approve any additional forms of identification that a rehabilitation facility voluntarily wishes to place on a cetacean besides those mentioned above. For instance, NMFS authorization is required prior to placement of VHF radio or satellite-linked radio tag.

The identification system to be used on cetaceans deemed “Conditionally Releasable” must be approved by NMFS. As these animals are required to have an advanced post-release monitoring plan, conditionally releasable cetaceans will often be VHF or satellite tagged in addition to photo-identification, freeze-branding, and placement of a visual fin tag.

3.9 Post-Release Monitoring of Cetaceans

Few data are currently available regarding the fates of released cetaceans. Post-release monitoring provides essential information to develop and refine marine mammal rehabilitation and release practices. “Conditionally Releasable”, cetaceans should be monitored daily for at least two months after release. The specific post-release monitoring plan for each cetacean is to be coordinated through NMFS. Post-release monitoring methods may include visual observations from land, sea, or air, and/or radio or satellite-linked monitoring. It is understood that post-release monitoring of cetaceans, particularly pelagic species, is an extensive undertaking for which significant support is required, often from multiple sources. NMFS may be able to provide resources such as financial support, personnel, and equipment for post-release monitoring on a case-by-case basis but is not typical. Therefore, this requirement should be considered at the time of stranding and influence decisions regarding rehabilitation.

The first month after release of the cetacean is a particularly critical period during which it will become evident whether the animal is thriving, including avoiding predators, capturing sufficient prey and being accepted by conspecifics. For coastal species it is recommended that monitoring continue on a regular basis for at least one full year and such funding resources as the Prescott Stranding Grant program can assist with the financial burden of such endeavors. NMFS requires periodic and final reports on released animals. These reports will facilitate future revisions to the marine mammal rehabilitation and release guidelines. In order to compare individual cases, standardization of data collection protocols for monitoring released cetaceans will be required. NMFS will provide the stranding network with the desired format for receipt of tracking data in reports. Presentation, discussion and formal study of monitoring data and its dissemination to the stranding network will aid in the assessment of cetacean rehabilitation and release programs.

Release plans should include the feasibility and contingency plans that are available for recovering the animal, should monitoring indicate its failure to thrive. The release plans should also address treatment and euthanasia if the animal is retrieved or restrands. In addition, NMFS may require such contingency plans for “Conditionally Releasable” cetaceans, depending on the circumstances.

3.10 Decision Tree – Cetacean Release Categories

3.10.1 Releasable

The cetacean is cleared for release by the attending veterinarian (including the Assessment Team) and the NMFS Regional Administrator concurs in writing. This means that the requirements for the health and behavior assessment, marking/tagging, and release plan (including contingency plans) have been met and both veterinary and biological opinions regarding release have been received (See text for details). For an animal to be considered “releasable” the response to all of the essential release criteria below should be met.

History - Cetacean has no historical information requiring consultation with NMFS such as stranding in close temporal or geographic relation to an unusual marine mammal mortality event, stranding associated with an environmental event of concern such as a harmful algal bloom, a hazardous waste spill, an acoustic insult, part of a human interaction or criminal investigation, or involvement in a mass stranding.

Developmental Stage/Life History

- a) Cetacean has attained sufficient size and age to be nutritionally independent.
- b) Cetacean is not a female with calf.
- c) Cetacean is not deemed to be a geriatric animal and not compromised due to age related conditions.
- d) Cetacean was not exposed to captive or domestic animals during rehabilitation.

Behavioral Clearance

- a) Cetacean breathes normally, swims and dives effectively.
- b) Cetacean does not exhibit aberrant behavior, auditory, or visual deficits.
- c) Cetacean demonstrates appropriate foraging ability.
- d) Cetacean did not strand as direct result of a failure to avoid predators (an example of possible lack of predator avoidance would be evidence of extensive shark attack wounds in the absence of other primary causes of stranding).
- e) Cetacean did not strand as a result of taking food from humans in the wild.
- f) Cetacean did not strand as a direct result of a demonstrated inability to obtain sufficient food in the wild (e.g., emaciation without a clear medical cause).
- g) Cetacean did not strand as a direct result of conspecific injury.

Medical Clearance

- a) Health status of the cetacean is deemed appropriate for release by the attending veterinarian (animal is likely to survive in the wild and does not pose a threat to wild marine mammal populations).
- b) Hands-on physical exam by the veterinarian at time of admission to rehabilitation and within three days (72 hours) of release.
- c) Laboratory tests performed at time of admission and within seven days of release are complete and submitted for review:
 - CBC;
 - Chemistry Profile to include: Glucose, Sodium, Potassium, Chloride, Calcium, Phosphorus, Iron, Bicarbonate, Alkaline Phosphatase, ALT, AST, GGT, BUN, Creatinine, Uric Acid, CPK;
 - Serum Banking (3 ml upon admission and 3 ml at time of release, more if available; and
 - Aerobic Bacterial Cultures (Blowhole, Rectal, Lesions).

- d) Cetacean is free of drugs (excluding sedatives used for transport) a minimum of 2 weeks prior to release (should document that treatment was effective; clinical values remain normal for at least 2 weeks).

Release Logistics

- a) Tagging/Marking - Delphinids: 3 forms of identification approved by NMFS (dorsal fin tag, freeze brand, photo, other).
- b) Release Site - Return to appropriate stock and geographical site under favorable environmental conditions, and for social species, introduced in areas with conspecifics.
- c) Tracking - minimum of 2 months post-release monitoring coordinated with NMFS (provide NMFS with regular tracking updates).
- d) Provide NMFS a report at the end of the tracking period.

3.10.2 Conditionally Releasable

The cetacean did not meet one or more of the essential release criteria but may be releasable in the future pending resolution of the problems identified by the attending veterinarian and Assessment Team (See text for details). This may involve discussion with outside experts in consultation with NMFS. Contingency for recapture, treatment, permanent care and euthanasia should be required if releases is unsuccessful and animal restrands. The following may be true for one or more assessment points.

History

- a) Cetacean stranded in close temporal or geographic relation to a Marine Mammal Unusual Mortality Event.
- b) Cetacean stranded in association with an environmental event of concern such as a harmful algal bloom, a hazardous waste spill, an anthropogenic acoustic insult.
- c) Cetacean was involved in a mass stranding.
- d) Cetacean stranded previously on one or more occasions.
- e) Single stranding of a social species.

Developmental Stage/Life History

- a) Cetacean is nutritionally dependant based on known life history but older calf with some foraging skills.

- b) Cetacean is recently weaned.
- c) Cetacean is a female with calf.
- d) Cetacean is a geriatric animal and is compromised due to age related conditions.

Behavioral Assessment

- a) Cetacean exhibits aberrant behavior, which may include but is not limited to, abnormal breathing, swimming, and/or diving, auditory or visual dysfunction.
- b) Ability of the cetacean to forage for prey is questionable or logistical circumstances prevent testing of forage or prey capture ability.
- c) Cetacean requires significant conditioning due to developmental stage and/or medical condition.
- d) Predator wounds were likely secondary to another cause of the stranding.
- e) Attraction to humans in the wild has been extinguished.
- f) Cetacean is a social species and has stranded due injury from conspecifics.

Medical Assessment - The attending veterinarian determines that the health status of the cetacean is uncertain regarding suitability for release (concern that the animal has a lower or questionable chance of survival or has a questionable condition or test results indicating that it may pose a health risk to wild marine mammals –reportable disease). The veterinarian arrives at a determination of “Conditionally Releasable” through performance and interpretation of physical examinations and interpretations of tests such as CBC, chemistry profile, cultures and other tests required by NMFS, plus any other diagnostic tests he/she deems necessary to fully evaluate the animal. Response of the cetacean to therapy and the clinical judgment of the veterinarian may also contribute to a determination of “Conditionally Releasable.” Further tests may be required including ultrasound or radiographs to clarify medical issues.

Cetaceans exhibiting any of the following medical or physical conditions are to be discussed with NMFS, with the expectation that without resolution, such conditions will make the animal an unsuitable candidate for release:

- a) Compromised function of sensory systems (auditory, visual).
- b) Decreased range of motion.
- c) Deformed or amputated appendage.

- d) Laboratory tests interpreted as abnormal or suspicious of disease (CBC, chemistry, cultures, or other tests).

Release Logistics

- a) Tagging, marking, post-release monitoring - Extensive post-release monitoring of cetaceans deemed "Conditionally Releasable" is required and is to be approved and coordinated through NMFS. Post-release monitoring of such animals should be at least two months duration, likely longer, and is also likely to include advanced tracking techniques such as satellite tracking via radio-tracking or photographic identification searches if the animal is likely to move outside of the range of monitoring. The cetacean will continue to be deemed "Conditionally Releasable" until the post-release monitoring plan required by NMFS can be implemented.
- b) Stock of origin is unknown, uncertain, or temporarily unreachable due to environmental (weather conditions) or natural history factors (migration) - When such circumstances exist, the case is to be discussed with NMFS. The cetacean will be deemed "Conditionally Releasable" until specifics of release are approved by NMFS.
- c) Plan for recapture - NMFS may request a recapture plan if reasonably feasible for a "Conditionally Releasable" cetacean prior to its release as a contingency for the animal should it appear unable to readjust to the wild. The cetacean will continue to be deemed "Conditionally Releasable" until NMFS approves a recapture plan.
- d) Contingency plans if the release is not successful or the animal restrands. This should include plans for follow up treatment, permanent care and/or euthanasia

3.10.3 Non-Releasable

The cetacean is determined to be unsuitable for release by the attending veterinarian and Assessment Team and the NMFS Regional Administrator concurs. The animal did not meet the essential release criteria, and thus does not have a reasonable chance of survival in the wild or poses health risks to wild marine mammals. See section B3 the procedure for placement of nonreleasable animals.

History

- a) Cetacean has been in captivity for more than two years or is otherwise too habituated and counter-conditioning techniques have been unsuccessful.

- b) Cetacean stranded previously on one or more occasions.

Developmental Stage/Life History

- a) Cetacean is nutritionally and socially dependent, and based on known life history, is not of age to be nutritionally independent (neonate and young nursing calf without foraging skills).
- b) Cetacean is geriatric and exhibiting other medical and/or behavioral abnormalities.

Behavioral Clearance

- a) Exhibits abnormal breathing, swimming, diving, or other aberrant behavior that may compromise survival in the wild or may be caused by a disease process of concern to wild marine mammals.
- b) Exhibits auditory or visual dysfunction that would compromise survival in the wild or may be caused by an ongoing disease process of concern to wild marine mammals.
- c) Unable to capture and consume live prey.
- d) Demonstrated inability to avoid predators.

Medical Clearance - The attending veterinarian determines that the health of the cetacean precludes release. In such cases, the medical condition of the animal prevents normal function to a degree that would compromise its survival in the wild or pose a health risk to wild marine mammals. The veterinarian supports the determination of “Non-Releasable” status with required physical examinations and tests such as CBC, chemistry profile, cultures and those required by NMFS plus any other tests he/she deems necessary to fully evaluate the animal. Further tests may be required including ultrasound or radiographs to clarify medical issues. The veterinarian presents his/her findings to the NMFS regional stranding coordinator and recommends that the cetacean be maintained in captivity or be euthanized.

Conditions that warrant consideration that a cetacean be deemed “Non-Releasable” include and are not limited to the following:

- a) Compromised function of sensory systems (auditory, visual).
- b) Decreased range of motion.
- c) Deformed or amputated appendage.
- d) Laboratory tests interpreted as abnormal or suspicious of disease of concern.
- e) Geriatric, believed to have chronic disease, which may compromise survival in the wild.

Release Logistics

- a) Tagging/Biomonitoring - the cetacean requires extensive post-release monitoring for which there are insufficient resources.

4. Guidelines for Release of Rehabilitated Pinnipeds

4.1 Introduction

Each year in the United States, several different species of pinnipeds from three taxonomic families, Phocidae (true seals), Otariidae (eared seals), and Odobenidae (walrus) are rescued and rehabilitated. As walrus are under the jurisdiction of FWS, these guidelines should be generally applied but there are a few exceptions. Close consultation with FWS is required with each walrus case.

Except as otherwise noted, each pinniped is required to have a complete historical, developmental, behavioral, and medical status assessment by the attending veterinarian and animal care supervisor and be properly marked for identification prior to release. The release determination recommendation must include a signed statement from the attending veterinarian in consultation with his or her Assessment Team that the animal is **medically and behaviorally suitable for release in accordance with the release criteria** and include a written release plan and timeline. NMFS or FWS may require additional testing for reportable diseases in light of new findings regarding various disease and health issues and this information should be included in the release request. A release plan will require a justification statement and detailed description of the logistics for transporting, tagging, location, timing, crowd control, media coordination (if applicable), post release monitoring, and recovery should the animal fail to thrive (e.g., restrands). NMFS or FWS may require recapture if the animal appears to be in distress following a specified time after release. Recapture will require special authorization from NMFS or FWS prior to this activity. NMFS or FWS may consult with individual experts for further guidance. NMFS reserves the right to impose additional requirements in the release plan as stated in 50 CFR 216.27 (a)(3).

The NMFS Regional Administrator may allow for pre-approved waivers for routine pinniped cases as stated in 50 CFR Section 216.27(a)(2)(i)(A). Typically these cases are anticipated (e.g., the typical annual cluster of cases where the etiology is known and diagnosis and treatment is routine) and can be appropriately planned. For such waivers, the Stranding Network Participant should submit a protocol for such cases including location of release. These waivers will require pre-approval by the NMFS Regional Administrator on a schedule as prescribed in the Stranding Agreement. NMFS may require that a certain percentage of these cases that present with similar clinical signs and diagnosis be thoroughly tested and assessed each year. Similarly, NMFS may give blanket authorization for pre-approved release sites and for post-release monitoring plans.

4.2 Overview of Release Categories for Pinnipeds

Pinnipeds evaluated at rehabilitation facilities can be grouped into one of three “Release Categories” based on historical, developmental, behavioral, ecological, and medical criteria set forth in a **standardized checklist**. It is recommended that the standardized checklist in section V.G. should be used to assess and document the release candidacy of rehabilitated pinnipeds. The checklist includes a health statement (i.e., health certificate) to be signed by the attending veterinarian, which verifies that a pinniped meets appropriate standards for release.

The majority of walrus typically strand as calves and are not good release candidates due the extended period of maternal dependency. FWS generally considers walrus calves to be “nonreleasable” and considers all stranded walrus on a case-by-case basis for permanent placement. If the animal is placed in permanent captivity, the receiving facility must hold an Exhibitor’s License from APHIS [7 USC 2131 et seq.] and comply with MMPA (16 USC 1374 Section 104(c)(7)). Questions regarding disposition of stranded walrus should be directed to the FWS contact as identified in Appendix H.

- 1. "RELEASABLE":** There are no significant concerns and the animal meets basic historical, developmental, behavioral, ecological, and medical criteria, supporting the likelihood of survival and a lack of risk to the health of wild marine mammals. The release plan (post-release identification, release site, contingency plans, and post-release monitoring) has been approved in writing by NMFS via the letter of concurrence. For the pinniped to be deemed “Releasable,” **all** items on the checklist should be answered as **"Yes."** The attending veterinarian signs the checklist confirming the information and the assessment.
- 2. "CONDITIONALLY RELEASABLE":** One or more items on the standardized checklist have been marked **"No"** for pinnipeds in this category. This may pertain to historical, developmental, behavioral, ecological, and/or medical status concerns regarding the animal’s potential to survive in the wild and/or its potential to pose a health risk to other marine mammals. A pinniped may also be deemed conditionally releasable if requirements for release cannot be met at present but may be met in the future and without compromising the health and welfare of the individual animal. In such cases, more time may be needed to determine the feasibility of release (see 50 CFR 216.27(a)(1)(iii) for species under NMFS jurisdiction).

All “Conditionally Releasable” pinnipeds must be discussed with NMFS or FWS. NMFS or FWS may consult with individual experts to discuss specific cases. Experts include scientists and veterinarians with expertise in pinniped biology and medicine (particularly experts with species specific knowledge). Such discussions will clarify the most appropriate disposition. For example, additional medical testing, rehabilitative therapy, and additional strategies for post-release monitoring may be required to release a “Conditionally Releasable” pinniped.

- 3. "NON-RELEASABLE":** One or more items on the standardized checklist have been marked "No" for pinnipeds in this category. This may pertain to historical, developmental, behavioral, ecological, and/or medical status concerns that preclude release to the wild. It has a documented condition demonstrating little chance for survival in the wild and/or a diagnosed health risk to wild marine mammals. For NMFS species, this category also includes animals that have been in rehabilitation greater than two years (see 50 CFR 216.27(a)(1)(iii)). Additionally, a pinniped may be deemed “Non - Releasable” if an appropriate release site or post-release monitoring plan cannot be arranged. Rehabilitation facilities that believe that they may have a walrus that is non-releasable must contact the FWS Marine Mammals Management Office (as identified in Appendix H) for concurrence on this finding and eventual disposition of the animal. If FWS determines that a walrus is non-releasable, the holding facility may request a permit for permanent placement of the animal as long as the facility meets the requirements under Section 104(c)(7) of the MMPA.

For animals deemed “Nonreleasable” and with the concurrence from the NMFS Regional Administrator, the animal can be permanently placed in a public display or research facility or euthanized. If the animal is to be placed in permanent captivity, the receiving facility must be registered or hold a license from APHIS [7 USC 2131 et seq.] and comply with MMPA (16 USC 1374 Section 104(c)(7)). Facilities wishing to obtain nonreleasable animals should send a *Letter of Intent* to the Office of Protected Species Permits, Conservation and Education Division (http://www.nmfs.noaa.gov/pr/permits/mmpa_permits.htm) (NMFS PR1) to permanently retain (i.e., if affiliated with the rehabilitation facility) or acquire the animal. This letter should include a signature of the “*Responsible Party of Record*”. As part of the decision making process will consult with APHIS and may review the, qualifications and experience of staff, transport, and placement plans (i.e., integration based on appropriate composition of species, sex and age and the intended proposed plan for public display or scientific research). Once approved, NMFS PR1 will respond with a *Transfer Authorization*

Letter and include Marine Mammal Datasheets (MMDS), OMB form 0648-0084, to be returned to NMFS PR1 within 30 days of transfer. Upon receipt of the MMDS, NMFS PR1 will acknowledge the transfer in writing and return updated MMDS to the receiving facility.

4.3 Historical Assessment of Pinnipeds

Historical stranding information may guide the management of rehabilitation and the plan for post-release monitoring. Important historical information should include:

- 1. A record of previous stranding** - Pinnipeds that have previously stranded and been released, and subsequently strand again, are deemed “Conditionally Releasable” pending consultation with NMFS or FWS. Such animals should be reassessed and as they may have underlying health issues requiring additional evaluation, diagnostic testing and advanced post-release monitoring. Alternatively, such pinnipeds may be assessed as “Non-Releasable” and be transferred to permanent captivity or euthanized.
- 2. An association with an ongoing epidemic among other animals or with a Marine Mammal Unusual Mortality Event** - If the stranding of a pinniped occurs in close temporal or geographic proximity to an Unusual Marine Mammal Mortality Event, fish kill, harmful algal bloom, hazardous waste spill, or other such environmental event, the pinniped is deemed “Conditionally Releasable” and consultation with NMFS or FWS is required. The agencies may request additional testing, documentation, and/or post-release monitoring of such pinnipeds.
- 3. Stranding location and active or home range** - Areas that are worth assessing are increased human activity (e.g. active fishery, increased recreational use, military activity, shipping activity, etc.) or hazardous environmental conditions (e.g., harmful algal bloom or hazardous waste spill, and/or special weather conditions like El Niño, hurricane, extreme cold, extreme heat, etc). During an El Niño event, the rehabilitation center should consult with NMFS regarding management and release of the animal because unfavorable environmental conditions may persist once an animal is ready for release and thus the animal should be deemed “Conditionally Releasable.” Information on areas of human activity and environmental hazards is also vital for determining an appropriate release site.

4. **Exposure to (or injury from) other wild or domestic animals** - Pinnipeds having a history of exposure to terrestrial wild or domestic animals are deemed “Conditionally Releasable” and must be discussed with NMFS or FWS. Pinnipeds may contract disease from terrestrial wild or domestic animals such as foxes or dogs. For instance, canine distemper represents a serious health threat to pinnipeds. Should a rehabilitating pinniped contract such a pathogen, it could transmit the illness to its wild cohorts. Such transmission of pathogens can occur even when a rehabilitated pinniped is not showing clinical signs of disease. Consultation with NMFS or FWS is thus required for pinnipeds that have a history of exposure to terrestrial animals.

5. **A record of attacking or biting a human** - Pinnipeds that have inflicted a bite on a human are deemed “Conditionally Releasable” and must be discussed with NMFS or FWS. A variety of infectious diseases may be transmitted from animals to humans via bite wounds. Although documentation of rabies among pinnipeds is rare, the fatal outcome of this disease in humans warrants careful consideration of factors surrounding pinniped bites to people. NMFS or FWS may require consultation with state public health officials regarding pinnipeds that inflict bites on humans and may request that the facility follow state policies and guidelines for unvaccinated non domestic animal bites. NMFS may also impose quarantine or additional diagnostic testing requirements prior to authorizing release.

6. **Is evidence or part of a human interaction or criminal investigation;**

7. Was transferred from another holding, triage or rehabilitation facility – The opportunity for exposure to pathogens can occur at different stages of response and rehabilitation; therefore, it is important to obtain medical records and document the quality of care and treatment at each stage of this process.

4.4 Developmental Assessment of Pinnipeds

In order to be deemed "Releasable," a young pinniped should be able to feed itself, and have adequate body condition to survive readjustment to the wild. Generally, pups are to be held in rehabilitation centers for roughly the normal duration of lactation. Because of maternal dependence may vary greatly in some species, it is recommended that the straight length and weight of each pinniped pup be taken at admission and again when evaluating the animal for release to aid in assessment of the

animal's body condition. Such measurements may be compared to known weaning lengths and weights of appropriate wild pinniped species or to data from successfully rehabilitated and released stranded pups.

Reproductive status in and of itself does not impact release candidacy of a pinniped unless a female strands with her pup or gives birth during rehabilitation. Such females and their offspring are "Conditionally Releasable" and are to be discussed with NMFS or FWS. The natural history of the pinniped species involved and factors related to maternal relationship may impact the timing and conditions of release for mother or pup. For instance, a pup that has not reached weaning weight may be releasable with its mother, but not alone. A healthy mother may be kept in rehabilitation to assist its sick or injured pup; however, this should be weighed against the risk of habituation that could minimize the chance of a successful release. Female pinnipeds in estrus or late pregnancy are releasable unless the attending veterinarian believes that the health history of the animal warrants extra precautions to minimize stress during its return to the wild. Such animals are "Conditionally Releasable" due to health concerns and are to be discussed with NMFS or FWS.

Pinnipeds that are in molt are "Conditionally Releasable" and these cases should be discussed with NMFS. Because behavior and physiology change during a molt, factors related to the pinnipeds health history, age, reproductive status, and other relevant parameters should be considered in order to determine if release is preferable to holding the animal until molting is completed.

4.5 Behavioral Assessment of Pinnipeds

The limitations imposed by the captive environment of rehabilitation may preclude a detailed behavioral assessment where behavior of the captive animal may differ from that displayed in the wild. Also, there lacks a set of behavioral and functional tests that relate to behavior in the wild and there are limitations on the complete knowledge of "normal" behavioral parameters of each species. Behavioral clearance is thus founded on basic criteria necessary for survival of the animal in the wild. The behavioral evaluation often overlaps with the medical evaluation as abnormal behavior may indicate an underlying illness. Biologists and animal care supervisors with expertise in pinniped behavior and the attending veterinarian should jointly assess the behavior of the animal.

To achieve behavioral clearance, a pinniped should breathe normally and demonstrate effective swimming, diving, and locomotion on land (if appropriate for its species). The animal should display aberrant behavior, auditory or visual dysfunction that may compromise its survival in the wild or suggest underlying disease of concern to wild marine mammals (i.e., reportable disease). Behavioral

clearance also includes confirmation that the animal can respond to and able to capture, and consume live prey.

4.5.1 Breathing, Swimming, Diving, Locomotion on Land

Evaluation of respiration is done to determine that the pinniped does not exhibit abnormal breathing patterns or labored breathing during exertion. Evaluation of swimming, diving, and locomotion on land is done to confirm that the pinniped moves effectively and does not exhibit abnormalities such as listing to one side, decreased capacity to submerge, asymmetrical motor patterns, etc. Pinnipeds that display abnormalities of breathing, swimming, diving, or locomotion on land are deemed "Conditionally Releasable" or "Non-Releasable," depending on the nature and degree of their dysfunction.

4.5.2 Aberrant Behavior

Behavioral clearance of the pinniped includes confirmation that the animal does not exhibit aberrant behavior that may compromise survival in the wild or suggest underlying disease of concern to wild marine mammals. Examples of aberrant behavior include but are not limited to regurgitation, head pressing, postural abnormalities such as repetitive arching or tucking, head swaying, stereotypic or idiosyncratic pacing, decreased or unusual range of motion, and abnormalities of breathing, swimming, diving, and locomotion on land as previously discussed. Pinnipeds displaying aberrant behavior are deemed "Conditionally Releasable" or "Non-Releasable" depending on the nature and degree of the behavior.

4.5.3 Auditory and Visual Function

Behavioral clearance of the pinniped includes evaluation of auditory and visual function. Auditory dysfunction may be a reflection of active disease, permanent injury, or degenerative changes associated with aging. Evaluators may suspect that a pinniped has compromised auditory function if it responds minimally to loud noises created above or below water. Pinnipeds that have visual dysfunction may show difficulty locating prey items, tendency to collide with boundaries of their enclosure, or difficulty maneuvering about objects placed in their path. Discoloration, swelling, abnormal shape, position, or appearance of the eye or eyelids may suggest visual dysfunction. Pinnipeds with auditory or visual dysfunction should be deemed "Conditionally Releasable" or "Non-Releasable" depending on the degree and nature of their condition.

4.5.4 Prey Capture

Rehabilitated pinnipeds should demonstrate the ability to chase, capture, and consume live prey prior to their release. Prey items found in the animal's natural environment should be used whenever possible. If natural prey items are not available, evaluators may utilize other prey species. Evaluation of the pinniped includes assessment of each component of feeding behavior including the ability to chase prey, to actually capture prey, and to consume prey without assistance from humans. Pinnipeds that display ineffective prey capture and consumption are deemed "Conditionally Releasable" or "Nonreleasable." If logistical issues preclude evaluation of prey capture and consumption or there is a question about the quality of live prey, NMFS or FWS should be consulted.

Rehabilitated pinnipeds that have been in captivity longer than one year and young pinnipeds having little or no previous foraging experience in the wild require particularly careful assessment of feeding behavior. Repeated feeding trials using live prey with concurrent assessment of the animal's ability to maintain good body condition are helpful in thoroughly evaluating such animals.

4.6 Medical Assessment of Pinnipeds

The medical assessment includes information related to any diagnostic testing, treatment, and response to treatment. The attending veterinarian should perform a hands-on-physical examination upon admission and prior to the release determination. The attending veterinarian should review the animal's complete history including all stranding information and diagnostic testing (i.e., required by NMFS and any additional data), and medical and husbandry records (including food consumption and weight and length progression). The primary goal of testing required by NMFS or FWS is to safeguard the health of wild marine mammal populations. This is achieved by testing for diseases that pose a significant morbidity or mortality risk to wild populations (i.e., reportable diseases). Those that are zoonotic or public health and safety concern require immediate NMFS notification to assure proper protocols are put into place. Additional testing will be required if the animal was part of an official Marine Mammal Unusual Mortality Event. NMFS may request testing for other emerging diseases as part of a surveillance program to identify potential epidemics of concern and to monitor changes in disease status that may have occurred due to rehabilitation practices. The directive for the pre-release health screen will come from the NMFS Regional Stranding Coordinator through the Marine Mammal Health and Stranding Response Program. Appendix -E lists diseases of concern for pinnipeds.

A complete health screen should be completed upon admission and just prior to release including basic blood collection for a CBC, chemistry profile (Chem-12 including BUN and creatinine, enzymes and electrolytes), serology, microbial and fungal culture (i.e., blow hole, rectal, and lesions), cytology, urinalysis, and fecal exam. If the animal is female and at reproductive age, it is advisable that pregnancy be ruled out prior to prescribing potentially fetal toxic medication. Serum (3ml) should be banked at the time of admission and just prior to release for retrospective studies. Cessation of antibiotics should occur two weeks prior to release examination to assure that the animal is no longer dependant on the medication and that the drug has cleared based on the pharmacokinetics and requirements made by the veterinary community and the Food and Drug Administration. Some antibiotics clear the body quickly and require shorter withdrawal time; therefore, when this recommendation cannot be met seek advice from NMFS. The attending veterinarian should provide written notification to the NMFS Regional Stranding Coordinator that a health screen and assessment of the pinniped scheduled to be released has been performed. The notification must also include the final release plan and a plan for hands-on physical examination by the attending veterinarian within 72 hours of its release. The required documentation and signed release determination recommendation will be part of the administrative record along with the signed (by the NMFS Regional Administrator) letter of concurrence approval for release.

It is of extreme importance that the pinniped be monitored closely for disease throughout its rehabilitation. Regardless of the stranding etiology, handling and care can cause significant stress increasing susceptibility to disease. If not properly managed, rehabilitation facilities provide an environment where genetically altered or novel pathogens not typically encountered in the wild can easily be transmitted from animal to animal. This scenario can be problematic when an animal is exposed and becomes a carrier of that pathogen to a naïve wild population if released. Introduction of pathogens from rehabilitation centers to the wild is a significant concern as diseases with serious epizootic potential have been detected (Stoddard et. al., 2005). Infectious agents may become more pathogenic as they pass through new individuals and naïve species or genetically altered from indiscriminant use of antibiotics.

The attending veterinarian is urged to utilize the full spectrum of diagnostic modalities available for health assessment of the pinniped. In addition to basic blood work, serology, microbial culture, cytology, urinalysis, and fecal exam, advanced techniques for pathogen detection such as PCR and toxicology analyses are available. A number of diagnostic imaging techniques including radiology, CAT scans and MRI may be used as well as bronchoscopy and laparoscopy. The pinniped literature

has expanded to include numerous references on the performance and interpretation of diagnostic tests.

Both agencies may request testing for other emerging diseases as part of a surveillance program to identify potential epidemics of concern and identify health trends. Additional testing will be required if the animal was part of an official Marine Mammal Unusual Mortality Event. Specific testing requirements (i.e., pre-release health screen) will come from the NMFS Regional stranding coordinator through the Marine Mammal Health and Stranding Response Program and follows the term and responsibilities stated in the NMFS Stranding Agreement.

4.7 “Recommended” Standard Checklist to Determine Release Category of all Rehabilitated Pinnipeds (except walrus)

Completion of the recommended checklist below including a signature from the attending veterinarian documents fulfillment of NMFS requirements for assessment of the pinniped prior to release. **By checking “Yes” to all statements asserts that the pinniped is suitable for release. By checking “No” to any of the statements means that a condition has been identified that requires consultation with NMFS in order to determine the release candidacy of the pinniped.**

Yes = true statement

No= untrue statement

History	Yes	No	Page Reference
1. Stranding was NOT associated with an El Niño event			
2. Stranding was NOT associated with a Marine Mammal Unusual Mortality Event			
3. Stranding was NOT associated with anthropogenic environmental accident (e.g., hazardous waste spill, acoustic insult)			
4. Stranding was NOT associated with an environmental event of NMFS concern (e.g., harmful algal bloom, fish kill, etc.)			
5. The animal is NOT evidence or part of a human interaction or criminal case			
6. There is NO evidence that the release candidate was exposed to terrestrial wild or domestic animals prior to and during rehabilitation			

7. The release candidate is NOT known to have inflicted a bite on human(s)

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8. The release candidate has NOT previously stranded

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Developmental Stage

9. The release candidate is weaned, and has a proven ability to feed itself

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10. The release candidate is sufficiently robust, having adequate reserves to survive readjustment in the wild

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11. The release candidate shows no sign of molt

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Behavioral Clearance

12. The release candidate demonstrates appropriate breathing, swimming, diving, and locomotion on land

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13. The release candidate does not exhibit auditory or visual dysfunction

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14. The release candidate demonstrates a capacity to chase and capture live prey

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15. The release candidate demonstrates an absence of aberrant behavior

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Medical Clearance

16. The attending veterinarian has reviewed the release candidate's history and medical records

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17. The attending veterinarian has examined the release candidate within 10 days of release

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18. The required health screen and assessments were conducted with good results

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19. Hands-on physical exam performed by attending veterinarian

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20. NO congenital defects

--	--

21. NO nonfunctional or damaged appendages

--	--

22. NO visual defects

--	--

23. CBC compatible with good health

--	--

24. Chemistry profile compatible with good health

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25. Serum banked upon admission and prior to release (3 ml)

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- 26. Additional testing requested and reviewed by NMFS and no apparent concerns
- 27. Free of drugs (exclusive of sedatives used for transport) minimum of 2 weeks prior to release
- 28. Veterinarian's signature on health statement

Health Statement

I have examined the pinniped (Species and ID#)_____ on (Date) _____ and have determined that the animal is medically and behaviorally suitable for release in accordance with the release criteria in that the animal will not pose a risk to the wild population and is likely to survive upon reintroduction to the wild.

Signature of the Attending Veterinarian

Printed Name of the Attending Veterinarian

4.8 Release Site Selection for Pinnipeds

The release of a rehabilitated pinniped should be planned to maximize its chances for survival. The release should be timed and staged to increase its likelihood of foraging success and acceptance by conspecifics. Factors including its species, age, reproductive status, previous home range, social unit, and migratory patterns should be considered. Weather conditions at the release site, other environmental factors impacting the habitat and food availability should also be evaluated.

The rehabilitated pinniped is to be released into its home range, genetic stock, and social unit whenever possible. Return of the animal to its home range is preferable as the reacclimating pinniped would presumably have familiarity with available resources, potential predators, environmental features, and social relationships. In many cases, this can be accomplished by releasing the pinniped at its stranding site through a simple hard-release process (i.e., the animal is released directly after transport to the release site without acclimation through holding in a temporary enclosure at the site).

For migratory species such as hooded and ringed seals, the release site selection, is considered on a case-by-case basis. Consultation with NMFS is required for these cases. If conspecifics migrate to a site distant from the original stranding site, rehabilitators may consider various options depending on the natural history of the species and the temporal relationship of release to seasonal distribution. The

pinniped may be released to migrate on its own or with conspecifics still in the vicinity. Alternatively, the pinniped may be held in captivity until conspecifics return or it may be transported to the location of its migrated cohorts. The risks of extended time for the pinniped in captivity, logistics of transport to a migration site, and costs associated with the extended stay are examples of factors to be considered. As explained later in this section, movement of pinnipeds recovering from infectious disease to other sites should be carefully considered regarding disease risk to wild pinnipeds.

When information on the animal's ranging patterns or social unit prior to stranding is not known, or when a pinniped strands outside of the previously known range of its species, NMFS is to be consulted regarding an appropriate release strategy. For pinniped species that have vast territorial ranges such as those that naturally traverse the length of the North American continent, knowledge of the animal's specific ranging patterns previous to stranding may not be necessary. Such pinnipeds may be released in the general vicinity of their stranding site or anywhere within the vast range inhabited by that species with the following important exception (see below).

When a pinniped has recovered from an infectious disease, it may be preferable to release the animal near its original stranding site in order to minimize disease risks to wild pinnipeds. For example, even if the entire population of a far-ranging pinniped species has been exposed to a particular infectious agent, changes in the virulence of the pathogen may initially occur at distinct geographical sites. A seal exposed to a particularly virulent strain of pathogen in the far Northeast may pose a health risk to pinnipeds in the Mid-Atlantic that have not yet encountered that particular strain of virus. Additionally, the clinical signs of many infectious diseases mimic each other. As rehabilitation centers cannot always perform definitive diagnostic tests for all viral agents, moving rehabilitated pinnipeds from the general region of their stranding to distant locations for release may pose some risk to wild marine mammals. NMFS is to be consulted regarding the preferred release site when pinnipeds recovering from infectious illness cannot be released near their original stranding site.

It is important to ensure that conditions at the release site do not pose any obvious immediate threat to the released animal such as areas where resources and habitat is severely depleted or degraded. If evidence exists of a substantial decline in resources or habitat quality such as massive fish kills, significant declines in commercial and/or recreational fish landings, red tides, etc., it may not be appropriate to release the pinniped until conditions at the release site improve or a different release

site is found. Also, release in areas of dense public use and/or high commercial and recreational fishing activity should be avoided.

4.9 Identification of Rehabilitated Pinnipeds Prior to Release

NMFS and FWS have determined that all pinnipeds must be flipper tagged for identification prior to release to the wild. Tags and placement instructions are to be obtained from NMFS or FWS and/or USGS (for walrus) as appropriate for the pinniped species (see Appendix H for contact information. Although resightings of flipper-tagged individuals may provide some information regarding the relative success of a rehabilitation effort, flipper tags are not reliable for long-term monitoring. They may be difficult to read from a distance and may become damaged or lost. Other methods for identification such as freeze-branding, glue tags, etc. may be used in addition to flipper tags (Geraci and Lounsbury 2005).

4.10 Post-Release Monitoring of Pinnipeds

Post-release monitoring of pinnipeds provides essential information for the development and refinement of marine mammal rehabilitation and release practices. Post-release monitoring methods may include visual observations of tagged or freeze-branded pinnipeds from land, sea or air, as well as radio or satellite-linked monitoring. Radio and satellite-linked monitoring programs are highly desirable as they provide a wealth of information regarding the activities and fates of released animals. NMFS or FWS may require and coordinate post-release monitoring plans for “Conditionally Releasable” pinnipeds. Additionally, rehabilitation centers may voluntarily provide post-release monitoring plans for routinely released pinnipeds. When such monitoring will be performed voluntarily, the rehabilitation center is required to inform NMFS or FWS of the intent to implement post-release monitoring when seeking authorization for release of the pinniped.

The first month after release of the pinniped is a particularly critical period during which it will become evident whether the animal is thriving, including capturing sufficient prey and being accepted by conspecifics. It is recommended that monitoring continue on a regular basis via field observations, radio, or satellite-linked monitoring for up to one full year and such funding resources as the Prescott Stranding Grant program can assist with the financial burden of such endeavors. NMFS may request these data in order to make future revisions to pinniped rehabilitation and release guidelines. In order to compare individual cases, standardization of data collection protocols for monitoring released pinnipeds may be helpful and this should include the length of the tracking time, the type of tracking

equipment, and assessment of outcome. Formal study of monitoring data and its dissemination to the stranding network can aid in the assessment of pinniped rehabilitation and release programs.

Release plans should include contingencies for recovering the released pinniped should monitoring indicate its failure to thrive including options for treatment, permanent care, or euthanasia. In addition, NMFS will request such contingency plans for “Conditionally Releasable” pinnipeds, depending on the circumstances.

5. Guidelines for Release of Rehabilitated Manatees

5.1 Introduction

West Indian manatees (*Trichechus manatus*) are found throughout the Caribbean basin. In the United States, the Florida subspecies (*Trichechus manatus latirostris*) is commonly found in southeastern coastal waters, with Florida at the core of its range. The Antillean subspecies (*Trichechus manatus manatus*) is found outside of Florida throughout the Caribbean basin (including Puerto Rico and possibly Texas). While most reports of distressed manatees occur in Florida, manatees have been rescued throughout the region. The focus of manatee rescue and release activities is to promote the conservation of wild manatee populations.

Reports of distressed manatees include animals compromised by human activities and natural causes. Human causes of distress include collisions with watercraft, entrapment in structures, entanglement in and ingestion of fishing gear and debris, and other sources. Natural causes of distress include exposure to cold and brevetoxins, mother/calf separation, seasonal disorientation, etc. All rescue-related communications and the day to day decision making process in the field are generally handled by the local field Stations of the Florid Fish and Wildlife Conservation Commission (FFWCC) in conjunction with report from the public utilizing the 1-888-404-FWCC hotline. All activities related verification of a report of a manatee in trouble, subsequent rescue, and transport to rehabilitation facilities are communicated through the FFWCC Field Stations, according to established protocols. The FWS Jacksonville Field Office coordinates the manatee rescue, rehabilitation, and release program to assist these animals. The FWS Jacksonville Field Office conducts this program according to the provisions of an Endangered Species Act/Marine Mammal Protection Act (ESA/MMPA) marine mammal enhancement permit issued by the FWS Division of Management Authority (DMA). The permit authorizes “take” activities for an unspecified number of manatees for the purpose of enhancing its survival and recovery, consistent with the FWS manatee recovery plan developed pursuant to the ESA.

The FWS Jacksonville Field Office coordinates a network of individuals, facilities, and agencies authorized as subpermittees under their enhancement permit and through Letters of Authorization (LOA) issued under Section 109(h) and 112(c) of the MMPA [16 U.S.C. sections 1379(h) and 1382(c)] to authorize activities related to the rescue (including temporary capture, possession, transport, and transfer), rehabilitation, and post-release monitoring of manatees.

The following guidelines were first developed by program participants in 1991 and subsequently revised in 2001. They are based on more than twenty years of program history and include the experiences, advice, and expertise of resource managers, field biologists, veterinarians, behavioral experts, animal keepers, and other dedicated individuals. The guidelines are to be used by authorized participants to guide the return of rehabilitated manatees to the wild.

5.2 Overview of Release Categories for Manatees

Manatees undergoing rehabilitation are evaluated by program participants and placed into one of four Release Categories:

1. **“RELEASABLE”**: Manatees that have been successfully treated, are of an appropriate size, demonstrate appropriate behaviors, have the skills necessary to thrive in the wild, and do not pose a threat to wild populations will be considered releasable. Additionally, distressed manatees that are assisted in the wild and then released on-site are characterized as “Releasable”. These include fit (healthy, non-injured) manatees superficially entangled in fishing gear, animals isolated by high water or detained by structures such as water control structures, sheet pile walls, booms, and other barriers, seasonally disoriented animals, and others. (“Seasonally disoriented” manatees include otherwise fit animals that fail to migrate to appropriate winter habitats during the periods of cold weather. These animals are typically relocated to warm water sites within their region of origin.)
2. **“CONDITIONALLY RELEASABLE”**: Manatees with a condition and/or circumstances that present a question regarding the success of release or ability to thrive in the wild but likely not pose a threat to wild populations will be considered conditionally releasable. Animals described as “Conditionally Releasable” typically include medically-cleared, captive-reared animals and older, long term-captives. The status of animals considered to be “Conditionally Releasable” may change to “Releasable” if their condition or circumstances improve or to “Conditionally Non-releasable” if their condition or circumstances deteriorate.
3. **“CONDITIONALLY NON-RELEASABLE”**: Manatees that cannot be released because their condition and/or circumstances threaten the well-being of the animal and/or may pose a threat to the wild population will be considered conditionally non-releasable. The status of animals considered to be “Conditionally Non-releasable” may change to “Releasable” or

“Conditionally Releasable” if their condition or circumstances improve over time. This category may include individuals with permanently debilitating medical conditions.

4. **“NON-RELEASABLE”:** The FWS will review, on a case-by-case basis, requests to establish the non-releasability of certain captive-held manatees. Manatees deemed non-releasable will be medically characterized by a disease process that proves to be a significant risk to the wild population or by significant physical injuries (such as loss of paddle or significant spinal trauma) that would preclude the ability of an animal to thrive in the wild. Petitions to establish non-releasability of individual manatees will be reviewed by an independent panel which will make their recommendations to the FWS. The FWS will consider the request and recommendation and will then determine the status of the animal. Should an animal be deemed non-releasable by the FWS, the receiving facility will need to meet the requirements to receive an enhancement permit in accordance with Section 104 (c)(4) of the MMPA (16 U.S.C. 1374(c)(4)), Section 10(a) of the ESA (16 U.S.C. 153(a) and the FWS issuance criteria at 50 CRF 17.22.

5.3 Historical Assessment of Manatees

Efforts are made to maintain complete, detailed records that document rescued manatees from the time of rescue to their eventual disposition. These records generally include information describing the rescue, circumstances surrounding the stranding (*e.g.*, red tide, cold weather, etc.), treatment(s), captive care, and resolution of the case (*i.e.*, death, euthanasia, or release). In the case of previously known wild individuals, these records can include documentation of behavioral and reproductive patterns, migratory habits, and site fidelity. For all released animals, these records should also include all post-release monitoring information.

These records guide the treatment of individual stranded manatees and provide an evaluative tool that allows program managers and participants to assess and improve methods and procedures to better ensure success. As an example, in the case of red tide-related strandings, records detail the rescue of a manatee(s), noting the stranding site in the context of a red tide event, the presentation of the animal (beached, convulsing, etc.), any behaviors noted during transport, appropriate neurologic treatment, post treatment observations, and eventual release. (Release plans for the animal should require information characterizing the status of red tide within the planned release area.) Such detailed documentation has helped with efforts to develop effective rescue, rehabilitation, and release methods for red tide stranded animals.

5.4 Developmental Assessment of Manatees

“Releasable” animals must be nutritionally independent (weaned and off of supplemental nutritional support), greater than 200 cm in total length and more than 600 pounds in weight, and there should be no concerns regarding the animal’s length of time in captivity, relative to its age. On occasion, smaller suckling calves are released with their dam to ensure that the dam’s wild experience is passed on to her calf. Based on observations of cow/calf bonding behavior, this will help to improve the calf’s wild skills and ability to survive in the wild.

“Conditionally Releasable” manatees should demonstrate nutritional independence, especially in the case of older calves planned for release. Recently weaned juveniles are also considered as release candidates. In both instances, animals should meet “Releasable” criteria for length and weight. Manatees that have spent lengthy periods of time in captivity (relative to their age) also fall into this category. Concern has been expressed that older, long-term captives may have a diminished ability to thrive in the wild (at the extreme are animals that have been in captivity for more than 50 years). While concern for these older animals may be well-placed, it is difficult to know at what age (if any) these animals’ condition and lack of wild skills will compromise the success of their release. As such, older animals are considered on a case-by-case basis for release. The release of older manatees is being conducted in the context of a research program that will yield data to help ensure success for subsequently released individuals meeting similar criteria.

“Conditionally Non-releasable” manatees include animals that are not nutritionally independent, do not meet the length and weight criteria for “Releasable” animals, and/or lack the wild skills that are essential for a successful release.

“Non-releasable” manatees will be reviewed by the FWS on a case-by-case basis.

5.5 Behavioral Assessment of Manatees

“Releasable” manatees must exhibit normal behaviors while in captivity and are, therefore, expected to be able to meet behavioral challenges when in the wild. Normal behaviors include typical breathing, swimming, diving, and foraging/drinking patterns. Foraging behaviors include the ability to feed in salt, brackish, and fresh water environments without becoming dehydrated. Manatees must also demonstrate an ability to feed on natural vegetation located at various levels in the water column. Historically, captive manatees have been fed at the water surface. Naive animals fed in this fashion

have had difficulties finding food on the bottom after release. Current feeding practices include feeding at the bottom and top of the water column.

While abnormal behaviors in manatees have not been defined, animals that exhibit atypical behaviors (as determined by FWS and its advisors) while in captivity will be considered for release on a case-by-case basis. Behaviors that elicit concerns include stereotypic behavioral displays, adaptability or sensitivity to change (including going off feed, shutting down, etc.), and perceived affinities for humans and human activities while in captivity. These affinities should not be confused with the manatee's innate ability to explore their captive environment, including humans, especially in the absence of other engaging stimuli. Efforts should be made to de-condition or extinguish these behaviors before release.

5.6 Medical Assessment of Manatees

Prior to release, release candidates must be examined by a veterinarian experienced in manatee medicine. Examinations should include a review of the animal's complete history, a hands-on physical examination, and diagnostic testing. The exam should include bloodwork, including CBC and serum chemistries. Serological and bacteriological assessments should be conducted when deemed necessary by the attending veterinarian. Results of analyses should be consistent with known values for animals of similar age, size, and sex and consistent with historical values for that specific animal. A "medically cleared" manatee will be free of medical problems, not limited in its ability to thrive in the wild, and will not pose a threat to wild populations.

Manatees that have unresolved injuries, compromising physical conditions (malnutrition, dehydration, etc.), active/infectious disease processes, injuries that significantly affect mobility and range of motion (e.g., the loss of a paddle, failure to adapt appropriate buoyancy control, etc.) and other debilitating conditions are considered to be "Conditionally Non-releasable". In the event that these concerns are resolved, these animals may be categorized as "Releasable" or "Conditionally Releasable".

5.7 Decision Tree for Release Categories - Manatees

The following is a list of criteria used to help determine the release status of captive manatees. Please note that an animal's status may change as various criteria are met. (These criteria generally apply to all species/subspecies of manatees unless otherwise indicated.)

5.7.1 RELEASABLE

Developmental Stage/Life History

- a) Nutritionally independent.
- b) For Florida manatees, length must be >200 cm. and weight >600 lbs. (unless released with dam).
- c) No concerns about length of time in captivity relative to age.

Behavioral Assessment

- a) Must exhibit normal behaviors, including typical breathing, swimming, and diving patterns, while in captivity.
- b) Must be able to eat natural vegetation and adapt to salt, brackish, and fresh water regimes.
- c) Must demonstrate ability to feed on natural vegetation at various levels in water column.

Medical Assessment

- a) No active, demonstrable medical problems.
- b) Medically cleared based on examination by a veterinarian experienced in manatee medicine.
- c) Poses no threat to wild populations.

Pre-release Requirements

- b) The animal must be individually recognizable.
 - i. All identifiable markings should be completely documented with sketches and photographs.
 - ii. In the absence of individually identifiable markings, the animal should be freeze branded. The brands should be sketched and photographed.
 - iii. All released manatees should be PIT tagged and information recorded and logged.
- c) Blood and/or tissue samples must be taken for serum banking and genetics.
- d) Ultrasound measurements of blubber layers must be taken as an initial indicator of health status.

Release Logistics (a release plan should be prepared for each released animal)

- a) Telemetry should be considered when appropriate, subject to approval by FWS.
- b) Animals should be released in close proximity to their point of origin, when appropriate (in the case of previously known animals, suitable sites may be selected within the animal's home range).
- c) Release sites should be free of harmful algal blooms and other compromising factors.
- d) For captive-reared, naive animals in Florida, release sites should include natural warm water sites within the animal's home range or that of the parent. Such releases should occur during the winter, thereby improving possibilities for bonding to the site and building associations with cohorts.

5.7.2 CONDITIONALLY RELEASABLE

Developmental Stage/Life History - Developmental considerations include animals that may be characterized by one or more of the following conditions:

- a) Partial nutritional independence.
- b) For Florida manatees, less than 200 cm in length and/or 600 lbs in weight.
- c) Social dependence.
- d) Recent weaning (stranded as a neonate, captive weaned, etc.).
- e) Extended period of time (relative to age) in captivity.

Behavioral Assessment

- a) Exhibits abnormal behavior(s) in captivity.
- b) Unable to eat natural vegetation and adapt to salt, brackish, and fresh water regimes.
- c) Unable to feed on natural vegetation at various levels in water column.

Medical Assessment: Animals with the following conditions may be considered for release:

- a) Physical impairment (may include animals with damage to or loss of appendages, animals with impaired range of motion, etc.)
- b) Reproductive condition (may include pregnant females, lactating females with calves, etc.)

Pre-release Requirements

- a) The animal must be individually recognizable.
 - i. All identifiable markings should be completely documented with sketches and photographs.
 - ii. In the absence of individually identifiable markings, the animal should be freeze branded. The brands should be sketched and photographed.
 - iii. All released manatees should be PIT tagged and information recorded and logged.
- b) Blood and/or tissue samples must be taken for serum banking and genetics.
- c) Ultrasound measurements of blubber layers must be taken as an initial indicator of health status.

Release Logistics

- a) Requires radio-tagging and intensive monitoring efforts following guidelines developed by FWS and its advisors (including veterinarians, animal behavior specialists, and researchers).

5.7.3 CONDITIONALLY NON-RELEASABLE

Developmental Stage/Life History - Developmental considerations include animals that may be characterized by one or more of the following conditions:

- a) Nutritionally dependent.
- b) For Florida manatees, less than 200 cm in length and/or 600 lbs in weight.
- c) Extreme concerns about length of time in captivity relative to age.

Behavioral Assessment

- a) Exhibits abnormal behavior(s).
- b) Unable to eat natural vegetation and adapt to salt, brackish, and fresh water regimes.
- c) Unable to feed on natural vegetation at various levels in water column.

Medical Assessment

- a) Not medically cleared (animals with active/infectious diseases, permanent, demonstrable physically debilitating injuries, and/or other concerns).
- b) Poses a threat to wild populations.

5.7.4 NON-RELEASEABLE

- a) Animals deemed permanently non-releasable will be:
 - i. Permanent captive
 - ii. Euthanized, as deemed necessary to prevent pain and suffering or in cases with an inevitable outcome.

If FWS has determined that a manatee is permanently non-releasable, the holding facility may request a permit for permanent placement of the animal as long as the facility meets the requirements under Section 104(c)(3) or (c)(4) of the MMPA and Section 10 of the ESA.

- b) Inbred animals: There are currently two inbred manatees in the U.S. captive manatee population. At the present time, these animals are considered to be conditionally non-releasable due to concerns regarding immunological compromise. Other concerns include observed problems with inbreeding, as seen in the European captive manatee population, which includes high infant mortality and breeding suppression. Given these concerns and questions about the effects of the release of inbred animals into the wild population, these two animals can not be released at this time are presently considered conditionally non-releasable.
- c) Pre-Act animals: The U.S. captive manatee population currently includes four Florida manatees brought into captivity prior to the adoption of Federal prohibitions preventing the display of endangered marine mammals. The care and disposition of these “Pre-Act” animals are the responsibility of their respective owners.

5.8 Pre-release Requirements for Manatees

Prior to release, all animals must be individually recognizable. While many animals are either naturally marked or have scars from encounters with boat propellers, other animals have no markings and should be freeze branded with a unique number/letter combination (the selection of the sequential number/letter combination must be made beforehand in consultation with FWS). All markings (including freeze brands) should be done well in advance of release if possible and all markings should be sketched and photographed. PIT tags (one on either side of the shoulders, cranial to each scapula) should also be implanted. Ultrasound measurements of blubber layers must be taken prior to release as a baseline indicator of the animal’s body condition. Blood and/or tissue samples should also be taken prior to release for serum banking and genetics.

5.9 Release and Post-release Logistics for Manatees

If at all possible, animals should be released in close proximity to the site where originally rescued. For captive-reared, Florida manatees with no wild experience, these animals should generally be released within their region of genetic origin and into natural warm-water areas during the winter to encourage winter site fidelity and familiarity with local conditions and association with wild manatees. When appropriate, telemetry may occur, pursuant to approval from FWS. (Current tagging methodologies make it difficult to radio tag and belt manatees less than 220 cm in total length.) In the case of rehabilitated, wild born adults, many of these animals can be released back into areas where researchers actively track wild manatees and can be monitored as part of these projects.

Post-release monitoring is required for all conditionally releasable animals. Such monitoring includes equipping animals with transmitters (satellite, VHF, and/or sonic, as appropriate) for both remote and on-site monitoring. On-site monitoring should include visual observations of the animal once or twice a week; protocols vary between higher and lower risk candidates. At a minimum, biomedical assessments should be conducted within the first three months after release, six months after release, and twelve months after release. (If there is any question about the animal's health based on field or remote observations, assessments should occur more frequently. If the animal's well-being has been compromised as determined by these assessments, the animal should be returned to captivity.) Biomedical monitoring includes an examination of overall body condition, length and other morphometrics that include girths, weight, blubber thickness, collection of blood, fecal, urine, milk, semen, and tissues samples when possible. Results of analyses should be consistent with known values for animals of similar age, size, and sex and consistent with historical values for that specific animal. While there is no agreed upon definition of success, program participants generally agree that if an animal has thrived in the wild (and met foraging and fresh water needs) for at least a year, if it has demonstrated an ability to successfully winter at a warm water site (Florida manatees), and if it has contributed to the production of offspring, then it is considered a successful release.

Pre-release conditioning may be required for conditionally releasable animals. Such conditioning may include exposing manatees to natural forage positioned at the surface and on the bottom of their tank. Natural forage includes a variety of vegetative types found within the animal's range and may also include palatable exotics such as *Hydrilla*. If an animal is to be released into water that differs from the type of water in their tank of origin, the animal should be acclimated to the type of water best suited to the release environment to minimize post-release stress, especially in the case of naive

animals. Conditioning may also include minimizing exposure to humans to reduce or eliminate any affinity the animal may have or may potentially develop toward humans and human activity. Trained/learned behaviors must be extinguished to the greatest extent possible prior to release.

In special cases, “soft release” methodologies should be considered as a means to enhance survivorship in the wild. “Soft releases” typically rely upon temporary holding facilities established within the release area. Manatee(s) are kept in these facilities where they are maintained and observed for a period of at least several weeks. This temporary adaptation period allows for acclimation to waters at the release site, introduction to in situ forage, close observation of behaviors, and ease in capture/handling for biomedical assessments prior to release. Supplemented forage can be reduced during the containment period. At release, the “soft release” concept initially encourages brief forays away from the enclosure and allows for the individual to return to the now familiar holding facility. Further reduction in supplemental feeding will promote greater use and exploration of surrounding habitats. Use of this methodology is to be considered where individual cases warrant additional release scrutiny and release locations allow for its implementation.

5.10 Manatee Rescue, Rehabilitation, and Rescue Program Reporting/Requesting Requirements

The FWS uses an electronic database that requires program participants to report events within 24 hours of occurrence. Release requests should be received and requested electronically 30 days prior to the release. The Reporting Requirements are listed in Appendix C.

6. Guidelines for Release of Rehabilitated Sea Otters

6.1 Introduction

Sea otters (*Enhydra lutris*) are found in near shore waters of the North Pacific. Several subspecies and stocks have been identified in California, Washington, Canada, Alaska, and Russia. Sea otters may strand for a variety of reasons including trauma, disease, inability to forage, etc. Guidelines for release of rehabilitated sea otters are intended to address the welfare of these animals and any impacts the rehabilitated animals may have on wild otter populations.

Like many other marine mammals, stranded sea otters are often reported on beaches frequented by humans. In some cases, humans intercede and otherwise healthy pups are removed from the wild. The sea otter's small size makes it relatively easy to transport; however, there are currently few facilities capable of meeting the requirements for successful rehabilitation. These guidelines are intended to be used by facilities authorized to rehabilitate marine mammals under the MMPA and ESA, if applicable, and that are actively involved in the rehabilitation of sea otters for subsequent return to the wild. Questions regarding disposition and release approval of stranded sea otters must be directed to the appropriate FWS specialist as identified in Appendix H.

6.2 Developmental Assessment of Sea Otter Pups

Sea otter pups are generally dependent on their mothers for the first 6 to 12 months of life. Newborn pups are readily distinguished by their natal pelage, small size (generally less than 6 pounds), and inability to care for themselves. Pups prematurely separated from their mothers or found stranded on a beach shortly after weaning are generally less than 20 pounds in weight and typically lack foraging skills necessary for survival.

Successful rehabilitation of stranded sea otter pups for release to the wild requires a significant commitment of time and resources. Facilities that receive a stranded pup and are unable to rear the pup for possible release to the wild must immediately contact the FWS (as identified in Appendix H) to determine the disposition of the animal.

Rehabilitated sea otter pups that are at least 6 months of age, weigh at least 20 pounds, demonstrate adequate foraging, grooming, and social skills may be released to the wild. Rehabilitated sea otter pups must be monitored closely post-release to determine if their transition to the wild is successful (see post-release monitoring below).

6.3 Behavioral Assessment of Sea Otters

Certain behaviors are necessary for survival of rehabilitated sea otters. In addition, aberrant behaviors may preclude release to the wild. Rehabilitated sea otters may be released to the wild if the following behavioral criteria are met in the opinion of rehabilitation personnel familiar with normal sea otter behavior:

1. The rehabilitated sea otter must demonstrate the ability and willingness to forage and capture live prey. This includes the use of tools such as rocks used to pound shelled prey;
2. The rehabilitated sea otter must demonstrate basic survival skills and activities including active foraging, pelage management, diving, and resting;
3. The rehabilitated sea otter must demonstrate “normal” social skills including interest in other sea otters and should exhibit a wariness of humans and anthropogenic activities; and
4. The rehabilitated sea otter must not exhibit any aberrant behavior including behavior that may pose an unusual threat to human health and safety, wild sea otter populations, or other marine mammal populations.

6.4 Medical Assessment of Sea Otters

All rehabilitated sea otters must have a comprehensive, hands-on physical examination by a veterinarian experienced in sea otter medicine prior to release. The attending veterinarian must determine that the sea otter is likely to survive in the wild and must certify that:

1. Blood sampling performed within two weeks of the proposed release date, including a CBC and serum chemistry profile, falls within normal ranges for the species;
2. Medical diagnostic tests performed within two weeks of the proposed release date (e.g., cultures, biopsies, urinalysis, serology, virology, parasitology, immunology, etc) fall within normal parameters for the species or indicate a satisfactory state of health (reference CRC Handbook of Marine Mammal Medicine, 2nd Edition, Eds. Lesley A. Dierauf and Frances M.D. Gulland, CRC Press, 2001);
3. The rehabilitated sea otter should be free of drug residues (excluding sedatives used for transport or to facilitate physical examinations) and maintain good clinical health for two weeks prior to release or for a period that satisfies the attending veterinarian that the animal is healthy;

4. The rehabilitated sea otter must have functional vision and hearing, reasonable dental health, and good control and function of all appendages, at least to the degree that its survival in the wild is not compromised; and
5. The rehabilitated sea otter does not pose a known threat (e.g., transmission of pathogens, congenital defects) to the wild sea otter populations or human health and safety.

6.5 Release Categories for Sea Otters

Despite our best efforts to rehabilitate stranded sea otters, many animals die or can never be released to the wild. The following categories have been identified to help determine the status of sea otters being held for rehabilitation:

1. **RELEASABLE**: All rehabilitated sea otters meeting the medical and behavioral criteria listed above shall be considered releasable. Every effort should be made to release these animals to the wild as soon as they are deemed fit for release.
2. **CONDITIONALLY RELEASABLE**: All live-stranded sea otters admitted to a rehabilitation program shall be considered conditionally releasable pending the outcome of rehabilitative treatments and a full medical examination and behavioral evaluation.
3. **NON-RELEASABLE**: Sea otters that fail to meet one or more of the required criteria for release may be considered non-releasable. Rehabilitation facilities that believe that they may have an animal that is non-releasable must contact FWS (as identified in Appendix H) for concurrence on this finding and eventual disposition of the animal. Once FWS has determined that a sea otter is non-releasable, the holding facility may request a permit for permanent placement of the animal as long as the facility meets the requirements under Section 104(c)(7) of the MMPA for non-depleted species, or Section 104(c)(3) or (c)(4) and Section 10 of the ESA for depleted species.

6.6 Identification of Sea Otters Prior to Release

Rehabilitation facilities must affix colored and numbered “Temple” tags to the rear flippers of each sea otter prior to release. In addition, a PIT tag must be implanted in the right inguinal area of each otter. With an appropriate scientific research permit issued by FWS, the rehabilitation facility may implant an abdominal VHF transmitter to facilitate post-release tracking and monitoring of the animals. In all cases, the selection of identification numbers, tag colors/positions, and VHF

frequencies must be coordinated with other facilities and researchers in the area that sea otters are released.

6.7 Release Site Selection for Sea Otters

All rehabilitated sea otters should be released at or near the site where they originally stranded. In cases where this is not feasible, other release sites may be considered under existing Federal permits, letters of authorization, or through consultation with personnel from the FWS (as identified in Appendix H. In all cases, rehabilitated sea otters must be released into the same stock or population from which they originated.

6.8 Post-Release Monitoring of Sea Otters

All facilities releasing rehabilitated sea otters must establish a post-release monitoring program appropriate for each sea otter. The purpose of post-release monitoring is to determine the success of rehabilitation efforts and provide an opportunity for rescue of animals not able to make the transition back to the wild. Sea otters brought into rehabilitation as young pups must be tracked intensively immediately after release. Juveniles or sub-adults may require a focused effort while adult animals may be tracked opportunistically. Sea otters implanted with VHF transmitters should be tracked and monitored periodically for the duration of the battery life of the transmitters (i.e., 1-3 years).

7. Policies Regarding Release of Rehabilitated Polar Bears

Polar bears (*Ursus maritimus*) occur in most ice-covered seas of the Northern Hemisphere and are circumpolar in distribution, although not continuously. Off the Alaskan coast, they normally occur as far south as the Bering Strait. In the Beaufort and Chukchi seas, polar bears make extensive migrations between the United States and Canada or Russian territories, respectively. These movements are thought to be related to seasonal and annual changes in ice position and condition.

Polar bears normally found stranded in Alaska and subsequently recovered are generally orphaned cubs-of-the-year that are either incapable of fending for themselves or have not yet developed the skills to adequately survive in the wild. While these animals are temporarily placed in facilities for the purposes of rehabilitation and release, in the long term, it is highly unlikely that such cubs would be suitable for release back into the wild. Hunting and survival skills are learned during the 2 ½ year dependence on the mother, are not innate to polar bear cubs, and will not be developed in captivity.

For the reasons noted above, the FWS considers polar bear cubs to be poor candidates for release into the wild. If releases were to occur the predicted likely outcomes would be death by starvation or death caused by a predacious attack of another polar bear. Further, adoption by another family group is unlikely or impractical due to the low probability of encountering a receptive family group. Adoption of cubs into family groups has been attempted in Canada with very poor success and Canada is re-evaluating the feasibility of adoption as a management technique. The process of adoption requires substantial investment in searching out a family group in the wild, capture of the group (assisted by helicopter), and placement and follow-up on the fate of the adoptee. In Alaska, holding facilities co-located near release sites are not available. Therefore, we do not consider adoption to be a viable alternative and generally consider polar bear cubs to be non-releasable and more suitable for permanent placement in public display facilities. In these cases, the holding facility may request a permit for permanent placement of the animal as long as the facility meets the requirements under Section 104(c)(7) of the MMPA. However, we will continue to evaluate potential release into the wild or permanent placement in public display facilities on a case-by-case basis. Questions regarding disposition of stranded polar bears must be directed to the FWS as identified in Appendix H.

8. References (incomplete)

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9. Glossary (incomplete)

Animal Care Supervisor - Key personnel who have substantial experience in marine mammal care and rehabilitation and will be responsible for supervising the overall rehabilitation efforts.

Attending Veterinarian- U.S. licensed veterinarian who has the responsibility to oversee veterinary medical aspects of live animal care and is also responsible for assuring the health of marine mammals released back to the wild following rehabilitation.

Authorized Representative- The individual with signatory authority for the stranding organization. This individual may be the signatory of the stranding agreement (e.g., Executive Director, President, CEO, etc.).

Cohorts- Belonging to same species.

Conspecifics- Belonging to same species.

Diseases of Public Health and Safety Concern-

Diseases of Zoonotic Concern-

Emerging Diseases- A newly recognized serious disease, the cause of which may or may not yet be established, that has the potential to spread within and between populations.

Epidemic- Affecting or tending to affect an atypically large number of individuals within a population, community, or region at the same time.

Epizootic- An outbreak of disease affecting many animals of one kind at the same time (similar to epidemic and term typically used in for animals)

Ethogram- A catalogue of the discrete behaviors typically employed by a species. These behaviors are sufficiently stereotyped that an observer may record the number of such acts, or the amount of time engaged in the behaviors in a period of time.

FWS (U.S. Fish and Wildlife Service)- The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

FWS Division of Management Authority- The Division of Management Authority implements domestic laws and international treaties to promote long term conservation of global fish and wildlife resources. In response to ever-increasing global pressures of wildlife trade and habitat loss on species worldwide, the office dedicates its efforts to conserving species at risk through trade and implementing policies that have a broad impact on conservation overall.

FWS Field Offices- The program operations of the FWS are performed at various types of field installations within FWS Regional Offices. The FWS Field Offices that are involved with health and stranding of marine mammals under the jurisdiction of the FWS are identified in Appendix H.

FWS Letter of Authorization- LOAs are issued by the FWS to authorize identified network individuals, facilities, and agencies to rescue, rehabilitate, and release species under their jurisdiction that are in need of assistance. Authorizations and requirements are specific to the species, the organization, and the activity being conducted.

Humane Care- Treatment of an animal in such a way to both minimize pain and suffering and (by providing for proper care and use of the animal) to maximize well being of the individual and the population into which it is to be released.

Human Interaction-

Letter of Concurrence from the NMFS RA-

Letter of Intent- A letter from a prospective permanent care facility requesting custody of a nonreleasable animal. This letter must be sent to the NMFS Office of Protected Species Permits, Conservation and Education Division (http://www.nmfs.noaa.gov/pr/permits/mmpa_permits.htm).

NMFS- National Marine Fisheries Service

NMFS Disposition Regulation and Policy-

NMFS National Stranding Coordinator- Develops national policy and guidance and oversees the national marine mammal stranding program (part of the NMFS Marine Mammal Health and Stranding Response Program)

NMFS Office Director- Director of the Office of Protected Resources, National Marine Fisheries Service

NMFS Regional Director- Regional Administrator for National Marine Fisheries Service Regional Office (regional specific)

NMFS Regional Stranding Coordinator- Coordinates administration of the stranding program within the region.

Official Marine Mammal Unusual Mortality Event - A stranding that is unexpected, involves a significant die-off of any marine mammal population, and demands immediate response.

Panmictic- Referring to unstructured populations (random mating).

Pre-Release Health Screen- Required to be completed prior to release of animals following rehabilitation in accordance with these guidelines

Release Determination Recommendation-

Release Plan-

Reasonable Social Groups-

Reportable Diseases-

Signatory- The individual who signed the official stranding agreement between the stranding organization and NMFS (Executive Director, President, CEO, etc.).

Stranding Agreement- The official written agreement between NMFS and a Stranding Network Participant as allowed under 112(c) of the Marine Mammal Protection Act.

Stranding Network Participant- Nongovernmental entity authorized by an agreement with NMFS (Section 112(c) of Marine Mammal Protection Act provides special exemption from the take prohibition) to respond to stranded marine mammals.

Sub Designee- An entity acting under the authority and oversight of the Stranding Network Participant.

Surveillance Program- Method of surveillance that generates a source of information on the animal health status of populations.

Working Group on Marine Mammal Unusual Mortality Events- Official panel of scientific experts established by the Marine Mammal Protection Act to who advise the NMFS and FWS regarding unusual mortality events.

109(h) Stranding Participant- State or local government official (Section 109h of Marine Mammal Protection Act provides special exemption from the take prohibition) who can respond to a stranded marine mammal for the protection or welfare of the marine mammal and protection of public health and welfare.

APPENDICES

APPENDIX A

Chronology of Development of the Release Criteria

1977 1st Workshop on Marine Mammal Strandings; sponsored by Marine Mammal Commission - Geraci, J.R. and D. J. St Aubin (eds.) 1979. Biology of marine mammals: Insights through strandings. Marine Mammal Comm. Rep. No. MMC-77/13. U.S. Dep. Commer., NTIS Doc. PB 293 890, 343 p. (August 1977 Athens, GA). One of the workshop objectives was to (4) provide recommendations regarding the handling, care, and disposition of live-stranded animals. A relevant finding that came from this workshop and was published in the proceedings included that if live-stranded animals are rescued and rehabilitated, decisions whether these animals should be released or maintained in captivity must take into account the possibility that the animals may have lost their natural capacity to locate and capture appropriate prey species, avoid predators, and interact normally with other members of the species.

1987 2nd Workshop on Marine Mammal Strandings; sponsored by the Marine Mammal Commission and the National Marine Fisheries Service - Reynolds, J.E. and D.K. Odell (eds.) 1991. Marine mammal strandings in the United States: proceedings of the second marine mammal stranding workshop; 3-5 December 1987, Miami, FL. Dep. Commer., NOAA Tech. Rep. NMFS 98. A recommendation that came from this workshop and was published in the proceedings was a call to establish guidelines and procedures for determining whether and how live-stranded animals should be marked and returned to the sea, transported to a holding facility, rehabilitated, and subsequently released or maintained in captivity, or euthanized to avoid further pain and suffering.

1991 Workshop on rescue, rehabilitation, and release of marine mammals; sponsored by the Marine Mammal Commission and the National Marine Fisheries Service - St. Aubin, D.J., J.R. Geraci, and V.J. Lounsbury (eds.) 1996. Rescue, rehabilitation, and release of marine mammals: an analysis of current views and practices. Proceedings of a workshop December 3-5, 1991, Des Plaines, IL. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-OPR-8, 65 p. The participants were charged to address five critical questions as well as discuss other outstanding and relative issues. They made several recommendations to include the assembly a panel of medical and behavioral specialists to recommend criteria for assuring that released animals will prosper humanely and pose no undesirable risk to the wild population. The guidelines should include a recommended set of medical determinations by species, with appropriate reference ranges for blood constituents and other clinical measures, morphometric limits (weight at length and age), a checklist for physical examination, and a means of scoring behavioral attributes that would influence survival in the wild. Minimum values should be set for each of these criteria, such that no animal failing any measure would be released. The panel would incorporate the recommendations of the group considering the risks associated with specific pathogens, particularly for “carriers” that are otherwise normal and healthy. The participants also made recommendations on disease transmission and monitoring.

1992 Amendment of MMPA Title IV - 16 U.S.C. 1421a, Sec. 402. (a) DETERMINATION FOR RELEASE. The Secretary shall, in consultation with the Secretary of the Interior, the Marine Mammal Commission, and individuals with knowledge and experience in marine science, marine mammal science, marine mammal veterinary and husbandry practices, and marine conservation, including stranding network participants, develop objective criteria, after an opportunity for public review and comment, to provide guidance for determining at what point a rehabilitated marine mammal is releasable to the wild. Sec 402 (b) COLLECTION - The Secretary shall, in consultation with the Secretary of the Interior, collect and update, periodically, existing information on – (1) procedures and practices for – (A) rescuing and rehabilitating stranded marine mammals, including criteria used by stranding network participants, on a species-by-species basis, for determining at what point a marine mammal undergoing rescue and rehabilitation is returnable to the wild.

1994 Expert Panel on Behavior, Life History, and Natural History Criteria for Release of Rehabilitated Marine Mammals

Acting on the findings of the 1991 workshop entitled “Workshop on rescue, rehabilitation, and release of marine mammal,” NMFS consulted with the Working Group on Unusual Marine Mammal Mortality Events to develop draft criteria. An expert panel of 12 biologists, veterinarians, and animal care professionals was queried by Dr. Randall Wells of the Chicago Zoological Society in August 1994 to address 12 specific questions on marine mammal behavior, life history, and natural history relative to release. Dr. Wells submitted a report summarizing the panel’s responses to NMFS in November 1994, and reported the findings at the annual meeting of the Marine Mammal Commission in November 1994. This report included recommendations for release criteria, preparations for release, release, follow-up monitoring, and dissemination of findings. These recommendations were included in the draft document.

1994 Model for Marine Mammal Medical Criteria for Introduction to the Wild

In 1994, Dr. Gregory Bossart of the University of Miami School of Medicine established a committee of 7 nationally-recognized marine mammal veterinarians to formulate a draft of medical criteria that would act as guidelines for the re-introduction of wild marine mammal species. Marine mammal species included in this draft were cetaceans, pinnipeds, sea otters and manatees. This draft was submitted to NMFS and became the working template for the present NMFS draft release medical guidelines.

1996 Final Rule NMFS 50 CFR Sec. 216.27(a) require release of a marine mammal held for rehabilitation within six months of capture unless “...the attending veterinarian determines that: (i) The marine mammal might adversely affect marine mammals in the wild (ii) Release of the marine mammal to the wild will not likely be successful given the physical condition and behavior of the marine mammal; or (iii) More time is needed to determine whether the release of the marine mammal in the wild will likely be successful...”

1998 FR Notice Draft NOAA Tech Memo - NMFS and FWS Release for Stranded Marine Mammals to the Wild: Background, Preparation, and Release Criteria Vol.63, No. 67/ Wed, April 8, 1998 - A notice of availability and request for comments was published in the Federal Register.

2001 April 24, 2001 Summary of Public Comments Draft NOAA Tech Memo - NMFS and FWS Release for Stranded Marine Mammals to the Wild: Background, Preparation, and Release Criteria - contractor Dr. Rose Borkowski assimilates public comments. NMFS received official responses from 20 individuals or organizations. There were several outstanding issues that required more development and clarification. NMFS decided to convene special working groups to address the comments.

2001 Working groups on pinnipeds and cetaceans – three working groups were assembled by NMFS and FWS to address outstanding issues noted during the public comments period. Their recommendations have been incorporated in the current document.

APPENDIX B

Key Legislation: Marine Mammal Rescue, Rehabilitation, and Release to the Wild

- **Marine Mammal Protection Act (MMPA) of 1972**
 - Title I. - Conservation and Protection of Marine Mammals
 - Section 109 (h) - Taking of Marine Mammals as Part of Official Duties
 - Section 112 (c) - Contracts, Leases, and Cooperative Agreements
 - Title IV. - Marine Mammal Health and Stranding Response
 - Sec. 402 (a) - Determination for Release
 - (b) (1) – Procedures and Practices

- **Endangered Species Act of 1973, as amended**

- **Code of Federal Regulations, Title 50, part 216 – Regulations governing the taking and importing of marine mammals**
 - Section 22 – Taking by the State or Local Government Officials
 - Section 27 - Release, Non- Releasability, and Disposition Under Special Exception Permits for Rehabilitated Marine Mammals
 - (a) Release Requirements, (b) Non-releasability and postponed determinations, (c) Disposition for special exceptions purposes, (d) Reporting
 - Subpart D – Special Exceptions for Threatened and Endangered Marine Mammals
 - Marine Mammal Health and Stranding Response Program Enhancement Permit

- **Code of Federal Regulations, Title 50, part 18 – Marine Mammals**
 - Section 22 – Taking by Federal, State, and Local Government Officials
 - Section 31 – Scientific Research Permits and Public Display Permits

- **Code of Federal Regulations, Title 50, part 17 – Endangered and Threatened Wildlife and Plants**
 - Section 21 (c)(3) – Endangered Wildlife Prohibitions – Take
 - Section 31 (b) – Threatened Wildlife Prohibitions
 - Section 22 – Endangered Wildlife Permits for Scientific Purposes, Enhancement of Propagation of Survival, or for Incidental Taking
 - Section 32 – Threatened Wildlife Permits - General

APPENDIX C

REQUIRED REPORTING AND DOCUMENTATION

Marine Mammal Stranding Report - Level A Data (NOAA 89-864, OMB #0648-0178)

Marine Mammal Rehabilitation Disposition Report (NOAA 89-878, OMB #0648-0178)

Manatee Rescue, Rehabilitation and Release Report

MARINE MAMMAL STRANDING REPORT - LEVEL A DATA

FIELD #: _____ NMFS REGIONAL #: _____ NATIONAL DATABASE#: _____
(NMFS USE) (NMFS USE)

COMMON NAME: _____ GENUS: _____ SPECIES: _____

EXAMINER Letterholder: _____

Name: _____ Affiliation: _____

Address: _____ Phone: _____

<p>LOCATION OF INITIAL OBSERVATION</p> <p>State: _____ County: _____</p> <p>City: _____</p> <p>Body of Water: _____</p> <p>Locality Details: _____</p> <p>Latitude: _____ N <input type="checkbox"/> actual</p> <p>Longitude: _____ W <input type="checkbox"/> estimated</p> <p>How lat/long determined (Check ONE):</p> <p><input type="checkbox"/> GPS</p> <p><input type="checkbox"/> Map</p> <p><input type="checkbox"/> Internet/Software</p>	<p>OCCURRENCE DETAILS <input type="checkbox"/> Restrand GE#: _____ <small>(NMFS USE)</small></p> <p>Group Event: <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>If Yes, Type: <input type="checkbox"/> Cow/Calf Pair <input type="checkbox"/> Mass Stranding # Animals: _____ <input type="checkbox"/> actual <input type="checkbox"/> estimated</p> <p>Findings of Human Interaction: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Could not Be Determined (CBD)</p> <p>If Yes, Check one or more: <input type="checkbox"/> 1. Boat Collision <input type="checkbox"/> 2. Shot <input type="checkbox"/> 3. Fishery Interaction</p> <p><input type="checkbox"/> 4. Other Human Interaction: _____</p> <p>Describe How Determined: _____</p> <p>Gear Collected? <input type="checkbox"/> YES <input type="checkbox"/> NO Gear Disposition: _____</p> <p>Other Findings upon Level A: <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> CBD</p> <p>If Yes, Check one or more: <input type="checkbox"/> 1. Illness <input type="checkbox"/> 2. Injury</p> <p><input type="checkbox"/> 3. Other Findings: _____</p> <p>Describe How Determined: _____</p>
---	--

INITIAL OBSERVATION

Date: Year: _____ Month: _____ Day: _____

First Observed: Beach or Land Floating Swimming

CONDITION AT INITIAL OBSERVATION (Check ONE)

1. Alive 4. Advanced decomposition

2. Fresh dead 5. Mummified/Skeletal

3. Moderate decomposition 6. Unknown

LEVEL A EXAMINATION Not Able to Examine

Date: Year: _____ Month: _____ Day: _____

CONDITION AT EXAMINATION (Check ONE)

1. Alive 4. Advanced decomposition

2. Fresh dead 5. Mummified/Skeletal

3. Moderate decomposition

INITIAL LIVE ANIMAL DISPOSITION (Check one or more)

1. Left at Site 7. Transferred to Rehabilitation: _____

2. Immediate Release at Site Date: _____ Facility: _____

3. Relocated

4. Disentangled 8. Died during Transport

5. Died at Site 9. Euthanized during Transport

6. Euthanized at Site 10. Other: _____

CONDITION/DETERMINATION (Check one or more)

1. Sick 4. Deemed Healthy 7. Location Hazardous: _____

2. Injured 5. Abandoned/Orphaned a. To animal

3. Out of Habitat 6. Inaccessible b. To public

8. Unknown/CBD 9. Other: _____

Comments: _____

MORPHOLOGICAL DATA

SEX (Check ONE) **AGE CLASS** (Check ONE)

1. Male 1. Adult 4. Pup/Calf

2. Female 2. Subadult 5. Unknown

3. Unknown 3. Yearling

Straight Length: _____ cm in actual estimated

Weight: _____ kg lb actual estimated

PHOTOS/VIDEOS TAKEN: YES NO

Photo/Video Disposition: _____

TAG DATA

Tags Were:

Present at Time of Stranding (pre-existing): YES NO

Applied during Stranding Response: YES NO

ID #	Color	Type	Placement*	Applied	Present
_____	_____	_____	(Circle ONE) D DF L LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	_____	D DF L LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>
_____	_____	_____	D DF L LF LR RF RR	<input type="checkbox"/>	<input type="checkbox"/>

* D = Dorsal; DF = Dorsal Fin; L = Lateral Body
LF = Left Front; LR = Left Rear; RF = Right Front; RR = Right Rear

WHOLE CARCASS STATUS (Check one or more)

1. Left at site 4. Towed: Lat _____ Long _____ 7. Landfill

2. Buried 5. Sunk: Lat _____ Long _____ 8. Unknown

3. Rendered 6. Frozen for Later Examination 9. Other: _____

SPECIMEN DISPOSITION (Check one or more)

1. Scientific collection

2. Educational collection

3. Other: _____

Comments: _____

NECROPSIED YES NO Date: _____

NECROPSIED BY: _____

MARINE MAMMAL REHABILITATION DISPOSITION REPORT

FIELD #: _____ NMFS REGIONAL #: _____ NATIONAL DATABASE#: _____
(NMFS USE) (NMFS USE)

COMMON NAME: _____ GENUS: _____ SPECIES: _____

REHABILITATION FACILITY: _____

Address: _____ Phone: _____

<p>STRANDING/BIRTH HISTORY <input type="checkbox"/> Restrand</p> <p>Date: Year: _____ Month: _____ Day: _____</p> <p>Location: State: _____ County: _____ City: _____</p> <p>Sex: <input type="checkbox"/> 1. Male <input type="checkbox"/> 2. Female</p> <p>Was this animal born to a female in rehab? <input type="checkbox"/> 1. NO <input type="checkbox"/> 2. YES; Female's ID #: _____</p>	<p>ADMISSION INTO REHABILITATION</p> <p>Date: Year: _____ Month: _____ Day: _____</p> <p>Received From: _____</p> <p>Straight Length: _____ <input type="checkbox"/> cm <input type="checkbox"/> in <input type="checkbox"/> actual <input type="checkbox"/> estimate</p> <p>Weight: _____ <input type="checkbox"/> kg <input type="checkbox"/> lb <input type="checkbox"/> actual <input type="checkbox"/> estimate</p>
--	---

<p>MEDICAL RECORD AND SPECIMEN TRACKING</p> <p>Samples Collected: <input type="checkbox"/> 1. YES <input type="checkbox"/> 2. NO</p> <p>Pre-Release Health Screen Date: Year: _____ Month: _____ Day: _____</p> <p>Specimen Tracking: <input type="checkbox"/> 1. Scientific collection <input type="checkbox"/> 2. Education collection <input type="checkbox"/> 3. Other: _____</p>	<p>Sample or Specimen Type/Diagnostic Test/Disposition:</p> <ol style="list-style-type: none"> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____
---	---

DISPOSITION

<p>Animal Morphological Data at Time of Disposition:</p> <p>Straight Length: _____ <input type="checkbox"/> cm <input type="checkbox"/> in <input type="checkbox"/> actual <input type="checkbox"/> estimate</p> <p>Weight: _____ <input type="checkbox"/> kg <input type="checkbox"/> lb <input type="checkbox"/> actual <input type="checkbox"/> estimate</p> <p>Animal Disposition (Check one or more)</p> <p><input type="checkbox"/> 1. Transferred to Another Rehabilitation Facility</p> <p>Year: _____ Month: _____ Day: _____</p> <p>Facility: _____</p> <p>Address: _____</p> <p>Comments: _____</p> <p>_____</p> <p><input type="checkbox"/> 2. Deemed Nonreleaseable/ Transferred to Permanent Captivity</p> <p>Year: _____ Month: _____ Day: _____</p> <p>Facility: _____</p> <p>Comments: _____</p> <p>I.D.#: _____ <small>(NMFS USE)</small></p> <p><input type="checkbox"/> 3. Died <input type="checkbox"/> Euthanized</p> <p>Year: _____ Month: _____ Day: _____</p> <p>Location: _____</p> <p>Cause of Death: _____</p> <p>Comments: _____</p> <p>_____</p> <p>Necropsied: <input type="checkbox"/> 1. YES <input type="checkbox"/> 2. NO Date: _____</p> <p>Necropsied by: _____</p>	<p>Age Class at Time of Disposition:</p> <p><input type="checkbox"/> 1. Adult <input type="checkbox"/> 3. Yearling <input type="checkbox"/> 5. Unknown</p> <p><input type="checkbox"/> 2. Subadult <input type="checkbox"/> 4. Pup/Calf</p> <p><input type="checkbox"/> 4. Released</p> <p>Year: _____ Month: _____ Day: _____</p> <p>Last Day of Antibiotics: Year: _____ Month: _____ Day: _____</p> <p>State: _____ County: _____ City: _____</p> <p>Locality Details: _____</p> <p>_____</p> <p>Latitude: _____ N</p> <p>Longitude: _____ W</p> <p>Released: <input type="checkbox"/> Singly <input type="checkbox"/> With Other Rehabilitated Animals</p> <p>TAG DATA (*D=Dorsal; LF=Left Front; LR=Left Rear; RF=Right Front; RR=Right Rear)</p> <p>Tags were:</p> <p>Pre-existing (Present at Time of Stranding): <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>Applied During Stranding Response: <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">I.D.#</th> <th style="text-align: left;">Color</th> <th style="text-align: left;">Type</th> <th style="text-align: left;">Placement (Circle ONE)</th> <th style="text-align: left;">Applied</th> <th style="text-align: left;">Present</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td></td> <td></td> <td>D DF L</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td></td> <td></td> <td></td> <td>LF LR RF RR</td> <td></td> <td></td> </tr> <tr> <td>_____</td> <td></td> <td></td> <td>D DF L</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td></td> <td></td> <td></td> <td>LF LR RF RR</td> <td></td> <td></td> </tr> <tr> <td>_____</td> <td></td> <td></td> <td>D DF L</td> <td><input type="checkbox"/></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>LF LR RF RR</td> <td></td> <td></td> </tr> </tbody> </table>	I.D.#	Color	Type	Placement (Circle ONE)	Applied	Present	_____			D DF L	<input type="checkbox"/>	<input type="checkbox"/>				LF LR RF RR			_____			D DF L	<input type="checkbox"/>	<input type="checkbox"/>				LF LR RF RR			_____			D DF L	<input type="checkbox"/>					LF LR RF RR		
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			LF LR RF RR																																								

ADDITIONAL REMARKS

ADDITIONAL IDENTIFIER: _____

DISCLAIMER

THESE DATA SHOULD NOT BE USED OUT OF CONTEXT OR WITHOUT VERIFICATION. THIS SHOULD BE STRICTLY ENFORCED WHEN REPORTING SIGNS OF HUMAN INTERACTION DATA.

DATA ACCESS

UPON WRITTEN REQUEST, CERTAIN FIELDS OF THE MARINE MAMMAL REHABILITATION DISPOSITION REPORT WILL BE RELEASED TO THE REQUESTOR PROVIDED THAT THE REQUESTOR CREDIT THE STRANDING NETWORK AND THE NATIONAL MARINE FISHERIES SERVICE. THE NATIONAL MARINE FISHERIES SERVICE WILL NOTIFY THE CONTRIBUTING STRANDING NETWORK MEMBERS THAT THESE DATA HAVE BEEN REQUESTED AND THE INTENT OF USE. ALL OTHER DATA WILL BE RELEASED TO THE REQUESTOR PROVIDED THAT THE REQUESTOR OBTAIN PERMISSION FROM THE CONTRIBUTING STRANDING NETWORK AND THE NATIONAL MARINE FISHERIES SERVICE.

PAPERWORK REDUCTION ACT INFORMATION:

PUBLIC REPORTING BURDEN FOR THE COLLECTION OF INFORMATION IS ESTIMATED TO AVERAGE 30 MINUTES PER RESPONSE, INCLUDING THE TIME FOR REVIEWING INSTRUCTIONS, SEARCHING EXISTING DATA SOURCES, GATHERING AND MAINTAINING THE DATA NEEDED, AND COMPLETING AND REVIEWING THE COLLECTION OF INFORMATION. SEND COMMENTS REGARDING THIS BURDEN ESTIMATE OR ANY OTHER ASPECT OF THE COLLECTION OF INFORMATION, INCLUDING SUGGESTIONS FOR REDUCING THE BURDEN TO: CHIEF, MARINE MAMMAL CONSERVATION DIVISION, OFFICE OF PROTECTED RESOURCES, NOAA FISHERIES, 1315 EAST-WEST HIGHWAY, SILVER SPRING, MARYLAND 20910. NOT WITHSTANDING ANY OTHER PROVISION OF THE LAW, NO PERSON IS REQUIRED TO RESPOND TO, NOR SHALL ANY PERSON BE SUBJECTED TO A PENALTY FOR FAILURE TO COMPLY WITH, A COLLECTION OF INFORMATION SUBJECT TO THE REQUIREMENTS OF THE PAPERWORK REDUCTION ACT, UNLESS THE COLLECTION OF INFORMATION DISPLAYS A CURRENTLY VALID OFFICE OF MANAGEMENT AND BUDGET (OMB) CONTROL NUMBER.



Manatee Rescue, Rehabilitation and Release Report

(see below)

Rescue: Reporting Requirements

Name of Reporting Organization

Date Report Filed

Date Event Occurred

Type of Rescue

Identification

 Name (if any)

 Studbook Number

 Identification Numbers (in the case of multiple numbers, all numbers should be entered)

PIT Tag

 Right (identifying number)

 Left (identifying number)

Freeze Brand (yes/no)

 Number

Sex

Weight (lbs/kg)

 Actual/estimated

Length (cm/inches)

 Actual/estimated

Ultrasound (yes/no)

County

Nearest Town/Community

Waterbody

Latitude/Longitude

Probable Cause for Rescue

 (Drop down list includes various common causes; additional information is required for entangled animals.)

Health Status at Time of Report

Rehabilitation Facility (if any)

Veterinarian

Facility Supervisor

Rescue Participants

Name of Reporter

Telephone Number

Release: Request Information

Name of Requesting Organization

Date Request Filed

Date Event Proposed

Identification

 Name (if any)

 Studbook Number

 Identification Numbers (in the case of multiple numbers, all numbers should be entered)

PIT Tag

Right (identifying number)

Left (identifying number)

Freeze Brand (yes/no)

Number

Other Tags

Name of Tracker/Affiliation

Tracker Telephone Number

Sex

Weight (lbs/kg)

Actual

Date Taken

Length (cm/inches)

Actual

Date Taken

Peduncle Girth (cm)

Date Taken

Ultrasound (yes/no)

County Where Rescued

Nearest Town/Community

Waterbody

Latitude/Longitude

Date of Rescue

Weight at Time of Rescue

Length at Time of Rescue

Proposed Date of Release

Actual Date of Release

County Where Released

Nearest Town/Community Where Released

Waterbody Where Released

Veterinarian

Facility Supervisor

Release Participants

Name of Reporter

Telephone Number

Transfer: Request Information

Name of Requesting Organization

Date Request Filed

Date Event Proposed

Identification

Name (if any)

Studbook Number

Identification Numbers (in the case of multiple numbers, all numbers should be entered)

Sex

Weight (lbs/kg)

Actual
Date Taken
Length (cm/inches)
Actual
Date Taken
Date Brought Into Captivity
Date of Proposed Transfer
Actual Date of Transfer
Veterinarian
Facility Supervisor
Release Participants
Name of Reporter
Telephone Number

Death: Reporting Requirements

Name of Reporting Organization
Date Report Filed
Date Died
Identification
 Name (if any)
 Studbook Number
 Identification Numbers (in the case of multiple numbers, all numbers should be entered)
Sex
Date Rescued
Probable Cause of Death (or Euthanised)
Disposition of Carcass
Veterinarian
Facility Supervisor
Name of Reporter
Telephone Number

Captive Birth: Reporting Requirements

Name of Reporting Organization
Date Report Filed
Date Born
Identification
 Name (if any)
 Studbook Number
 Identification Numbers (in the case of multiple numbers, all numbers should be entered)
Sex
Weight (lbs/kg)
 Actual
 Date Taken
Length (cm/inches)
 Actual
 Date Taken

Present Health Status

Origin of Dam

Circumstances of Birth

Dam Identification

 Name (if any)

 Studbook Number (if any)

 Identification Numbers (in the case of multiple numbers, all numbers should be entered)

Sire Identification

 Name (if any)

 Studbook Number (if any)

 Identification Numbers (in the case of multiple numbers, all numbers should be entered)

APPENDIX D

DISEASES OF CURRENT CONCERN FOR CETACEANS

The diseases listed below are of current concern for cetaceans. Numerous additional diseases exist among cetaceans and should also be considered during diagnostic work-ups. Testing for specific diseases of cetaceans is not required at this time. However, thorough diagnostic testing of rehabilitated cetaceans is strongly recommended as warranted by their history and clinical signs of illness. Clinicians are particularly encouraged to test cetaceans for brucellosis and morbillivirus. NMFS may require disease testing for specific individuals prior to release if concern for the health of wild marine mammals exists or concern exists regarding the animal's likelihood of survival in the wild. Contact the NMFS coordinator for information regarding the appropriate diagnostic laboratories.

A good resource to obtain updated literature on diseases of marine mammals is through the Animal Welfare Information Center (<http://awic.nal.usda.gov>), part of the United States Department of Agriculture National Agriculture Library.

BACTERIAL DISEASES COMMENTS

Brucellosis

Serologic evidence or isolation of this bacterium has been made several species of cetaceans as well as those in captivity. Different serovar than terrestrial species. Current limited understanding of pathophysiology and significance. May cause reproductive illness, isolated from an aborted captive bottlenose dolphin fetus. Zoonotic. Human case followed handling of marine mammal tissues. (Dunn et.al., 2001; Brew et al., 1999; Clavareau, 1998; Miller, et.al., 1999).

Erysipelothrix

Has caused acute septicemia or generalized dermatitis in several cetacean species including wild orca. Believed to be acquired from ingestion of fish contaminated with the organism. Zoonotic, causes dermatitis, arthritis, pneumonia, or septicemia in man. (Dunn et.al., 2001; Young et.al., 1997; Cowan et.al., 2001.)

Respiratory Illness

Respiratory illness is common among both captive and wild cetaceans. Such disease often involves bacterial pathogens and is frequently fatal. *Staphylococcus aureus* and *Pseudomonas aeruginosa* as well as Gram negative bacterial organisms are often involved. Pulmonary parasitism may contribute to development of bacterial respiratory disease. (Dunn et.al., 2001; Howard et.al.1983; Kinoshita et al. 1994).

VIRAL DISEASES

- Morbillivirus** Has caused major epizootics with high mortalities in bottlenose dolphins, common dolphins, and striped dolphins. Has also infected other cetacean species. Testing for cetacean morbillivirus is strongly recommended for all cetaceans in rehabilitation centers. (Kennedy-Stoskopf, 2001; Kennedy, 1998; Duigan, 1999).
- Poxvirus** Common infection of captive and wild cetaceans characterized by skin lesions. Not known to cause systemic infection. Appearance of lesions may correlate with weaning, poor general health, and/or compromised environmental conditions. (Kennedy-Stoskopf, 2001; Van Bresseem and Van Waerebeek, 1996; Geraci et.al. 1979).
- Papillomavirus** Has caused lesions of the skin, genital area, stomach, and tongue of several cetacean species. Sometimes referred to as benign tumors. Genital lesions may be transmitted venereally and may interfere with copulation. (Kennedy-Stoskopf, 2001; Deguise et.al., 1994; Van Bresseem et al., 1996).

PARASITIC DISEASES

- Toxoplasmosis gondii*** Protozoan parasite which has caused serious disease and death in cetacean species. Source of infection not clearly defined. (Dailey, 2001; Migaki, 1990.)
- Anasakid nematodes** Family of nematodes which parasitize the cetacean gastrointestinal tract. Infections may cause gastritis and ulceration. (Dailey, 2001; Smith, 1989).
- Hepatic trematodes** Heavy infection may cause serious liver disease associated with weight loss, increased susceptibility to bacterial infection. May result in death. (Dailey, 2001; Zam et.al, 1971.)
- Nasitrema sp.*** Nematode parasite which infects nervous systems of cetaceans. May be a significant cause of stranding in odontocetes. Causes eighth cranial neuropathy, encephalitis, and cerebral necrosis. (Dailey, 2001).
- Lungworms** Includes nematode genera such as *Halocercus* which may cause severe respiratory disease and may cause death, depending on severity of infection. (Dailey, 2001; Measures, 2001; Moser and Rhinehart, 1993).

NONINFECTIOUS DISEASES

- Anthropogenic trauma** Entanglement in debris such as fishing nets and lines, collisions with boats, and underwater detonation of explosives may injure or kill cetaceans. The number of animals affected relative to total population may cause particular concern for some species (i.e. right whales and boat collisions, small odontocetes and fisheries by-catch). (Gulland et al. 2001, Kraus, 1990, Perrin et.al., 1994).
- Biotoxins** Toxins naturally produced from dinoflagellates and diatoms have been associated with illness and death in cetaceans. Brevetoxin was a possible cause of bottlenose dolphin mortality in 1946-47 and 1987-1988. Humpback whale mortality was associated with consumption of mackerel containing saxitoxin. (Gunter et.al., 1948; Geraci, et.al., 1989).
- Neoplasia** Belugas of the St. Lawrence River have had a concerning rate of neoplasia. Other cases of neoplasia have been reported in several species. Etiology of cetacean tumors is not known. Interplay of physical, chemical, and/or infectious agents with host factors such as age, sex, and genetic make-up likely involved with tumorigenesis. (Gulland et.al., 2001; De Guise et.al., 1994).

APPENDIX E**DISEASES OF CURRENT CONCERN FOR PINNIPEDS**

The diseases listed below are of current concern for pinnipeds. Numerous additional diseases exist among pinnipeds and should also be considered during diagnostic work-ups. Testing for specific diseases of pinnipeds is not required at this time. However, thorough diagnostic testing is strongly recommended for pinnipeds as warranted by their history and clinical signs of illness. NMFS, or in the case of walrus the FWS, may require disease testing for specific individuals prior to release if concern for the health of wild marine mammals exists or if there is significant concern regarding the animal's likelihood of survival in the wild. Contact the NMFS coordinator, or the FWS in the case of walrus, for information regarding appropriate diagnostic laboratories.

A good resource to obtain updated literature on marine mammal diseases is through the Animal Welfare Information Center (<http://awic.nal.usda.gov>), part of the United States Department of Agriculture National Agriculture Library.

BACTERIAL DISEASES**COMMENTS**

Brucellosis significance. followed 2001; Garner et.	Serologic evidence or isolation of this organism has been obtained for phocids and walrus. Different serovar than terrestrial species. Current limited understanding of pathophysiology and May cause reproductive illness. Zoonotic. Human case handling of marine mammal tissues. (Dunn et.al., al., 1997).
Leptospirosis	Severe systemic illness that frequently affects California sea lions and northern fur seals. Infection may be obtained at sea, in rookeries, or via contact with fresh water sources contaminated by infected terrestrial mammals via contamination of water sources. May be treated with antibiotics. Zoonotic. (Dunn et.al., 2001; Schoenwald et. al., 1971; Gulland et.al., 1996, Stamper et al., 1998).
Mycobacterial Disease	Illness characterized primarily by skin or pulmonary lesions diagnosed in several pinniped species. Caused by organisms which include those responsible for tuberculosis. Recently diagnosed in wild subantarctic fur seals. Zoonotic. (Dunn et. al., 2001, Cousins et.al., 1993, Bastida et.al., 1999).

VIRAL DISEASES

- Adenovirus** Caused fatal hepatitis in California sea lions. Source of virus unknown, but may be related to canine adenovirus. (Kennedy-Stoskopf, 2001; Dierauf et.al., 1981).
- Calicivirus** Several pinniped species susceptible. Causes skin lesions in California sea lions. Numerous animal species may be infected by calicivirus including fish, reptiles, mammals. Transmission from marine mammals to terrestrial animals and vice versa possible. Unconfirmed as zoonotic but possibility exists. (Kennedy-Stoskopf, 2001; Smith and Boyt, 1990; Gage, et.al., 1990; Barlough et.al., 1998).
- Herpes Virus** May infect several pinniped species including walrus. Causes fatal disease in neonatal Pacific harbor seals characterized by severe adrenal gland and liver pathology. (Kennedy-Stoskopf, 2001; Gulland et.al., 1997).
- Influenza** Caused high mortality among Atlantic harbor seals. Endemic among this population. Changes in virulence may cause disease outbreaks. Related to avian influenza. Zoonotic. Has caused severe conjunctivitis among humans. (Kennedy-Stoskopf, 2001; Webster et.al., 1981).
- Morbillivirus** Endemic in several phocid species. May cause high morbidity and mortality. Seals have been infected by the canine morbillivirus as well as a morbillivirus specific for phocids. (Kennedy-Stoskopf, 2001; Kennedy, 1998; Duignan, 1999).
- Pox** Causes skin lesions in several pinniped species. Outbreaks may be associated with stress as with postweanling animals recently introduced to captivity. Zoonotic. May cause skin lesions on humans. (Kennedy-Stoskopf, 2001; Hicks and Worthy, 1987).

PARASITIC DISEASES

- Helminths** A variety of nematode, trematode, and cestode parasites infect pinnipeds, causing varying degrees of clinical disease. For instance, the nematode *Contracaecum corderoi* has caused gastrointestinal perforations and fatal peritonitis in California sea lions. (Dailey, 2001; Fletcher, 1998.)

- Cryptosporidiosis** Protozoan gastrointestinal parasite recently isolated from several pinniped species. Limited current knowledge of pathophysiology in pinnipeds. Zoonotic. (Miller, et.al., 2001; Deng, et.al., 2000).
- Giardia** Protozoan gastrointestinal parasite identified in phocids and the California sea lion. Incidence and severity of clinical illness not fully understood. Zoonotic. (Miller, et.al., 2001; Measures and Olson, 1999.)
- Sarcocystis** Protozoan parasite that may cause severe neurologic disease and death. Important cause of mortality among Pacific harbor seals. Organism may be found in waste from humans or their activities (Miller, et. al., 2001; LaPointe, et.al., 1998).

NONINFECTIOUS DISEASES

- Anthropogenic trauma** Gunshot, underwater detonation of explosives, and entanglement in debris such as fishing nets and lines cause morbidity and mortality among pinnipeds. (Gulland, et.al., 2001).
- Biotoxins** Harmful algal blooms producing domoic acid have caused significant sea lion mortality. (Gulland, 2000; Schoelin, et.al. 2000).
- Neoplasia** Carcinoma, an aggressive tumor often associated with the urogenital system is common in California sea lions. May be linked to viral infections and/or exposure to environmental contaminants. (Buckles, et.al., 1996, Gulland, et.al., 1996, Lipscomb, et.al., 2000).

APPENDIX F

DISEASES AND ISSUES OF CURRENT CONCERN FOR MANATEES

The diseases and issues listed below are of current concern for manatees. Other diseases exist among manatees and should also be considered during diagnostic work-ups. Testing for specific diseases of manatees is not required at this time. However, thorough diagnostic testing of rehabilitated manatees is strongly recommended as warranted by their history and clinical signs of illness. FWS may require disease testing for specific individuals prior to release if concern for the health of wild marine mammals exists or concern exists regarding the animal's likelihood of survival in the wild. Contact the FWS stranding support staff for information regarding the appropriate diagnostic laboratories.

A good resource to obtain updated literature on marine mammal diseases is through the Animal Welfare Information Center (<http://awic.nal.usda.gov>), part of the United States Department of Agriculture National Agriculture Library.

BACTERIAL DISEASES

COMMENTS

- | | |
|--------------|--|
| Brucellosis. | Antibodies to <i>Brucella</i> spp. have been reported in Florida manatees, although lesions consistent with brucellosis have not been observed (Geraci et al., 1999). |
| Other. | Systemic mycobacteriosis due to <i>Mycobacterium marinum</i> and <i>M. chelonae</i> (Boever et al., 1976), and mycotic dermatitis (Dilbone, 1965; Tabuchi et al., 1974), have been reported in adult manatees. |

VIRAL DISEASES

- | | |
|---------------------------|--|
| Cutaneous papillomatosis. | Recently described in a captive population of manatees. PCR analyses has demonstrated a virus consistent with Type I bovine papilloma virus. (Bossart et al., 1998a) |
| Morbillivirus. | Serologic evidence of morbillivirus has been demonstrated in manatees, although signs of clinical disease or active infection has not been observed (Duignan et al., 1995). |
| Other. | Pseudorabies, San Miguel sea lion virus Type I, and eastern, western, and Venezuelan equine encephalitis have been reported in Florida manatees (Geraci et al., 1999). While these are serologically evident, no signs of clinical disease or active infection have been observed. |

PARASITIC DISEASES

Meningoencephalitis. *Toxoplasma gondii* has caused the death(s) of Florida manatees (Buerguelt and Bonde, 1983).

Other. Endoparasites are commonly found in manatees; however, pathological signs or clinical disease are rare (Bossart 2001).

NONINFECTIOUS DISEASES

Anthropogenic trauma. Collisions with boats, entanglement in fishing gear (monofilament fishing line, crab float lines, etc.), crushing in water control structures, etc., are sources of injury and mortality

Biotoxins. Brevetoxins associated with *Kerenia brevi* and possibly other dinoflagellates have killed dozens of Florida manatees. Suspected vectors include ingestion of toxin-containing ascidians and sea grasses and inhalation of aerosolized toxicants (Bossart 2001).

Cold stress syndrome. Exposure to cold for extended periods of time initiates clinical signs and disease processes that characterize manatee cold stress syndrome. Effects include lethargy, anorexia, and terminal hypothermia. Numerous significant cold fronts extending the length of the Florida peninsula have caused deaths and cold stress in dozens of manatees over the past few decades (Bossart 2001).

DISEASES OF CURRENT CONCERN FOR SEA OTTERS

The diseases listed below are of current concern for sea otters. Numerous additional diseases exist among sea otters and should also be considered during diagnostic work-ups. Testing for specific diseases of sea otters is not required at this time. However, thorough diagnostic testing is strongly recommended for sea otters as warranted by their history and clinical signs of illness. FWS may require disease testing for specific individuals prior to release if concern for the health of wild marine mammals exists or if there is significant concern regarding the animal's likelihood of survival in the wild. Contact the FWS coordinator for information regarding appropriate diagnostic laboratories.

A good resource to obtain updated literature on marine mammal diseases is through the Animal Welfare Information Center (<http://awic.nal.usda.gov>), part of the United States Department of Agriculture National Agriculture Library.

BACTERIAL DISEASES COMMENTS

Septicemias

Overwhelming bacterial infections, sometimes from infected wounds, dental problems, and intestinal infections, are a common cause of mortality in southern sea otters, often secondary to infective perforation by acanthocephalans (CDFG unpubl. data), and a significant cause of mortality in northern sea otters in Alaska (FWS unpubl. data). Connections with sewage or animal wastes are suspected in some infections; however, for northern sea otters, the source of this infection is often unknown.

Valvular endocarditis

This is a sporadic disease secondary to chronic bacterial seeding from a primary source of infection such as a bite wound or tooth abscess. However, northern sea otters in Alaska have been diagnosed with VE without a primary source (FWS unpubl. data). These animals have tested positive for the *Streptococcus bovis/equinus* complex. In human cases, there is an association between *S.bovis* endocarditis cases and a malignancy of the GI tract.

Brucellosis

One culture and PCR-confirmed case in a California sea otter with a chronic toe joint infection and low-level systemic disease (CDFG unpubl. data). Fastidious in culture and easily missed. Marine Brucellae have demonstrated zoonotic potential, so caution is advised when handling fetal tissues, or live or dead animals with infected joints and wounds.

Dental disease Dental disease is common, particularly in older animals and can lead to systemic bacterial infections.

Leptospirosis Problem common in sea lions (see above pinniped section). Positive serologic titers in southern sea otters (Hanni *et al.* 2003). Cases reported in northern sea otters in Washington State. No clinical case identified in southern sea otters to date, although seropositive animals are observed. No cases reported for northern sea otters in Alaska.

FUNGAL DISEASES

Coccidiomycosis Low levels of infections (less than 1%) in southern sea otters, mostly off the San Luis Obispo county coast around the mouth of the Santa Maria River. Cases always fatal. Not reported in northern sea otters. Biohazard for people handling dead sea otters.

VIRAL DISEASES

Morbillivirus Conflicting evidence on whether exposure is relatively common or not in southern sea otters. Canine distemper has been diagnosed in a river otter in coastal British Columbia (Mos *et al.* 2003) and positive serologic titers have been noted in northern sea otters in Washington State. Care must be taken in moving otters if this virus is present in some populations and not others. Seropositivity to both canine and phocine distemper has been identified in northern sea otters in Washington and Alaska (FWS unpubl. data).

Papillomavirus Some evidence of this type of viral infection occurs, significance probably not great. Typically presents as small, raised variably pigmented plaques on the lips, tongue, or buccal mucosa. Occurrence often episodic and invariably incidental in southern sea otters (CDFG unpubl. data).

Herpesvirus Associated with corneal, oral, and esophageal ulcers, often in debilitated animals in California and Alaska.

PARASITIC DISEASES

Toxoplasma gondii Protozoan parasite which can cause serious disease and death in southern sea otters (Miller *et al.* 2004) and northern sea otters in Washington State. High prevalence of exposure in California with moderate mortality rate. There is evidence of wide exposure in

California and Washington State (Lindsay *et al.* 2001; Miller *et al.* 2002; Dubey *et al.* 2003; Conrad *et al.* 2005). Northern sea otters in Alaska rarely test positive (FWS unpubl. data). Source of infection not clearly defined but hypothesized to be associated with freshwater inputs to the ocean in California (Miller *et al.* 2002; Dailey 2001; Migaki 1990).

Sarcocystis neurona

Protozoan parasite that may cause severe neurologic disease and death. Important cause of mortality among southern sea otters and northern sea otters in Washington State. Infections appear to progress more quickly than *T. gondii* (Miller *et al.* 2001; Miller 2006). No evidence of this in northern sea otters in Alaska.

Helminths

A variety of nematode, trematode, and cestode parasites infect sea otters, causing varying degrees of clinical disease. Acanthocephalan thorny headed worms, particularly the *Profilicollis* spp. may be pathogenic when overwhelming infestations occur, particularly in young animals (Mayer *et al.* 2003).

Mites

Nasal mite infestations are uncommon in wild animals, but heavy infections may occur in captive and rehabilitated animals. Heavy infections can result in secondary bacterial nasopharyngitis and pneumonia.

Giardia

Some live, captive northern sea otters in Alaska have tested positive (FWS unpubl. data).

NONINFECTIOUS DISEASES

Anthropogenic trauma

Gunshot, boatstrike, oil spills, and entanglement in debris such as fishing nets, fishing lines, and hooks cause morbidity and mortality among sea otters. Alaskan otters have died from impactions with fish bones when feeding at cannery outfalls (FWS unpubl. data).

Biotoxins

Harmful algal blooms particularly those producing domoic acid have caused some morbidity and mortality of sea otters in California (Gulland 2000; Jessup *et al.* 2004).

Persistent organic pollutants

Levels in southern sea otters and northern sea otters in Alaska adjacent to known military dump sites are high (50-100 times control populations). Potential effects on endocrine and immune functions are a cause for concern, but evidence for this or for acute toxicity are lacking.

- Predation** White shark predation on southern sea otters is well documented. Some cases may be secondary to brain infections or intoxications that render otters helpless. Killer whale predation is hypothesized to be very significant in the decline of certain northern sea otter populations in Alaska.
- Neoplasia** A number of types of neoplasia have been documented in northern sea otters (FWS unpubl. data).
- Intestinal Disease** Sea otters have been known to suffer from intestinal intussusceptions, torsions, and impactions not caused by human related causes.
- Conspecific Trauma** Territorial males will often attack other male or pups. Males may also injure females during mating.

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- pathogen exposure in southern and Alaskan sea otters. *Journal of Wildlife Diseases* 39(4):837-850.
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APPENDIX H

**Contact Information for NMFS and FWS National and Regional Stranding
Support Staff**

National Marine Fisheries Service

National Stranding Coordinator:

National Marine Fisheries Service
Office of Protected Resources
Marine Mammal Health and Stranding Response Program
1315 East-West Highway
Silver Spring, MD 20910
Phone: (301) 713-2322
Fax: (301) 427-2522

Southeast Region:

National Marine Fisheries Service
Administrator, Southeast Region
263 13th Ave. South
St. Petersburg, FL 33701
Phone: (727) 824-5301
Fax: (727) 824-5320

Northeast Region:

National Marine Fisheries Service
Administrator, Northeast Region
One Blackburn Drive
Gloucester, MA 01930-2298
Phone: (978) 281-9250
Fax: (978) 281-9207

Southwest Region:

National Marine Fisheries Service
Administrator, Southwest Region
501 West Ocean Blvd. Suite 4200
Long Beach, CA 90802-4213
Phone: (562) 980-4001
Fax: (562) 980-4018

Northwest Region:

National Marine Fisheries Service
Administrator, Northwest Region
7600 Sand Point Way, NE
Bin C 15700, Bldg. 1
Seattle, WA 98115-0070
Phone: (206) 526-6150

Fax: (206) 526-6426

Alaska Region:

National Marine Fisheries Service
Administrator, Alaska Region
P.O. Box 21668
Juneau, AK 99802-1668
Phone: (907) 586-7221
Fax: (907) 586-7249

Pacific Islands Region

National Marine Fisheries Service
Administrator, Pacific Islands Region
1601 Kapiolani Blvd., Suite 1110
Honolulu, HI 96814
Phone: (808) 944-2280
Fax: (808) 973-2941

Fish and Wildlife

Manatees:

U.S. Fish and Wildlife Service
Jacksonville Field Office
6620 Southpoint Drive South, Suite 310
Jacksonville, FL 32216
Phone: 904/232-2580
Fax: 904/232-2404

Southern Sea Otters in California:

U.S. Fish and Wildlife Service
Ventura Field Office
2493 Portola Road, Suite B
Ventura, CA 93004
Phone: 805/644-1766
Fax: 805/644-3958

Northern Sea Otters in Washington:

U.S. Fish and Wildlife Service
Washington Field Office
510 Desmond Drive SE, Suite 102
Lacey, WA
Phone: 360/753-9440
Fax: 360/753-9518

Polar Bears, Pacific Walrus, and Northern Sea Otters in Alaska:

U.S. Fish and Wildlife Service
Marine Mammals Management Office
1011 E. Tudor Road
Anchorage, AK 99503
Phone: 907/786-3800
Fax: 907/786-3816

LOAs and Permits:

U.S. Fish and Wildlife Service
Division of Management Authority
4401 N. Fairfax Drive, Room 700
Arlington, VA 22203
Phone: 703/358-2104
Fax: 703/358-2281

National Coordinator:

U.S. Fish and Wildlife Service
Division of Habitat and Resource Conservation
4401 N. Fairfax Drive, Room 400
Arlington, VA 22203
Phone: 703/358-2161
Fax: 703/258-1869

Cetacean – Species Specific Developmental Stages (Age-Length) and Social Dynamics

<u>Scientific Name</u>	<u>Common Name</u>	<u>Approx Length at Birth (cm)</u>	<u>Approx "NEONATE" length (cm)</u>	<u>Approx Length at 1 Year of Age (cm)</u>	<u>Approx Length at 2 Years of Age (cm)</u>	<u>Approx. Age at Weaning (yrs)</u>	<u>Approx Length at Weaning (cm)</u>	<u>Aprox. Adult Length (cm)</u>	<u>Typical Group Size</u>	<u>Freq. of Occur. Single Individuals</u>
<i>Delphinapterus leucas</i>	White Whale	160	130-160	216	250	2	250	300-400 F 400-450 M	up to hundreds	uncommon
<i>Delphinus capensis</i>	Long-beaked Saddleback Dolphin	< 100							up to thousands	uncommon
<i>Delphinus delphis</i>	Common Dolphin	80-90	80-100				110-120	230-250	up to thousands	uncommon
<i>Feresa attenuata</i>	Pygmy Killer Whale	80						240-270	1-70	occasional
<i>Globicephala macrorhynchus</i>	Short-finned Pilot Whale	140-185	150			2-3		400-500 F 500-600 M	up to several hundred	rare
<i>Globicephala melas</i>	Long-finned Pilot Whale	177	160-200			2-3	240	450-500 F 450-600 M	up to several hundred	rare
<i>Grampus griseus</i>	Risso's Dolphin	110-150	120-160					300-400	single to several hundred	occasional
<i>Kogia breviceps</i>	Pygmy Sperm Whale	120	100-120			1		300 - 370	1-6	not uncommon
<i>Kogia sima</i>	Dwarf Sperm Whale	95	100			1		210-270	1-10	not uncommon
<i>Lagenodelphis hosei</i>	Fraser's Dolphins	100	100					240	100-1000	uncommon
<i>Lagenorhynchus acutus</i>	Atlantic White-sided Dolphin	108-122	100-130	142-156	176-190	1.5	180	240-270	2-500	uncommon
<i>Lagenorhynchus albirostris</i>	White Beaked Dolphin	110-120	110-130					300-320	1-100 (to 1500)	occasional
<i>Lagenorhynchus obliquidens</i>	Pacific White-sided Dolphin	92	80-100					220-230	tens to thousands	uncommon
<i>Lissodelphis borealis</i>	Northern Right Whale Dolphin	80-100	80-100					220-230 F 260-300 M	100-200	occasional
<i>Mesoplodon densirostris</i>	Blainville's Beaked Whale	200						450-470	1-7	occasional
<i>Mesoplodon europaeus</i>	Gervais' Beaked Whale	210	210					450-520	small groups	uncommon
<i>Orcinus orca</i>	Killer Whale	183-228	210-250			1.5-2.0	400	700-800 F 800-950 M	2-100	infrequent - adult males
<i>Peponocephala electra</i>	Melon-Headed Whale	100						270	150-1500	uncommon
<i>Phocoena phocoena</i>	Harbor Porpoise	70	70-90	110-135	115-155	0.3 - 1.0	100 - 110	140-170	small groups	not uncommon
<i>Phocoenoides dalli</i>	Dall's Porpoise	100	100			0.3-2.0		180-220	2-12	uncommon
<u>Scientific Name</u>	<u>Common Name</u>	<u>Approx Length at Birth (cm)</u>	<u>Approx "NEONATE" length (cm)</u>	<u>Approx Length at 1 Year of Age (cm)</u>	<u>Approx Length at 2 Years of Age (cm)</u>	<u>Approx. Age at Weaning (yrs)</u>	<u>Approx Length at Weaning (cm)</u>	<u>Aprox. Adult Length (cm)</u>	<u>Typical Group Size</u>	<u>Freq. of Occur. Single Individuals</u>

<i>Physeter macrocephalus</i>	Sperm Whale	400	350-500		670	2+	670	1100-1300 F 1500-1800 M	20-40 (50)	adult males
<i>Pseudorca crassidens</i>	False Killer Whale	160	170-200			1.5-2.0		500 F 550-600 M	10-20+	rare
<i>Stenella attenuata</i>	Pantropical Spotted Dolphin	85	80-100	129-142		1-2	140	120	<100 to thousands	uncommon
<i>Stenella clymene</i>	Clymene Dolphin							180-200	1-50	occasional
<i>Stenella coeruleoalba</i>	Striped Dolphin	93-100	100	166	180		170	220-260	10-100s	uncommon
<i>Stenella frontalis</i>	Atlantic Spotted Dolphin	100	80-120				140	200-230	1-15	uncommon
<i>Stenella longirostris</i>	Spinner Dolphin	76-77	70-80	133-137		1-2		180-220	up to thousands	uncommon
<i>Steno bredanensis</i>	Rough-toothed Dolphin	100						240-270	10-20	uncommon
<i>Tursiops truncatus</i>	Bottlenose Dolphin	117	100-130	170-200	170-225	1.5-2.0	225	220-300 (coastal) 250-650 (offshore)	2-15	occasional
<i>Ziphius cavirostris</i>	Cuvier's Beaked Whale	270	200-300					670 - 700	1-7	not uncommon

Information sources:

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DRAFT
NATIONAL MARINE FISHERIES SERVICE (NMFS) CRITERIA
FOR DISENTANGLEMENT ROLES AND TRAINING LEVELS
January 11, 2006

Levels of Participation in the Disentanglement Network – Definitions

Roles	Levels
First Responder	1-5
Primary First Responders	3-5
Primary Disentanglers	4-5

First Responder is a general term that is used to describe anyone in the Network with any level of training who may respond to an entanglement report under Network protocols and authorization. At a minimum they will voluntarily attempt to standby with an entangled whale and, depending on training, experience, authorization and equipment available, may also assess and perhaps tag the whale. Individuals with higher Network ratings (Levels 3-5) may act as **Primary First Responders** in local areas. Primary First Responders direct efforts locally and, under certain conditions and authorization, may attempt disentanglements during first response. These individuals have rapid access to vessels and specialized equipment. Additionally, Primary First Responders are on call full-time or at least during those times when there is a high likelihood of an entanglement report in their area of responsibility.

A First Responder's anticipated range of tasks is generally dependent on their classification in the Network. Classifications to various levels are determined on an individual basis and are based on a number of factors including, but not limited to the following:

- Preexisting experience and skills
- Willingness and commitment to build experience and improve skills
- Training
- Opportunity and available resources
- Location
- Commitment to being “on-call”
- Commitment to respond as needed

Primary Disentanglers are individuals who can perform all of the responsibilities of a first responder, but who also meet the criteria used by NMFS for selecting individuals who may undertake the very dangerous activity of disentangling (i.e. attaching to, stopping and cutting a whale free). Primary Disentanglers must have the experience, training, support and proper equipment at the time of the event to conduct a full disentanglement with a high likelihood of success. Primary Disentanglers are those rated at Level 4-5 in the Disentanglement Network. A summary of the various levels of certification follows.

DISENTANGLEMENT NETWORK CERTIFICATION

LEVEL 1

Targeted Individuals: Professional mariners (i.e. fishermen, naturalists, Marine Patrol Officers) Boating experience and/or experience around whales is highly suggested (i.e. professional fishing, field biology, marine law enforcement, whale watching, etc.)

Responsibilities

Level 1 activities: report, standby, and assess (within experience)

- Rapidly alert Disentanglement Network of first-hand and/or second-hand knowledge of local entanglements
- Depending on experience, stand by an entangled whale until backup arrives, and/or
- Communicate with crew on the vessel that is directly standing by the entangled whale and offer to replace the stand by vessel until additional backup or the response team arrives (if needed and within experience)

Criteria for certification

- Completed Level 1 classroom training, or
- Viewed Provincetown Center for Coastal Studies (PCCS) Training Video and demonstrated equivalent knowledge and experience (submit resume)

LEVEL 2

Targeted Individuals: Professional mariners (i.e. fishermen, naturalists, Marine Patrol Officers). There is a higher expectation of commitment and participation from Level 2 responders.

Responsibilities

Level 2 activities: report, stand by, and assess at a higher level (within experience)

- Provide a thorough assessment of the nature of the entanglement and the species, condition and behavior of the whale
- Provide local knowledge, transportation, and assistance to Primary First Responders, as needed, on a voluntary basis
- Be on call, as available, to assist in planned disentanglement operations on telemetry tagged whales

Criteria for certification

Level 1 certification in addition to the following:

- Completed Level 2 on-water training, or
- Viewed PCCS Training Video and demonstrated equivalent knowledge and experience (submit resume)

LEVEL 3

Targeted Individuals: Whale researchers and naturalists, fishermen, natural resource agency personnel, Marine Patrol Officers.

Responsibilities

Level 3 activities- report, stand by, assess, document and attach a telemetry buoy. Other activities may include:

- Be on call 24 hours and should respond if conditions allow
- Initiate and maintain preparedness with local fishing industry, Coast Guard, and other resources
- Prepare local disentanglement action plan
- Provide entanglement assessment, documentation and recommendations to Primary
- Disentangle during events
- Attach telemetry equipment to entangling gear if needed and authorized
- May be asked (depending on experience) to disentangle a minor entanglement with potential to adversely affect any whale other than right whales under the supervision/authorization of

Level 4 or 5 network members. Authorization and supervision may be given over the phone or radio depending on the circumstances and level of experience.

Criteria for certification

Level 1 and 2 certification and experience in the following elements:

- Large whale species identification and behavior, and the ability to safely follow a free swimming, entangled whale
- Boat handling and safety including basic seamanship, driving, and close approaches to whales
- Line handling and safety including knowledge of knots, handling lines under pressure, and an understanding of how working lines behave
- Follows instructions and response plans

Note: Each candidate will be evaluated for each element and any deficiencies must be supplemented with adequate training and/or experience.

Additionally, all Level 3 responders must have:

- Basic Level 3 training, or
- Advanced Level 3 training - an apprenticeship with PCCS

LEVEL 4

Targeted Individuals: Whale researchers and naturalists, fishermen, natural resource agency personnel, Marine Patrol Officers.

Responsibilities

Level 4 activities-

- Report, stand by, assess, document, attach a telemetry buoy, consult on an action plan and disentangle all large whales except right whales
- Report, stand by, assess, document and attach a telemetry buoy to right whales
- On a case by case basis and after consultation (see commitment to consult under Level 5 below), certain cuts on known entangled right whales may be permitted at level 4 ***if the proposed action is first approved by level 5 disentanglers and NMFS***

Please Note: Entangled whale behavior varies considerably by species. However, Level 4 Disentanglers should routinely be able to attempt disentanglement of all large whales other than right whales.

Criteria for certification

Basic or Advanced Level 3 Certification and:

- Direct experience in a supervised (by PCCS/Network coordinators or NMFS) large whale disentanglement, documentation of that experience, and a positive evaluation from NMFS using information provided by PCCS/Network Coordinators and any hard documentation (*i.e.* video)
- When possible, commitment to consultation as detailed in Level 5 below

LEVEL 5

Targeted Individuals: Level 4 Responders

Responsibilities

Level 5 activities - report, stand by, assess, document, attach a telemetry buoy, consult on an action plan and disentangle all large whales including right whales.

Please Note: Right whales are aggressive and therefore generally the most difficult whales to disentangle. North Atlantic right whales are among the most critically endangered large whales in the world. Certification at this level is highly selective and specialized.

Criteria for certification

Level 4 certification and:

- Experience w/ right whale behavior and/or includes a person on the team directly involved in the whale disentanglement (in the boat with the whale) that is experienced in right whale behavior
- Documented participation in a right whale disentanglement and/or NMFS/PCCS review of video of participation in a right whale disentanglement that followed NMFS protocol
- Commitment to Consultation to include:

- Immediate Consultation: when possible, use satellite/cell phones to bring in additional ideas/experience from other level 5s and level 4s (and vets and behaviorists if appropriate) while on scene with an entangled right whale
- Action Plan Development: For a tagged right whale, consultation required with NMFS, level 5s and 4s, veterinarians, behaviorists, etc.

Rationale for consultation: First assessments and strategies almost invariably change with more discussion or information. Consultation will likely help to increase human safety and critical choices regarding risks to whale health must be made with the best available information.

APPENDIX D

SCOPING REPORT- MARCH 2006

Marine Mammal Health and Stranding Response Program Environmental Impact Statement

Scoping Report
March 2006



Photo by NMFS NWR



Photo by Lyme Barre, NMFS



Photo by Provincetown Center for Coastal Studies



National Marine Fisheries Service
Office of Protected Resources
1315 East-West Highway
Silver Spring, MD 20910

ACRONYMS

CFR	Code of Federal Regulations
EIS	Environmental Impact Statement
ESA	Endangered Species Act
MMHSRP	Marine Mammal Health and Stranding Response Program
MMPA	Marine Mammal Protection Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NOAA	National Oceanic and Atmospheric Administration
OSP	Optimal Sustainable Population
SA	Stranding Agreement
UME	Unusual Mortality Event

**SCOPING REPORT FOR THE
MARINE MAMMAL HEALTH AND STRANDING RESPONSE PROGRAM
ENVIRONMENTAL IMPACT STATEMENT**

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1. Introduction.....	1
1.1 EIS Background Information.....	1
1.2 Purpose of Scoping.....	2
2. Scoping Meetings Summary.....	2
2.1 Public Notices.....	2
2.2 Newspaper Announcements of Public Notice.....	2
2.3 Information Repositories.....	3
2.4 Public Scoping Meetings.....	3
3. Scoping Comments.....	4
3.1 EIS Comments.....	4
3.2 Interim Policies and Best Practices Comments.....	8
4. Conclusion.....	10

APPENDICES

- A Federal Register Notice of Intent- December 28, 2005
- B Informational Fact Sheets from Public Scoping Meetings
- C Public Scoping Meeting Transcripts, January 24- February 17, 2006
- D Comments Received During Scoping Process

TABLES

1. Public Scoping Meeting Information.....	4
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1. Introduction

The National Marine Fisheries Service (NMFS) published a Notice of Intent (NOI) in the Federal Register on December 28, 2005 (Appendix A). The NOI announced NMFS' decision to prepare an Environmental Impact Statement (EIS) on the activities of the Marine Mammal Health and Stranding Response Program (MMHSRP) and conduct public scoping meetings. The EIS is being prepared in accordance with the National Environmental Policy Act (NEPA). The NOI began the official scoping process for the EIS. This document summarizes the scoping process and the comments received during the process.

1.1 EIS Background Information

NMFS coordinates and operates the MMHSRP for response to stranded marine mammals and research on marine mammal health, pursuant to Title IV of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1421). Marine mammal stranding response is primarily conducted by a network of volunteer organizations across the country that are government officials under the authority of §109(h) or other groups that have entered into a Stranding Agreement or Letter of Agreement (SA or LOA) with NMFS pursuant to §112(c) of the MMPA. The MMHSRP operates at the national and regional level to coordinate and facilitate these responses.

To provide further guidance to marine mammal stranding network members and to nationally standardize the guidelines and protocols of participants in the stranding network, NMFS has developed several policy documents that are collectively named the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release*. These documents are currently issued on an interim basis, and the MMHSRP is proposing to issue them in final after the NEPA analysis is concluded.

Some activities of the MMHSRP are conducted under a permit issued under the MMPA and Section 10(a)(1)(A) of the Endangered Species Act (ESA) by the Permits, Conservation, and Education Division of the NMFS Office of Protected Resources. The permit covers stranding and emergency response activities (including disentanglement) for endangered marine mammal species, health assessment studies, and a variety of other research projects.

The current MMPA/ESA permit expires on June 30, 2007. A NEPA analysis of the activities covered under the permit must be completed prior to the issuance of a new permit. A NEPA analysis must

also be completed to issue the final version of the *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release* manual.

1.2 Purpose of Scoping

NEPA defines scoping as an “early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action” (40 CFR 1501.7). NMFS is required by NEPA to include scoping as part of the EIS process. The scoping meetings provided NMFS the opportunity to inform the public regarding the MMHSRP’s EIS and to obtain public input on the range of issues to be covered in the EIS. Comments were also collected via e-mail, postal mail and fax during the scoping process.

2. Scoping Meetings Summary

2.1 Public Notices

Announcements for the dates and locations of scoping meetings were sent to 253 entities, including federal and state government agencies, Alaska natives, Native American tribes, and non-governmental organizations. In addition, a total of 160 packets with the scoping meeting information and additional background documentation were sent to marine mammal stranding network members, marine mammal disentanglement network members, and MMPA/ESA research permit co-investigators.

Meeting announcements were sent to the email list for the Northeast, Southeast, and Southwest Regional stranding networks. An announcement was also sent to the MARMAM list-serve, an edited e-mail discussion list focusing on marine mammal research and conservation. The scoping meeting schedule was also available on the MMHSRP website at <http://www.nmfs.noaa.gov/pr/health/eis.htm>.

2.2 Newspaper Announcements of Public Notice

Public notices announcing the scoping meetings were published in a newspaper in each of the meeting locations. The notices were published one week before the meeting date. Each notice included the date, time, and location of the meeting, and where additional information on the EIS could be obtained. The newspapers and dates the announcements were published are listed below:

- Santa Barbara News-Press: January 17, 2006
- The San Francisco Examiner: January 18, 2006

- The Honolulu Advertiser: January 20, 2006
- The Seattle Times: January 23, 2006
- Anchorage Daily News: January 25, 2006
- St. Petersburg Times: January 31, 2006
- The Boston Globe: February 6, 2006
- The Washington Post: February 10, 2006

2.3 Information Repositories

Information on the MMHSRP and the EIS was available at a public library in each of the scoping meeting locations. Information was also available on the MMHSRP website. Information included the interim draft of the Best Practices and Policies Manual; the NOI; and handouts summarizing the MMHSRP, the EIS Process, and the Proposed Action and Alternatives.

2.4 Public Scoping Meetings

Eight public scoping meetings were held in January and February of 2006. Meeting locations were chosen in each of the six NMFS regions: Alaska, Northeast, Northwest, Southeast, Southwest (two meetings), and the Pacific Islands. A meeting was also held at the National Oceanic and Atmospheric Administration (NOAA) Headquarters in Silver Spring, Maryland. Table 1 lists the meeting locations, date, time, number of attendees, and the number of oral comments received. The number of attendees is an approximation, as not all attendees signed in at the meeting. The number of attendees also includes the NMFS regional stranding coordinators, when applicable.

At the entrance to each meeting, attendees were encouraged to sign the registration sheet. Attendees could sign up to present oral comments or to be placed on the EIS mailing list. Written comment forms, the NOI, and handouts with information on the EIS and MMHSRP were also available at the entrance (see Appendix B).

The meetings consisted of a poster session, a formal presentation by NMFS personnel, an oral comment period, and an informal question and answer session. The poster session allowed the public to ask NMFS personnel questions before the meeting. The formal presentation provided the audience with information on NEPA, the EIS process, the MMHSRP, and the alternatives under consideration. The oral comment period provided attendees the opportunity to make a formal statement. The informal question and answer period allowed attendees to ask questions about information provided

in the presentation. Each meeting was captured by a court reporter for an accurate public record (the informal question and answer session was not recorded). Official transcripts from each meeting are in Appendix C. Written comments were also accepted at the meeting. Attendees were informed that NMFS would accept written comments until February 28, 2006.

Table 1. Public Scoping Meeting Information

Location	Date/Time	Number of Attendees	Number of Oral Comments
Santa Barbara, CA Santa Barbara Natural History Museum	January 24, 2006 7:00-10:00 pm	6	1
San Francisco, CA Bay Conservation and Development Commission	January 25, 2006 2:00-5:00 pm	12	2
Honolulu, HI Hawaiian Islands Humpback Whale National Marine Sanctuary	January 27, 2006 3:00-6:00 pm	7	0
Seattle, WA NMFS Northwest Regional Office	January 30, 2006 2:00-5:00 pm	15	2
Anchorage, AK USFWS Building	February 1, 2006 2:00-5:00 pm	12	0
St. Petersburg, FL NMFS Southeast Regional Office	February 7, 2006 5:00-8:00 pm	20	1
Boston, MA New England Aquarium	February 13, 2006 5:00-8:00 pm	25	5
Silver Spring, MD Silver Spring Metro Center, Building 4, Science Center	February 17, 2006 2:00-5:00 pm	17	2

3. Scoping Comments

During the scoping period (December 28, 2005 to February 28, 2006) 35 comments were collected regarding the EIS during public meetings and through e-mail, fax, and mail (Appendix D). Comments addressed two specific areas: the EIS and the interim Policies and Best Practices documents.

3.1 EIS Comments

The following is a summary of the types of comments received on the EIS during the scoping process:

Alternatives

General

- Support for the MMHSRP's Proposed Actions.
- The No Action, Status Quo, and the activity curtailed immediately alternatives are not reasonable alternatives.
- All stranded marine mammals should be treated equally.
- Information gained from one species may be applied to another species.
- Some prioritizing process is needed, due to limited funding.
- Priority for response (in Alaska) should be based upon factors such as knowledge of the species and if the species is involved in a fishery interaction or human consumption.
- The mandate of the MMPA to protect and conserve marine mammals does not discriminate or distinguish among species.
- Support for the current level of effort under the MMHSRP activities.
- Status quo alternative does not give enough flexibility to conduct research on stranded animals.

Response Alternatives

- Support for the alternative to revise and implement stranding agreement (SA) criteria.
- There should not be different standards of stranding response for different species or regions, regardless of status.
- Standards and levels of responses should be the same regardless of species with the exception that endangered and threatened should receive priority in the face of conflicts of space or commitment.
- For initial animal response, the "Response to some animals required, others optional" alternative is preferred, but suggest re-wording the alternative and a different required/optional breakdown under the alternative.

Carcass Disposal/Euthanasia Alternatives

- Support for the alternative of transporting chemically euthanized animals off-site (other animals are left, buried, or transported as feasible).
- Need to be treated as two separate activities, as disposal of non-euthanized carcasses is also an issue.
- None of the proposed alternatives are optimal, but removal of chemically euthanized animals is the best.

- Unclear whether the “All animals buried on site” and “All animals transported off-site for disposal” alternatives refer to all carcasses or only those that have been chemically euthanized. Stranding members cannot be responsible for either burial or off-site transport of all marine mammal carcasses (without further funding).
- Euthanasia guidelines are needed for large animals and endangered animals.

Rehabilitation Alternatives

- We do not agree with any of the alternatives as written.
- Rehabilitation should be a part of any effective environmental program for the protection and conservation of marine mammals.
- Support for the alternative to modify and implement the rehabilitation facility guidelines.
- Rehabilitation efforts for different populations and/or species might be prioritized based on their status. Resources for rehabilitation should be weighted towards species that are known to be below the optimal sustainable population (OSP) or towards species for which there is insufficient data to accurately assess the population size. Species at or above the OSP should receive lower priority, allowing stranding network members to choose, based on availability, whether or not they rehabilitate these animals.
- Unwise to stop requiring rehabilitation of more common species as emerging diseases, harmful algal blooms, and other unusual events are more likely to be detected in these species.

Release of Rehabilitated Animals Alternatives

- Support for the alternative to modify and implement the release criteria.
- Agree with “All animals released” alternative if release criteria are adopted as is or with minimal changes. However, there may be exceptions when a rehabilitated animal is not authorized for release to ensure protection of the environment.

Disentanglement Alternatives

- Support for the alternative to implement the disentanglement guidelines and training requirements for network participants.

Biomonitoring and Research Activities Alternatives

- Support for the alternative to issue a new permit with current and new (foreseeable) projects.

MMHSRP Activities

- Support for the current activities under the MMHSRP.
- Support for the John H. Prescott Marine Mammal Rescue Assistance Grant Program.
- More collaboration is needed between researchers and those working with stranded animals.
- Database of stranding response personnel and their experience would be valuable.
- MMHSRP should focus on the protection of wild populations and not on the recovery of single live animals that strand.
- Suggest the establishment of a central MMHSRP diagnostic laboratory and sample bank to alleviate costs to individual centers and provide central data bank for research.
- Recommend establishing two disentanglement training facilities (one in Provincetown, Massachusetts and one on the West Coast) that are accredited to teach the protocols of the disentanglement network.
- Support for a National Disentanglement Coordinator.
- Need for more trained disentanglement responders with proper gear.
- Photo documentation of all strandings should be encouraged and guidelines should be established for photo and video documentation to facilitate future analysis.
- Responders collecting Level A stranding data should be properly trained in the collection of the data, the importance of the data, and how it will be used by investigators.
- Level A data forms should incorporate morphological data. May be appropriate to have different forms for cetaceans and pinnipeds.
- Training for response to unusual mortality events (UMEs) needs to be offered to all network participants. Network participants should be kept apprised of UMEs in their region and nationwide.

Biological Resources

- The potential for unintended effects from release of rehabilitated animals that can impact wild populations should be considered.
- Personnel should be trained in animal transport mechanisms to reduce possible animal injuries.
- Toxicity of chemically euthanized carcasses left on beaches may impact scavengers.

Coastal Zone Management

- Personnel need to know the rules/policies for responding on private land, Federal land, etc.
- A consistency determination must be made for federal activities affecting Virginia's coastal resources or uses.

Human Health and Safety

- Personnel should be trained in physical environment they will be working in and informed about the risk of injuries.
- Euthanasia solution can be dangerous to personnel. Need to find less toxic solution to use.
- Without the MMHSRP, the general public would likely take matters into their own hands in regards to stranded animals. Human health and safety would be at a grave risk without the MMHSRP.

Public Outreach and Education

- Public education about stranded animals is not well supported in present national priorities. This would help reduce the interaction between humans and stranded animals.
- Funding should be available to stranding network participants to have an educational program.

Treaty Rights

- The Makah Tribe has the right to stranded animals within their reservation boundaries and their Usual and Accustomed areas.
- Scientific practices and tribal cultural activities on stranded animals can occur at the same time.

3.2 Interim Policies and Best Practices Comments

The following is a summary of the types of comments received on the interim Policies and Best Practices documents during the scoping process:

General

- Support for national standards and guidelines for the MMHSRP.
- Support for issuance of policies and best practices if they are flexible to account for species differences and the pressures and conflicts unique to each region.

- Policies and practices only address release.
- Suggest establishing public viewing guidelines that protect animals and visitors.
- The premier criteria for standards should be the health and welfare of wild populations.
- Policies seem redundant to requirements instituted by the US Department of Agriculture for display of marine mammals and Institutional Animal Care and Use Committees requirements. These references could be directly cited to stress where NMFS policies may differ or compliment the requirements.
- It is unclear how the documents work together and the legal status of the documents is unclear.
- How will NMFS enforce these policies?
- Documents must be available to stranding network participants prior to signing SAs.
- If stranding network participants will be held to strict reporting time frames, NMFS' should agree to do the same.
- Needs to be a balance so that participating in the stranding program is not overly burdensome to institutions. The guidelines being reviewed as part of the EIS process fail to achieve a good balance.

Interim SA Template

- Agree with conditions described in the template.
- Concern with Section C, Participant Responsibilities that states that the Participants shall bear any and all expenses they incur from activities under the SA. Alaska stranding network participants have been provided funding from the NMFS regional office. This practice should continue and Alaska should not be aligned with logistics available in other regions.
- If the SA is terminated, is there a length of time before the entity can reapply?

Interim Minimum Eligibility Criteria for an SA

- It is important to recognize the different roles required for response, rehabilitation, and release activities.
- Consideration of requiring letters of recommendation for new and renewing SA applicants.
- The proposed qualifications should be implemented as written.
- There should be an appeals procedure for those entities denied an SA.

Interim Rehabilitation Facility Standards

- Rehabilitation Facility Standards should be minimum standards.
- Providing a designated quarantine building is not feasible.
- Cost of administering bimonthly diagnostic tests on animals is financially prohibitive and staff is not available to administer tests.
- Standards are standards, the minimal should be removed.

Interim Standards for the Release of Rehabilitated Marine Mammals

- Standards do not address immediate release from the beach, or relocation and release without entering a rehabilitation facility.
- More emphasis should be placed on post-release monitoring.
- Standards are acceptable as written.

Interim Disentanglement Guidelines

- Support for national disentanglement protocols with respect to safety, documentation, reporting, and operations. Some protocols would need to be flexible to tailor them to specific circumstances and variable conditions.
- National standards for the disentanglement network should require that participation and advancement at all levels is founded on experience and training.
- Standards are acceptable as written.
- The Provincetown Center for Coastal Studies gear and techniques are not necessarily applicable in all regions.
- Clarify why NMFS is liable for injuries or fatalities during disentanglement.
- Needs to be a process in place for organizational growth and training opportunities need to be offered on a regular basis.
- Divers should be seriously considered in the official protocol for the disentanglement network. The protocol should limit diving to disentangle a whale only to those personnel who are trained and certified divers.

4. Conclusion

NMFS has completed the formal public scoping process for the MMHSRP EIS. The agency will consider the comments received, individually and cumulatively, and will address those comments in the EIS, to the extent required. Comments received on the interim Policies and Best Practices documents will be reviewed and considered during the revision process. Scoping is an iterative

process and NMFS will continue to consider all relevant input received throughout the development of the EIS.

APPENDIX A

FEDERAL REGISTER NOTICE OF INTENT

DECEMBER 28, 2005

scope of this order. These include stainless steel strip in coils used in the production of textile cutting tools (e.g., carpet knives).⁵ This steel is similar to American Iron and Steel Institute (AISI) grade 420 but containing, by weight, 0.5 to 0.7 percent of molybdenum. The steel also contains, by weight, carbon of between 1.0 and 1.1 percent, sulfur of 0.020 percent or less, and includes between 0.20 and 0.30 percent copper and between 0.20 and 0.50 percent cobalt. This steel is sold under proprietary names such as "GIN4 Mo."⁶ The second excluded stainless steel strip in coils is similar to AISI 420-J2 and contains, by weight, carbon of between 0.62 and 0.70 percent, silicon of between 0.20 and 0.50 percent, manganese of between 0.45 and 0.80 percent, phosphorus of no more than 0.025 percent and sulfur of no more than 0.020 percent. This steel has a carbide density on average of 100 carbide particles per 100 square microns. An example of this product is "GIN5"⁷ steel. The third specialty steel has a chemical composition similar to AISI 420 F, with carbon of between 0.37 and 0.43 percent, molybdenum of between 1.15 and 1.35 percent, but lower manganese of between 0.20 and 0.80 percent, phosphorus of no more than 0.025 percent, silicon of between 0.20 and 0.50 percent, and sulfur of no more than 0.020 percent. This product is supplied with a hardness of more than Hv 500 guaranteed after customer processing, and is supplied as, for example, "GIN6."⁸

Rescission of Review

The applicable regulation, 19 CFR 351.213(d)(1), states that if a party that requested an administrative review withdraws the request within 90 days of the publication of the notice of the initiation of the requested review, the Secretary will rescind the review. It further states that the Secretary may extend this time limit if the Secretary finds it reasonable to do so. As noted above, three of the five petitioners that requested this review timely withdrew their request for review. On December 1, 2005, the Department informed counsel to petitioners that the instant review cannot be rescinded unless all five petitioners withdraw their request. See Memorandum to the File from Richard O. Weible, Office Director, Regarding

⁵ This list of uses is illustrative and provided for descriptive purposes only.

⁶ "GIN4 Mo" is the proprietary grade of Hitachi Metals America, Ltd.

⁷ "GIN5" is the proprietary grade of Hitachi Metals America, Ltd.

⁸ "GIN6" is the proprietary grade of Hitachi Metals America, Ltd.

"Phone Conversation with David Hartquist," dated December 6, 2005. By December 6, 2005, one week after the 90-day deadline, all five petitioners (Allegheny Ludlum Corporation, North American Stainless, United Auto Workers Local 3303, Zanesville Armco Independent Organization, Inc., and the United Steelworkers), withdrew their request for review.

The Department finds it reasonable to extend the time limit by which a party may withdraw its request for review in the instant proceeding. The Department has not yet devoted considerable time and resources to this review, all five petitioners have withdrawn their request, and no other party requested the review. Therefore, we are rescinding this review of the antidumping duty order on SSSS in coils from Italy covering the period July 1, 2004, through June 30, 2005. The Department will issue appropriate assessment instructions directly to U.S. Customs and Border Protection within 15 days of publication of this notice.

Notification to Importers

This notice serves as a final reminder to importers of their responsibility under 19 CFR 351.402(f) to file a certificate regarding the reimbursement of antidumping duties prior to liquidation of the relevant entries during this review period. Failure to comply with this requirement could result in the Secretary's assumption that reimbursement of antidumping duties occurred and subsequent assessment of double antidumping duties.

Notification of Administrative Protective Order

This notice also serves as a reminder to parties subject to administrative protective order (APO) of their responsibility concerning the return on destruction of proprietary information disclosed under APO in accordance with 19 CFR 351.305, which continues to govern business proprietary information in this segment of the proceeding. Timely written notification of the return/destruction of APO materials or conversation to judicial protective order is hereby requested. Failure to comply with the regulations and terms of an APO is a violation that is subject to sanction.

This notice is issued and published in accordance with sections 751 and 777(i) of the Act and 19 CFR 351.213(d)(4).

Dated: December 21, 2005.

Stephen J. Claeys,

Deputy Assistant Secretary for Import Administration.

[FR Doc. E5-7984 Filed 12-27-05; 8:45 am]

BILLING CODE 3510-05-S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[I.D. 120805B]

Notice of Intent to Conduct Public Scoping Meetings and Prepare an Environmental Impact Statement on the Activities of the National Marine Mammal Health and Stranding Response Program

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of Intent to prepare environmental impact statement; request for comments.

SUMMARY: The National Marine Fisheries Service (NMFS) announces its intent to prepare an Environmental Impact Statement (EIS) to analyze the environmental impacts of the national administration of the Marine Mammal Health and Stranding Response Program (MMHSRP).

Publication of this notice begins the official scoping process that will help identify alternatives and determine the scope of environmental issues to be addressed in the EIS. This notice requests public participation in the scoping process, provides information on how to participate, and identifies a set of preliminary alternatives to serve as a starting point for discussions.

ADDRESSES: See **SUPPLEMENTARY INFORMATION** for specific dates, times, and locations of public scoping meetings for this issue.

FOR FURTHER INFORMATION CONTACT: All comments, written statements and questions regarding the scoping process, NEPA process, and preparation of the EIS must be postmarked by February 28, 2006, and should be mailed to: P. Michael Payne, Chief, Marine Mammal and Sea Turtle Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Room 13635, Silver Spring, MD 20910-3226, Fax: 301-427-2584 ATTN: MMHSRP EIS or e-mail at mmhsrpeis.comments@noaa.gov with the subject line MMHSRP EIS.

SUPPLEMENTARY INFORMATION:

Background

NMFS proposes to continue to coordinate and operate the National Marine Mammal Health and Stranding Response Program (MMHSRP) for response to stranded marine mammals and research into questions related to marine mammal health, including causes and trends in marine mammal health and the causes of strandings, pursuant to Title IV of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1421). Title IV of the MMPA established the MMHSRP under NMFS. The mandated goals and purposes for the program are to: (1) facilitate the collection and dissemination of reference data on the health of marine mammals and health trends of marine mammal populations in the wild; (2) correlate the health of marine mammals and marine mammal populations, in the wild, with available data on physical, chemical, and biological environmental parameters; and (3) coordinate effective responses to unusual mortality events by establishing a process in the Department of Commerce in accordance with section 404.

To meet the goals of the MMPA, the MMHSRP carries out several important activities, including the National Marine Mammal Stranding Network, the John H. Prescott Marine Mammal Rescue Assistance Grant Program, the Marine Mammal Disentanglement Program, the Marine Mammal Unusual Mortality Event and Emergency Response Program, the Marine Mammal Biomonitoring Program, the Marine Mammal Tissue and Serum Bank Program, the Marine Mammal Analytical Quality Assurance Program, the MMHSRP Information Management Program, and the facilitation of several regional health assessment programs on wild marine mammals.

A marine mammal is defined as "stranded" under the MMPA if it is dead and on the beach or shore or floating in waters under US jurisdiction, or alive and on the beach and unable to return to the water, in need of medical assistance, or out of its natural habitat and unable to return to its natural habitat without assistance. NMFS is currently developing and plans to issue national protocols that will help standardize the stranding network across the country while maintaining regional flexibility. These protocols are proposed to be issued in one consolidated manual, titled *Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release* (Policies and Practices). This document is currently released on an interim basis, and will be available on

our website after January 9, 2006, at: <http://www.nmfs.noaa.gov/pr/health/> for reference and review. The future development of these policies may involve issuance of regulations, but none are currently proposed.

Individuals, groups and organizations throughout the country have been responding to stranded marine mammals for decades. After the passage of Title IV, NMFS codified the roles and responsibilities of participant organizations in the National Marine Mammal Stranding Network through a Letter of Agreement (LOA) or Stranding Agreement (SA), issued under MMPA section 112(c). By issuing SAs, NMFS allows stranding network response organizations, acting as 'agents' of the government, an exemption to the prohibition on "takes" of marine mammals established under the MMPA. Federal, state and local government officials already have an exemption to the take prohibition under section 109(h) of the MMPA, which allows the taking of marine mammals (not listed as threatened or endangered) during the course of official duties, provided such taking is for the protection or welfare of the mammal, for public health, or for the nonlethal removal of nuisance animals. SAs (as conceived) extend the same exemption to organizations and individuals that are outside of the government.

Stranding Agreements are issued by NMFS Regional Administrators, and in the past a high level of variability has occurred between regions. A standardized national template for the format of the SA has been developed, including sections that may be customized by each region in order to maintain flexibility. This SA template has been subject to public comment on several occasions after publication on NMFS' public website and distribution to interested parties (most recently on Nov. 8, 2004). NMFS has also developed a list of minimum criteria for organizations wishing to obtain a SA and participate in the stranding network, and these have also been distributed for public comment. These criteria differ based on the level of involvement of the participant (response only; response and transport; rehabilitation, etc.). Substantive comments received on these documents have been either incorporated or responded to, if the authors chose not to incorporate them. The LOA Template and Minimum Eligibility Criteria are the first two elements of the "Policies and Practices" manual.

While the MMPA provides an exception to the take prohibition for the health and welfare of stranded marine

mammals, no similar exemption is contained in the Endangered Species Act (ESA). Not all, but many, species of marine mammals are listed as threatened or endangered under the ESA, and are therefore protected by both laws. Therefore, the MMHSRP has obtained a permit from the Permits, Conservation and Education Division of the NMFS Office of Protected Resources, issued under the MMPA and section 10(a)(1)(A) of the ESA, to provide the necessary exemption to the take prohibition where the stranded animal in question is listed under the ESA, or when response to a stranded animal would or could incidentally harass a listed species. The permit covers stranding and emergency response activities, including for example, disentanglement, hazing, close approaches, and humane euthanasia. Captures of wild (presumably healthy) animals are also permitted to conduct health assessment studies, where such activities are part of an investigation into a morbidity or mortality issue in the wild population, but this is a rare occurrence (not routine procedure). Stranding network responders are listed as co-investigators under this permit. The permit also authorizes a variety of research projects utilizing stranded animals, tissue samples, and marine mammal parts for investigations into die-offs and other questions regarding marine mammal health and stranding. The current permit issued to the MMHSRP will expire on June 30, 2007, and a NEPA analysis of the activities covered under the permit must be completed prior to the issuance of a new permit. This EIS will serve as the NEPA analysis of these permitted activities.

Marine mammals that are undergoing rehabilitation, and the facilities that are conducting rehabilitation activities, are not subject to inspection or review by the Animal and Plant Health Inspection Service (APHIS) under the United States Department of Agriculture, provided that they are not also a public display facility (separate from their rehabilitation activities) or a research facility. These facilities are therefore not subject to APHIS minimum requirements for facilities, husbandry, or veterinary standards. NMFS has developed minimum standards for marine mammal rehabilitation facilities that will be required of all facilities operating under a SA with NMFS, and the interim rehabilitation facility standards document is the third element of the Policies and Practices manual.

Section 402 (a) of the MMPA charges NMFS with providing "guidance for determining at what point a rehabilitated marine mammal is

releasable to the wild." Interim standards for release of rehabilitated marine mammals have been developed by NMFS and the US Fish and Wildlife Service in consultation with marine mammal experts through review and public comments, including publication in the **Federal Register** on April 8, 1998 (63 FR 17156). Three panels of experts were also assembled in 2001 to provide individual recommendations, which have been incorporated into the current interim document. These guidelines provide an evaluative process for the veterinarians and animal husbandry staff at rehabilitation facilities to use in determining if a stranded marine mammal is suitable for release to the wild, and under what conditions such a release should occur. The interim standards are provided in the Policies and Practices manual.

Purpose and Scope of the Action

NMFS will prepare an EIS to evaluate the cumulative impacts of the activities of the MMHSRP, including the issuance of a final Policies and Procedures manual and a new MMPA/ESA permit for the program. This EIS will assess the likely environmental effects of marine mammal health and stranding response under a range of alternatives characterized by different methods, mitigation measures, and level of response. In addition, the EIS will identify potentially significant direct, indirect, and cumulative impacts on geology and soils, air quality, water quality, other fish and wildlife species and their habitat, vegetation, socioeconomics and tourism, treaty rights and Federal trust responsibilities, environmental justice, cultural resources, noise, aesthetics, transportation, public services, and human health and safety, and other environmental issues that could occur with the implementation of the proposed action. For all potentially significant impacts, the EIS will identify avoidance, minimization and mitigation measures to reduce these impacts, where feasible, to a level below significance.

Major environmental concerns that will be addressed in the EIS include: NMFS' information needs for the conservation of marine mammals; the types and levels of stranding response and rehabilitation activities, including level of effort; and the cumulative impacts of MMHSRP activities on marine mammals and the environment. Comments and suggestions are invited from all interested parties to ensure that the full range of issues related to the MMHSRP and its activities are identified. NMFS is therefore seeking

public comments especially in the following areas:

(1) *Types of activities.* What sort of activities in response to stranded marine mammals or outbreaks of disease in marine mammals should be conducted on a national level? Are there critical research needs that may be met by stranding investigations, rehabilitation, biomonitoring, disentanglement, and other health-related research activities? If so, are these needs currently being met? If there are additional needs, what are they, how are they likely to benefit the marine mammal species, and how should they best be met?

(2) *Level of response effort.* For example, should there be different standards or levels of effort for different species or groups of species (i.e. pinnipeds vs. cetaceans; threatened or endangered species vs. increasing populations, etc.)? How should NMFS set these standards or limits?

(3) *Organization and qualifications.* How should the national stranding network be organized at the local, state, regional, eco-system, and national levels? How should health assessment research be coordinated or organized nationally? What should the minimum qualifications of an individual or organization be prior to becoming an SA holder or researcher (utilizing samples from stranded animals) to ensure that animals are treated successfully, humanely, and with the minimum of adverse impacts?

(4) *Effects of activities.* NMFS will be assessing possible effects of the activities conducted by, for, and under the authorization of the MMHSRP using all appropriate available information. Anyone having relevant information they believe NMFS should consider in its analysis should provide a complete citation or reference for retrieving the information. We seek public input on the scope of the required NEPA analysis, including the range of reasonable alternatives; associated impacts of any alternatives on the human environment, including geology and soils, air quality, water quality, other fish and wildlife species and their habitat, vegetation, socioeconomics and tourism, treaty rights and Federal trust responsibilities, environmental justice, cultural resources, noise, aesthetics, transportation, public services, and human health and safety, and suitable mitigation measures. We ask that comments be as specific as possible.

Alternatives

NMFS has identified several preliminary alternatives for public comment during the scoping period and encourage information on additional

alternatives to consider. Alternative 1, the Proposed Action Alternative, would result in the publication of the Practices and Protocols Handbook and the establishment of required minimum standards for the national marine mammal stranding and disentanglement networks. The MMHSRP permit would also be issued under this alternative to permit response activities for endangered species, disentanglement activities, biomonitoring projects, other research projects conducted by or in cooperation with the program, and import and export of tissue and other diagnostic or research samples.

Alternative 2, the No Action Alternative, would continue the activities of the national stranding and disentanglement networks without issuance of the Policies and Practices. No new or renewal Stranding Agreements would be issued or extended, and the MMHSRP would not apply for or receive a new permit. As Stranding Agreements with organizations expired, the network would cease to function. The No Action Alternative is required to be included for consideration by CEQ regulations.

Alternative 3 is considered the Status Quo alternative and would allow for the continuation of the stranding and disentanglement networks currently in place in the country, and the Policies and Practices documents would not be issued. However, under the Status Quo alternative, Stranding Agreements could be renewed or extended (though not modified), such that the current level of response would continue. No new SAs would be issued to facilities that are not currently part of the national stranding network. This would preclude adaptive changes in the stranding network as organizations change priorities and wish to leave the network, or as new facilities are created and wish to become involved. The MMHSRP permit could be renewed or reissued as written, with no modifications. There could be no adaptive changes to the research protocols as new issues were raised or advances made in technology.

Other alternatives considered by NMFS may be eliminated from detailed study because they would limit or prohibit activities necessary for the conservation of the species by NMFS. The other alternatives that have been considered but may be eliminated from further study are: (1) An alternative that allows for biomonitoring activities only (tissue sampling and study of animals caught during targeted health assessment projects, subsistence hunts, and as incidental bycatch in fishery activities only); (2) an alternative that allows for a stranding response only (no

rehabilitation activities; response to live animals would be limited to euthanasia or release; no disentanglement or health assessment activities;); (3) an alternative that allows for response and rehabilitation for cetaceans only; and (4) an alternative that allows for response and rehabilitation for ESA-listed marine mammals only. The elimination of any of these activities would impede data collection regarding strandings and the health of marine mammals that is necessary for NMFS conservation and recovery efforts for many species.

In addition to the alternatives listed above, NMFS will also utilize the scoping process to identify other alternatives for consideration. It should be noted that although several of the listed alternatives would not allow for the mandated activities listed in the MMPA, under 40 CFR 1506.2(d), reasonable alternatives cannot be excluded strictly because they are inconsistent with Federal or state laws, but must still be evaluated in the EIS.

For additional information about the MMHSRP, the national stranding network, and related information, please visit our website at <http://www.nmfs.noaa.gov/pr/health/>.

Public Involvement and Scoping Meetings Agenda

Public scoping meetings will be held at the following dates, times, and locations:

1. Tuesday, January 24, 2006, 7 – 10 p.m., Santa Barbara Natural History Museum, 2559 Puesta del Sol, Santa Barbara, CA;
2. Wednesday, January 25, 2006, 2 – 5 p.m.; Bay Conservation and Development Commission, 50 California Street, Suite 2600, San Francisco, CA;
3. Friday, January 27, 2006, 3 – 6 p.m., Hawaiian Islands Humpback Whale National Marine Sanctuary O'ahu Office, 6600 Kalaniana'ole Highway, Honolulu, HI;
4. Monday, January 30, 2006, 2 – 5 p.m., NMFS Northwest Regional Office, Building 9, 7600 Sand Point Way NE, Seattle, WA;
5. Wednesday, February 1, 2006, 2 – 5 p.m., U.S. Fish and Wildlife Service, 1011 East Tudor Road, Anchorage, AK;
6. Tuesday, February 7, 2006, 5 – 8 p.m., NMFS Southeast Regional Office, 263 13th Avenue, South, St. Petersburg, FL;
7. Monday, February 13, 2006, 5 – 8 p.m., New England Aquarium, Conference Center, Central Wharf, Boston, MA;
8. Friday, February 17, 2006, 2 – 5 p.m., Silver Spring Metro Center, Building 4, Science Center, 1301 East-West Highway, Silver Spring, MD.

Comments will be accepted at these meetings as well as during the scoping period, and can be mailed to NMFS by February 28, 2006 (see **FOR FURTHER INFORMATION CONTACT**).

We will consider all comments received during the comment period. All hardcopy submissions must be unbound, on paper no larger than 8 1/2 by 11 inches (216 by 279 mm), and suitable for copying and electronic scanning. We request that you include in your comments:

- (1) Your name and address;
- (2) Whether or not you would like to receive a copy of the Draft EIS (please specify electronic or paper format of the Draft EIS); and
- (3) Any background documents to support your comments as you feel necessary.

All comments and material received, including names and addresses, will become part of the administrative record and may be released to the public.

Special Accommodations

These meetings are accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Sarah Howlett or Sarah Wilkin, 301–713–2322 (voice) or 301–427–2522 (fax), at least 5 days before the scheduled meeting date.

P. Michael Payne,

Chief, Marine Mammal and Sea Turtle Division, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. E5–7990 Filed 12–27–05; 8:45 am]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[I.D. 122005C]

Notice of Intent to Prepare an Environmental Impact Statement on Impacts of Research on Steller Sea Lions and Northern Fur Seals Throughout Their Range in the United States

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of Intent to prepare environmental impact statement.

SUMMARY: The National Marine Fisheries Service (NMFS) announces its intent to prepare an Environmental Impact Statement (EIS) to analyze the environmental impacts of administering grants and issuing permits associated

with research on endangered and threatened Steller sea lions (*Eumetopias jubatus*) and depleted northern fur seals (*Callorhinus ursinus*). Publication of this notice begins the official scoping process that will help identify alternatives and determine the scope of environmental issues to be addressed in the EIS. This notice requests public participation in the scoping process and provides information on how to participate.

The purpose of conducting research on threatened and endangered Steller sea lions is to promote the recovery of the species' populations such that the protections of the Endangered Species Act (ESA; 16 U.S.C. 1531 *et seq.*) are no longer needed. Consistent with the purpose of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1361 *et seq.*), the purpose of conducting research on northern fur seals is to contribute to the basic knowledge of marine mammal biology or ecology and to identify, evaluate, or resolve conservation problems for this depleted species.

Research on Steller sea lions and northern fur seals considered in this EIS is funded and permitted by NMFS, which are both federal actions requiring National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*) compliance. The need for these actions is to facilitate research to: (1) Prevent harm and avoid jeopardy or disadvantage to the species; (2) promote recovery; (3) identify factors limiting the population; (4) identify reasonable actions to minimize impacts of human-induced activities; (5) implement conservation and management measures; and (6) make data and results available in a timely manner for management of the species. As part of this action, NMFS is developing measures that will improve efficiency and avoid unnecessary redundancy in Steller sea lion and northern fur seal research, utilize best management practices, facilitate adaptive management, and standardize research protocols.

ADDRESSES: See **SUPPLEMENTARY INFORMATION** for specific dates, times, and locations of public scoping meetings for this issue.

FOR FURTHER INFORMATION CONTACT: Written statements and questions regarding the scoping process must be postmarked by February 13, 2006, and should be mailed to: Steve Leathery, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Room 13705, Silver Spring, MD 20910–3226,

APPENDIX B

INFORMATIONAL FACT SHEETS FROM

PUBLIC SCOPING MEETINGS

• NEPA/EIS FACT SHEET •

The Environmental Impact Statement (EIS) will be prepared in accordance with the National Environmental Policy Act (NEPA) of 1969.

What is NEPA?

The purposes of NEPA are to:

- Encourage harmony between man and the environment;
- Promote efforts to prevent or eliminate environmental damage; and
- Enrich man's understanding of important ecological systems and natural resources.

NEPA requires that the National Marine Fisheries Service (NMFS):

- Consider the potential consequences of its decisions (major federal actions) on the human environment before deciding to proceed; and
- Provide opportunities for public involvement, which include: participating in scoping, reviewing the Draft and Final EIS, and attending public meetings.

NEPA does not dictate the decision to be made by NMFS, but informs the decision-making process.

What is an EIS?

An EIS evaluates the actions that a federal agency plans to undertake with respect to the potential impacts of these actions on the human environment. The purpose of this EIS is to objectively analyze and evaluate the potential impacts on environmental resources from activities conducted under the Marine Mammal Health and Stranding Response Program (MMHSRP).

The EIS will include descriptions of the:

- Proposed Action
- Purpose and need for the Proposed Action
- Alternatives to the Proposed Action
- Affected environment
- Environmental consequences of the Proposed Action and alternatives
- Required mitigation or recommended best management practices (BMPs)

What environmental resources are normally considered during an EIS?

- | | |
|--|---|
| <ul style="list-style-type: none"> • Fish and Wildlife <ul style="list-style-type: none"> – Protected Species <ul style="list-style-type: none"> > Threatened and Endangered Species > Marine Mammals > Migratory Birds – Non-protected Species • Protected and Sensitive Habitats <ul style="list-style-type: none"> – National Marine Sanctuaries – Essential Fish Habitat – Designated Critical Habitat – Vegetation • Coastal Zone Management • Geology and Soils | <ul style="list-style-type: none"> • Air Quality • Water Quality • Noise • Aesthetics • Human Health and Safety • Socioeconomics and Tourism • Public Services • Cultural Resources • Environmental Justice • Treaty Rights • Federal Trust Responsibilities • Cumulative Impacts |
|--|---|



Photo by NOAA Fisheries

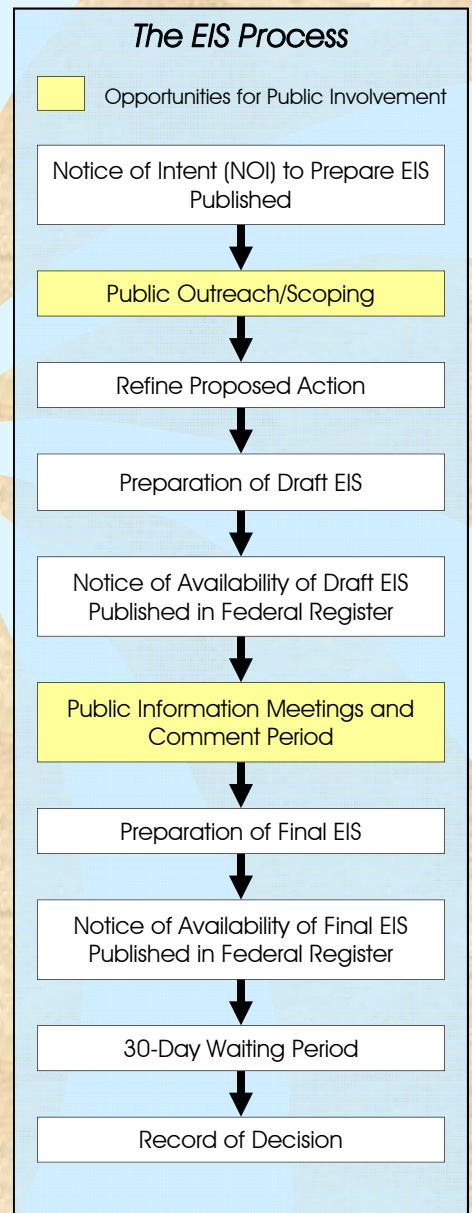


Photo by Provincetown Center for Coastal Studies



PUBLIC INPUT

NMFS needs your participation in scoping for the EIS.

What is Scoping?

Scoping is defined as an "early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action." NEPA requires that NMFS include scoping as part of the EIS process. For our scoping, we have chosen a combination of public meetings around the country and repositories of the information - both virtual (on our website) and real (in a library in each city where a scoping meeting is held).



Photo by NMFS NWR

Your involvement and input are essential to the EIS process. Many opportunities exist to be involved in the EIS on the activities of the National Marine Mammal Health and Stranding Response Program (MMHSRP):

- Participate in a scoping meeting
- Identify specific issues
- Submit comments
- Sign up for the mailing list
- Review and comment on the Draft EIS
- Participate in a public hearing
- Review the Final EIS

NMFS is seeking public comments on all issues relating to the MMHSRP, including the following specific questions:

- What sort of activities should be conducted on a local, regional and national level in response to stranded, entangled, sick, injured, and other marine mammals in distress?
- Are there critical research or management needs that may be met by stranding investigations, rehabilitation, disentanglement or health-related research and biomonitoring - activities? Are these needs currently being met? If not, what are they, how are they likely to benefit the marine mammal species, and what should be done to meet them?
- Should there be different standards or levels of MMHSRP effort for different species or groups of species (i.e. pinnipeds vs. cetaceans; threatened or endangered species vs. increasing populations, etc.)? If so, how should NMFS set these standards or priorities?
- Is the current organization of the national stranding and health assessment networks at the local, state, regional, ecosystem, and national levels adequate to meet the necessary management and research needs for conservation? If not, what changes should be implemented to make the organization more effective?
- What should be the minimum qualifications of an individual or organization prior to becoming a Stranding Agreement holder to ensure that animals are treated appropriately, humanely, and with the minimum of adverse impacts?
- Are public and animal health and safety needs adequately addressed in the current organization and operations of the MMHSRP?
- Are there any other relevant issues or data NMFS should consider in its analysis of activities conducted by, for, and under the authorization of the MMHSRP? If so, please provide if or a reference for it.



Photo by Lynne Barre, NMFS NWR

Information Repository Sites:

Santa Barbara Public Library 40 East Anapamu Street Santa Barbara, CA 93101	San Francisco Public Library 100 Larkin Street San Francisco, CA 94102
Hawaii State Library 478 South King Street Honolulu, HI 96813	Seattle Public Library 1000 4th Avenue Seattle, WA 98104
Z.J. Loussac Public Library 3600 Denali Street Anchorage, AK 99503	St. Petersburg Public Library 3745 9th Avenue North St. Petersburg, FL 33713
Boston Public Library 700 Boylston Street Boston, MA 02116	NOAA Central Library 1315 East-West Highway 2nd Floor, SSMC3 Silver Spring, MD 20910

Contacts:

Sarah Howlett or Sarah Wilkin
Marine Mammal and Sea Turtle Division
Office of Protected Resources
NMFS 1315 East-West Highway
Silver Spring, MD 20910-3226
Phone: 301-713-2322

**Address your comments by
February 28, 2006 to:**

P. Michael Payne, Chief
Marine Mammal and Sea Turtle Division
NMFS 1315 East-West Highway
Silver Spring, MD 20910-3226
mmhsrpeis.comments@noaa.gov
Fax: 301-427-2584

For More Information:

<http://www.nmfs.noaa.gov/pr/health/els.htm>

Scoping Meeting Dates and Locations:

PLACE	DATE
Santa Barbara, CA Natural History Museum 2559 Puesta del Sol	Tuesday January 24, 2006 7:00 to 10:00 pm
San Francisco, CA Bay Conservation and Development Commission 50 California Street, Suite 2600	Wednesday January 25, 2006 2:00 to 5:00 pm
Honolulu, HI Hawaiian Islands Humpback Whale National Marine Sanctuary O'ahu Office 6600 Kalaniana'ole Highway	Friday January 27, 2006 3:00 to 6:00 pm
Seattle, WA NMFS Northwest Regional Office Building 9 7600 Sand Point Way NE	Monday January 30, 2006 2:00 to 5:00 pm
Anchorage, AK U.S. Fish and Wildlife Service 1011 East Tudor Road	Wednesday February 1, 2006 2:00 to 5:00 pm
St. Petersburg, FL NMFS Southeast Regional Office 263 13th Avenue, South	Tuesday February 7, 2006 5:00 to 8:00 pm
Boston, MA New England Aquarium Conference Center Central Wharf	Monday February 13, 2006 5:00 to 8:00 pm
Silver Spring, MD Silver Spring Metro Center, Building 4, Science Center 1301 East-West Highway	Friday February 17, 2006 2:00 to 5:00 pm



MARINE MAMMAL HEALTH AND STRANDING RESPONSE PROGRAM

National Marine Mammal Stranding Network

The National Marine Mammal Stranding Network consists of volunteer stranding networks in all coastal states. These networks are authorized through Stranding Agreements with the National Marine Fisheries Service (NMFS) regional offices. Network member organizations respond to live and dead stranded marine mammals on the beach, take biological samples, transport animals, rehabilitate sick or injured marine mammals and potentially release them back to the wild. NMFS oversees, coordinates, and authorizes stranding network activities through one national and six regional stranding coordinators. NMFS also provides training to network members.

Marine Mammal Disentanglement Network



Photo courtesy Provincetown Center for Coastal Studies

The Disentanglement Network is a partnership between NMFS, the Provincetown Center for Coastal Studies, the U.S. Coast Guard, State agencies, National Marine Sanctuaries, and other entities. The Network is responsible for monitoring and documenting whales that have become entangled in gear as well as conducting rescue operations. The network established protocols for all aspects of response, including animal care and assessment, vessel and aircraft support, and media and public information. Multiple levels of training are required for animal welfare and human safety.

John H. Prescott Marine Mammal Rescue Assistance Grant Program

The Prescott Grant Program provides grants to eligible stranding network participants and researchers for:

- Recovery and treatment of stranded marine mammals;
- Data collection from living or dead stranded marine mammals; and
- Facility upgrades, operation costs, and staffing needs directly related to the recovery and treatment of stranded marine mammals and collection of data from living or dead stranded marine mammals.

Since the inception of the program in 2001, over \$16,000,000 has been disbursed in 187 grant awards. There is an annual competitive program as well as funding made available throughout the year for emergency response.

Marine Mammal Unusual Mortality Event and Emergency Response Program

The Working Group on Marine Mammal Unusual Mortality Events made up of federal and non-federal experts from a variety of biological and biomedical disciplines, including federal agency representatives, and two international participants from Canada and Mexico. The Working Group advises NMFS with regards to marine mammal Unusual Mortality Events (UMEs). The Program coordinates emergency response, investigations into causes of mortality and morbidity, evaluates the environmental factors associated with UMEs, provides training and resources as possible, and oversees the Marine Mammal Unusual Mortality Event Fund.



MMHSRP Information Management Program

The MMHSRP Information Management Program is responsible for the development and maintenance of a variety of databases, websites and other tools for disseminating information within the program, Network, and to the public. A major recent accomplishment was the rollout of a web-accessible national Level A database for reporting and sharing near-real time stranding data to all regions. The Marine Mammal Tissue Bank inventory will become web-accessible to the public in 2006. Data access policies are being developed to codify protocols for data accuracy, quality assurance, and public access to stranding network data.

Marine Mammal Health Biomonitoring, Research, Development and Banking Programs



Photo courtesy NIST

The MMHSRP coordinates national biomonitoring, research and banking efforts to analyze the health and contaminant trends of wild marine mammal populations. The program collects information to determine anthropogenic impacts on marine mammals, marine food chains, and marine ecosystems. In addition, the program uses information to analyze the contribution of environmental parameters to wild marine mammal health trends. Finally, the program operates the National Marine Mammal Tissue Bank, a joint effort with the National Institute of Standards and Technology, as a long-term repository of samples for future retrospective evaluations.



PROPOSED ACTION & ALTERNATIVES

Proposed Action

- Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release (Policies and Practices) Manual would be issued, establishing required minimum standards for the national marine mammal stranding and disentanglement networks.
- MMHSRP permit would be issued to permit response activities for endangered species, entanglement activities, biomonitoring projects, and import and export of marine mammal tissue samples.
- Stranding Agreements (formerly LOAs) would continue to be issued or renewed on a case-by-case basis as necessary.



Photo courtesy Gulfworld Marine Park

Purpose and Need

Purpose: NMFS proposes to continue to coordinate and operate the National Marine Mammal Health and Stranding Response Program (MMHSRP) for response to stranded marine mammals and research into questions related to marine mammal health, including causes and trends in marine mammal health and the causes of strandings, pursuant to Title IV of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1421).

Need: To operate the MMHSRP effectively and efficiently, making the best use of available limited resources; to collect the necessary data on marine mammal health and health trends to meet information needs for appropriate conservation and management; and to ensure that human and animal health and safety is always a high priority.

Alternatives

No Action Alternative:

- Allow continuation of stranding and disentanglement networks currently in place.
- Stranding Agreements (SAs) would not be renewed and new SAs would not be issued.
- Policies and Practices Manual would not be issued.
- MMHSRP would not apply for or receive a new permit.
- As SAs with organizations expired, the national stranding network would cease to function.

Status Quo Alternative:

- Allow continuation of stranding and disentanglement networks currently in place.
- SAs could be renewed or extended, but not modified (current level of response would continue).
- Policies and Practices Manual would not be issued.
- No new Stranding Agreements would be issued to facilities not currently part of the national stranding network.
- MMHSRP permit could be renewed or reissued with no modifications.

Alternatives Considered That May Be Eliminated From Further Study



Photo courtesy The Marine Mammal Center

Biomonitoring Activities Only:

- Tissue sampling and the study of the health of animals caught during targeted health assessment projects, as incidental bycatch in fishery activities, and during subsistence hunting only

Stranding Response Only:

- No rehabilitation activities— response to live animals would be limited to euthanasia or release.
- No disentanglement or health assessment activities.

Response and Rehabilitation for Cetaceans Only

- No stranding response, rehabilitation, disentanglement, or health assessment activities would be conducted for pinnipeds (seals and sea lions).

Response and Rehabilitation for Threatened and Endangered Marine Mammals Only

- No stranding response, rehabilitation, disentanglement, or health assessment activities would be conducted for marine mammals not listed as threatened or endangered under the Endangered Species Act.



APPENDIX C

PUBLIC SCOPING MEETING TRANSCRIPTS

JANUARY 24- FEBRUARY 17, 2006

24-JAN-1

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PUBLIC HEARING
ENVIRONMENTAL IMPACT STATEMENT
IN ACCORDANCE WITH THE NATIONAL ENVIRONMENTAL POLICY ACT

REPORTER'S TRANSCRIPT OF PROCEEDINGS
2559 PUERTA DEL SOL
SANTA BARBARA, CALIFORNIA
7:27 P.M.

REPORTED BY:
JOAN L. PARKER, C. S. R. 12912

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PRESENT:
NATIONAL MARINE FISHERIES SERVICE
BY: SARAH HOWLETT
SARAH WILKIN
Marine Mammal and Sea Turtle Division
Office of Protected Resources
1315 East-West Highway
Silver Springs, Maryland 20910-3226
(301) 713-2322

ALSO PRESENT:
Donna West-Lunt
Meg Jones
Cynthia Reyes
Emily Wiy
Michelle Berman

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SANTA BARBARA, CALIFORNIA; TUESDAY, JANUARY 24, 2006
7:27 P.M.

PUBLIC SCOPING MEETING

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MS. HOWLETT: I'd like to welcome everybody to our scoping meeting for the Environmental Impact Statement on Marine Mammal Health and Stranding Response Program. My name is Sarah Howlett and I am a biologist in the program. And I'd like to introduce Sarah Wilkin who is also a biologist. The purpose of our scoping meeting tonight is to allow for the early public notification of a proposed Federal Act or actions, and this will provide us the opportunity to send the public -- to the public the proposed action and to get some information from you on the scope for the EIS, so the range of issues surrounding the proposed action. And this will help us identify some of the significant environmental issues and perhaps assist us with environmental issues that are deemed not significant. So we have eight scoping meetings planned, five are on the West Coast. So these are just a list of the locations and we also have three on the East Coast

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that will be occurring in February. So the agenda for tonight is to provide information on the scoping process, a little bit of background on the National Environmental Act Process, and overview of the MMHSRP, review of the proposed action and alternatives and an opportunity for the public to comment on anything that they have seen here tonight. The layout for the meeting, as you already passed through, the registration area and the staffed exhibit area, our formal presentation and then oral comments period. And, as always, comments will be accepted tonight. So if you want to comment tonight, sign up at the registration table. Written comments can be turned in tonight as well as. And just to let you know, a transcript of tonight's proceedings will be captured by our court reporter. So I'm going to talk about the NEPA process. The purposes of NEPA, it's the national policy for the protection of the environment, and its basic purposes are to encourage harmony between man and the environment, promote the efforts to prevent or eliminate damage to the environment and enrich man's understanding of important ecological systems and natural resources.

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NEPA requires the federal agency to analyze human environmental impacts of any of the proposed federal actions. So this is considering the environmental consequences during decision making to reduce, prevent and eliminate environmental damage. And also NEPA requires public involvement in this process. And it's important that NEPA does not exceed the decision to be made by NMFS, but informs in the decision-making process. So why is NEPA investing or preparing an EIS? There are a list of factors that have to be considered in returning if a no action would require an EIS. And these are the ones that we have chosen that relate to our proposed action. So the, you know,
Page 2

24-JAN-1

16 federal action can be subject to public controversy
17 based on potential environmental consequences, it may
18 have uncertain environmental impacts or risks, it may
19 establish a precedence or decision in principle about
20 future proposals and may result in cumulatively
21 significant impacts and may have adverse effects upon
22 threatened species and their habitats.

23 The benefits of an EIS allows for
24 programmatic management analysis of the Marine Mammal
25 Health and Stranding Response Program, it will eliminate

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1 the need to conduct individual NEPA analyses of MMHSRP
2 activities and allows for an assessment of cumulative
3 impacts of the programs and its activities.

4 Why are we doing an EIS now?

5 The current permit for the Marine Mammal
6 Protection Act and Endangered Species Act will expire on
7 June 30, 2007, and the NEPA analysis must be conducted
8 of the activities in order to be issued a new permit as
9 well and it is needed to finalize the interim standards
10 provided in the Policies and Practices manual we'll
11 discuss a little bit later.

12 The components of an EIS: The purpose and
13 need, which is just a brief statement explaining overall
14 direction of the environmental analysis process; the
15 proposed action and alternatives of the affected
16 environment, which are the resources that could be
17 impacted by the proposed action or alternatives; the
18 potential environmental consequences or impacts and the
19 mitigations for these impacts. And it's important to
20 note that the impacts can be beneficial as well as
21 adverse. And, of course, consideration of public input
22 and comments.

23 So these are lists of the environmental
24 resources typically considered in the EIS, and the ones
25 we feel, so far, are most important for our area are the

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1 protected species which are threatened and endangered
2 species and mammals; water quality, health and human
3 safety and cumulative impacts.

4 The EIS process, the notice of intent was
5 published in the Federal Register on December 28th and
6 that started the formal scoping process which we are in
7 now, and the scoping process will run through the end of
8 February.

9 And once the scoping process is over, we'll
10 gather all the comments that we've received and that'll
11 go in a similar report that will be in the draft EIS.
12 And that will be published. There's a 45-day comment
13 period and then there will be public hearings following
14 it too, once again, getting input from the public.

15 Then the final EIS will be published and
16 30 days after the final EIS, the Record of Decision, the
17 ROD will be issued. And the ROD is just a public
18 document that's signed by the agency decision maker that
19 makes the decision, the alternatives to be considered,
20 the factors considered in the decisions and any
21 mitigation that may be implemented.

22 So public input opportunities. Tonight,
23 obviously, you are participating in a scoping meeting to
24 identify the specific issues and submit any of your

Page 3

24-JAN-1

25 comments. You can sign up on our mailing list to get

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1 the draft EIS and any other information that we may send
2 out.

3 You can review and comment on the draft EIS,
4 participate in a public hearing and also review the
5 final EIS. That's the tentative EIS schedule.

6 As I said, we'll finish scoping at the end
7 of February. The draft EIS is set to be completed
8 September of 2006, with the comment period and public
9 hearings from September until November. And hopefully
10 the final EIS will be complete by May 2007 and Record of
11 Decision June of 2007.

12 And now I will pass it over to Sarah Wilkin.
13 MS. WILKIN: Okay. So Sarah's done a

14 fabulous job of giving you a generic overview of what
15 goes on from that and I'm here to tell you how it
16 specifically applies to our program and our actions.

17 So the Marine Mammal Health and Stranding
18 Response Program, or MMHSRP, was established under Title
19 IV which is an amendment to the Marine Mammal Protection
20 Act and the mandated goals and purposes, and these are
21 actually in the law, is to facilitate the collection and
22 dissemination of reference data on the health and health
23 trends of marine mammals and marine mammal populations
24 in the wild; to correlate the health of marine mammals
25 to physical, chemical and biological environmental

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1 parameters; and third, to coordinate effective responses
2 to unusual mortality events.

3 So the components of the MMHSRP or how it's
4 currently taken form is there are many different
5 programs that all integrate and work together. The
6 Marine Mammal Stranding Network is probably the one you
7 all recognize and are familiar with, also the Marine
8 Mammal Disentanglement Network, the John H. Prescott
9 Marine Mammal Rescue Assistance Grant Program provides
10 financial assistance to stranding members, so it kind of
11 falls with the stranding network; the Marine Mammal
12 Unusual Mortality Event Emergency Response program also
13 typically activates with members of the stranding
14 network and also with outside experts, and the MMHSRP
15 Information Management Program is primarily concerned
16 with managing the data that's from the stranding network
17 and from the UME Program for other aspects of their
18 program and there's Marine Mammal Health Biomonitoring
19 Research, Development and Banking Programs.

20 Sarah mentioned our permit. We have a
21 permit issued to the program which Dr. Terry Rollis who
22 is the head of our program who is the principal
23 investigator.

24 The permit issued under the Marine Mammal
25 Protection Act and the Endangered Species Act

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1 provides for a couple things. The main one is it
2 actually covers the response by the stranding network to
3 endangered species.

4 So while the MMPA gives us the authority to
5 go out and respond or enter into agreements for other
6 groups to respond to non-endangered mammals, the ESA

Page 4

24-JAN-1

7 doesn't have any kind of similar allowance; so,
8 therefore, we need a permit to actually be able to
9 respond.

10 It also allows for disentanglement of
11 endangered animals, specifically, and then it provides
12 health research programs including health assessment of
13 captures and monitoring biopsy programs, those sorts of
14 things.

15 So this is just a general overview of the
16 Stranding Network. This graph shows the U.S. Strandings
17 for which Level A was pulled out from 2001 to 2004, with
18 cetaceans and pinnipeds. We can see there's been a
19 slight increase in trends of pinnipeds and sort of a
20 constant for cetaceans.

21 And here in the Southwest Region these are
22 sort of the different -- this is pinnipeds, first of
23 all, in the different categories: stranded dead
24 animals, live stranded animals and then live stranded
25 animals that are rehabilitated and then later released

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1 is the third column or group of bars.

2 And I'm showing these up here so you can
3 kind of maybe start to think about some of the scope of
4 some of the impacts that we're talking about, which I'll
5 be getting to in just a minute.

6 The second part, other than the pinniped
7 stranding, is the cetacean stranding, there are fewer
8 incidents. As you can see from the scale it has
9 drastically changed, but there are still responses to
10 typically over a hundred dead cetaceans and about 20
11 live cetaceans. In the last four years only one animal
12 we've had was rehabbed and released prior to 2005.

13 So the purpose and need for our EIS here,
14 the purpose is that we want to continue to respond to
15 marine mammals in distress which includes those that are
16 stranded, entangled and out of habitats and, then, also
17 to answer research and management questions related to
18 marine mammal health.

19 We believe the purpose and need is to
20 operate MMHSRP effectively and efficiently, so that we
21 can make the best use of our available but limited
22 resources -- and we agree there's never enough things
23 such as money, time and people to go around, so we want
24 to make the best use of what we have.

25 Secondly, to collect the necessary data on

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1 marine mammal health and health trends to meet
2 information needs for -- so that we as, an agency, can
3 provide appropriate conservation and management.

4 And, then, finally to insure that human and
5 animal health and safety is also a high priority.

6 So the proposed action for this EIS is
7 actually a combination of several proposed actions.
8 First is the issuance of the policies and best practices
9 or what we're calling "The Manual" which incorporates
10 several different documents that are currently released
11 in their interim form and those are available on our Web
12 site; the second is the application and issuance MMHSRP
13 ESA/MMPA permits when the current one expires.

14 But in the proposed action, the Stranding
15 Agreement, which is what we're now calling Letters of

Page 5

24-JAN-1

16 Agreement, would continue to be issued or renewed on a
17 case-by-case basis, so that would happen using the
18 policies and practices, so using the new template, using
19 the new criteria; and then other day-to-day operations
20 would continue: response, rehabilitation, release,
21 determinations, etc.

22 Sarah mentioned, you know, one of the best
23 ways to do the EIS is to take the broad, problematic
24 look at it. One of the things that has been brought up
25 is that basically every action that we do, so every LOA

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1 issuance or renewal, every release determination, every
2 kind of guidance, could be subject to an individual
3 in-depth analysis is a problematic look at response.

4 So the first set of alternatives we're going
5 to be giving you are the ones presented in the FR
6 Notice. We have since taken a second look and we have a
7 new proposed action alternative and that will be the
8 next thing we get into.

9 So the "Action Alternative," which is kind
10 of our proposed and preferred alternative and listed in
11 the FR Notice will include the issuance of the policies,
12 the issuance of the permit, the stranding agreements
13 continuing to be issued and the disentanglement network
14 would continue to work under the MMHSRP.

15 The "No Action Alternative" -- NEPA requires
16 that we consider a no action alternative, which is to
17 say, What would happen if the Government does nothing,
18 or stops doing what we're doing?

19 So, therefore, the Policies and Practices
20 Manual would not be issued, but it would also mean that
21 we would have to stop issuing new or renewal stranding
22 agreements. So as an agreement expired, we would not
23 issue a new one. So with no new permits, that would
24 mean that we couldn't respond to endangered species
25 anymore.

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1 There would be no extension of the contracts
2 that we have with our disentanglement partners and
3 biomonitoring and research activities would end along
4 with the permit.

5 So, therefore, as some of these things
6 expire the network as we know it today would essentially
7 cease to function. There won't be any stranding
8 response anymore.

9 This conflicts with some of the statutory
10 mandates that we have under Title IV. Although those
11 mandates are just to collect this data and it doesn't
12 actually tell us how we have to, so it doesn't say we
13 have to have a national stranding network organized as
14 it is, but we still need some mechanism of getting that
15 data.

16 NEPA does give us guidance that we have to
17 consider alternatives even if they do conflict with a
18 law that's already on the books.

19 And then the third alternative is what we
20 call the "Status Quo Alternative," which is what happens
21 if we keep on doing exactly what we're doing right now
22 and we don't change it.

23 And so in this one, still the Policies and
24 Practices would not be issued, the current stranding

Page 6

24-JAN-1

25 agreements would be continued to be renewed as they're

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1 currently issue.

2 The MMHSRP, the permit, would be renewed,
3 kind of renewed as it is today without anything added.
4 So that means the current disentanglement partners would
5 continue, the current stranding agreement holders would
6 continue. We could continue to consider new
7 applications on a case-by-case basis.

8 But, basically, status quo means leaving the
9 network exactly as it is today, and it may preclude us
10 from making adaptive changes in the future.

11 And then some alternatives that we thought
12 about, but that might be eliminated, including only
13 doing research and not doing stranding response, only
14 doing stranding response and not doing rehabilitation
15 and research, only responding to cetaceans or only
16 responding to endangered or threatened species.

17 So here is our proposal or our new way of
18 thinking about this for the scoping meeting and that is
19 to set this up with alternatives depending on what
20 activities we're talking about.

21 So we would have far more alternatives,
22 but they would be kind of organized within the basic
23 activities. And, then, under each activity you'll be
24 choosing one alternative, one preferred alternative and
25 as we come out the EIS process, one that we'll

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1 implement.

2 So these are the the six areas we've
3 identified -- and the main reason that we pulled these
4 out of kind of everything that we do, these are the six
5 areas where we can see potential
6 environmental -- impacts on the environment: So
7 stranding response, which is, kind of, on the beach and
8 including transport; carcass disposal or euthanasia of
9 live animals; rehabilitation; the release of
10 rehabilitated animals back into the environment,
11 disentanglement activities and, then, biomonitoring and
12 research activities.

13 Okay. So now we have a lot of work. The
14 alternatives by activity for stranding response
15 only -- so, again, under each of these alternatives or
16 under each of these activities there are the "No Action
17 Alternative" and "Status Quo Alternative," so what
18 happens if we do nothing or what happens if we keep
19 doing exactly what we're doing.

20 Another alternative would be to just stop
21 all response today, so we wouldn't wait for stranding
22 agreements to expire, just put out a moratorium.

23 Other options could be in partitioning which
24 animals get responded to. And there's two ways to do
25 this: One is that response is required to some part of

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1 the animal and optional the rest of the marine mammal or
2 is authorized response to some portion of animals and
3 then not authorized, or essentially prohibited, to the
4 other portion.

5 So -- and we've come up with just a couple
6 different ways that we could divide this response and

Page 7

24-JAN-1

7 decide who do we respond to or who we authorize response
8 to and who do we not, you know, like having cetaceans be
9 a required responses and pinnipeds essentially be
10 optional. If you have the facilities and resources
11 where you can respond to a cetacean, then you can; but
12 if not -- or pinnipeds if you can -- but if not, you
13 don't have to.

14 Another would be that we have everything
15 listed under the ESA be required and everything that's
16 not listed be optional.

17 Species below OSP, which is the optimal
18 sustainable population -- and that's a function of our
19 report -- is another way that we can kind of divide it
20 up by responding to at OSP or above, you don't have to
21 respond, to everything that's below it, you do.

22 And you'll see these again and again because
23 it comes back, these source of alternatives come back
24 under everything we talked about. It's essentially
25 saying we are going to do the action to some animals and

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1 not to others and how we decide which animals we do it
2 to is actually a question we put to you, the first ones
3 there I talked to.

4 The last three alternatives kind of go back
5 to these policies and procedures that we're talking
6 about implementing which is: How do we decide who gets
7 the stranding agreement or who gets a new one or who
8 gets a renewed one?

9 So one would be that stranding agreements
10 are issued to anyone, any applicant basically, once the
11 materials are reviewed; the second would be implement
12 the criteria, which is the minimum criteria, minimum
13 requirements for becoming a stranding member, so
14 therefore only those meeting the minimum criteria would
15 get the stranding agreement; and the third -- so that
16 would be implementing exactly as proposed or as was
17 given to you on the Web site -- and the last one, we
18 revise it somehow as a result of the -- this EIS process
19 and then implement the revised version.

20 Okay. Carcass disposal and euthanasia.
21 Again, no action alternative, which is that we don't
22 respond to animals but leave them on the beach and
23 they're disposed of by Mother Nature.

24 The second is status quo, as current, so
25 however you dispose of carcasses now, you would dispose

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1 the carcasses the same way; however you're euthanizing
2 animals now, you would euthanize them the same way.

3 And then for the disposal, the first would
4 be that all dead animals would be buried or that all
5 animals would be transported off-site and then somehow
6 dealt with another way.

7 For euthanasia we could have -- basically
8 prohibit animals from being chemically euthanized so
9 they could be euthanized another way or that animals
10 that are chemically euthanized would be transported
11 off-site, whereas others could be left buried or
12 transported as feasible.

13 So that's sort of a beach response scenario
14 where you would be -- if you chemically euthanize the
15 animal you would remove it from the beach, not putting

Page 8

24-JAN-1

16 the euthanasia back into the environment.
17 Okay. And rehabilitation. Again, we have
18 the no action alternative so that agreements continue,
19 but once they expire they're over and then animals would
20 no longer be rehabilitated.
21 The status quo, things continue as they are.
22 The immediate cessation of rehabilitation,
23 so from the date of the ROD forward all animals would be
24 left on the beach or euthanized or translocated.
25 Again, we have this breakdown where some

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1 animals would be rehabbed and other animals would not be
2 rehabbed; or the rehabilitation of some would be
3 required, for others would be optional or the
4 rehabilitation of some would be authorized and others
5 prohibited not authorized, and to deal with the
6 products.
7 And then the Rehabilitation Facility
8 Guidelines either implemented as proposed or modified
9 and then implemented.
10 Release, again, the no action. So once the
11 stranding agreements were expired, since there's no more
12 rehabilitation, there will be no release.
13 The status quo current stranding agreements
14 are renewed and current rehab, current release
15 activities kind of continue.
16 All mammals are released, so if an animal is
17 not a release candidate, then it is not rehabilitated.
18 And again we get into the partitioning where
19 some are required, others optional: some authorized,
20 some not authorized, and release criteria implemented as
21 proposed or modified and implemented.
22 Disentanglement, again, no action and status
23 quo. Disentanglement of some animals would be
24 authorized versus not: cetaceans/pinnipeds, ESA-listed
25 non-listed, however we break it up.

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1 And then the implementation of
2 disentanglement guidelines. These are currently
3 implemented primarily in the Northeast and Southeast
4 regions, so kind of East Coast. If we choose to move
5 forward with them, we could be implementing them
6 nationwide and they have training prerequisites before
7 you can be a participant in the disentanglement network,
8 and the modification of disentanglement guidelines and
9 implementing them.
10 So alternatives by biomonitoring, so, again,
11 no action, permits are allowed to expire and all our
12 current biomonitoring projects would end.
13 Status quo, renew the permit so we would be
14 continuing the actions that we're currently doing but we
15 don't add anything new.
16 No health assessment captures is one area of
17 our biomonitoring that would stop, so then the
18 biomonitoring would continue on tissues that are
19 collected from strandings from bipod animals and from
20 animals killed in subsistence hunting only, so no more
21 health assessment captures.
22 And no tissue banking. Part of the
23 biomonitoring project is actually a tissue bank. So if
24 we cease that activity, tissues would be used in

Page 9

24-JAN-1

25 immediate or diagnostic analyses and that prohibits us

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1 from doing retrospective studies in the future.
2 So all of these activities -- we're kind of
3 throwing out a lot of different alternatives under each
4 activity. We will not necessarily be proceeding with
5 the full analysis for each of them so that's part of
6 what we're inviting comment upon, if there's some we can
7 dismiss and not further investigate.
8 And it's also not necessarily a "pick one."
9 We could combine them to come up with a preferred
10 alternative so it could be changing our response and
11 implementing the document.
12 So we are requesting specific information
13 from you, the public. We want to identify environmental
14 concerns. So this is when you look at the stranding
15 network, when you look at the disentanglement network,
16 when you look at the MMHSRP, what sorts of things, what
17 sorts of issues do you see that are environmental
18 impacts that concern you?
19 And these are impact on the human
20 environment, the biological, socioeconomics, tourism all
21 of those things that Sarah had on the slide. And, also,
22 there are cumulative impacts.
23 One of the advantages of doing an EIS study
24 is we can look at the cumulative impact of all these
25 activities across the country.

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1 So, in other words, if you're doing
2 stranding response and you're burying carcasses on one
3 beach, each individual carcass as you look at it, maybe
4 does not contribute very much. But if you step back and
5 take a look at the longer time scale over how many
6 animals are buried a year, what happens to that beach in
7 10 years, 20 years. And now it's not just this beach
8 but several beaches around you or all beaches around the
9 U.S., so there are cumulative impacts.
10 And the other kinds of specific information
11 that we're really requesting is help us define the
12 alternatives, help us kind of limit back from the 18
13 things down to something a little more manageable, and
14 also potential mitigation efforts.
15 So when we identify something that could
16 have an impact on the environment, we also want to
17 mitigate, or try and minimize that impact, so kind of
18 standards or activities that we could do. Okay. So
19 there's several kind of areas in which we could use
20 input from you.
21 So the types of activities, what sorts of
22 activities should the MMHSRP be conducting on a local, a
23 regional, a national level in response to stranded
24 animals, sick animals, entangled animals, injured
25 animals and other marine animals in distress?

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1 Are there critical research for management
2 needs? So, is there a need for this data that we can
3 actually fulfill that need by stranding investigations,
4 by doing rehab, by doing disentanglement, by doing the
5 research and biomonitoring?
6 If there are needs, are we currently meeting
Page 10

24-JAN-1

7 them?
8 If we're not currently meeting them, what
9 are those needs as you see them? How are they likely to
10 affect the species or ecosystems, and what should we do
11 in order to meet them?
12 So that level of effort question: Should
13 there be -- First of all, should there be different
14 standards or levels of effort for different species or
15 different group of species?
16 If yes, how should the species be divided:
17 Cetaceans versus pinniped? ESA-listed versus
18 non-listed? By divvying up the population status?
19 And if so, if we divide them, how should we
20 set standards or how should we set levels of effort or
21 limits of effort?
22 And this kind of comes back to the question
23 of using our resources in the most efficient-wise
24 manner.
25 Organization and qualifications, Is the

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1 current organization of the national stranding and
2 health assessment network adequate? And this focuses on
3 the local level, regional, the state, ecosystem-wise
4 national level.
5 What changes would help us make the
6 organization more effective?
7 What kind of qualifications should we expect
8 of people, individuals or organizations, prior to
9 becoming a part of the network, either the stranding
10 network or disentanglement network?
11 And what about requirements for continued
12 participation in the networks? Once you have your LOA
13 what should we be asking or expecting you to do in
14 order to keep that LOA?
15 Certification or licensing process?
16 Continue training, continuing education
17 credits, whatever.
18 Effects of activities, Are there any
19 potential environmental impacts that we are not
20 identified?
21 Are public and animal health and safety
22 needs adequately addressed by the current MMHSRP?
23 Are the current release criteria, or the
24 ones that are proposed, adequate to protect wild
25 populations of marine mammals from introduced diseases?

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1 And are there any other relevant issues or
2 data that we need to consider when we do our EIS
3 analysis? And, if so, please let us know what that will
4 be.
5 That wraps up the presentation. Again, any
6 comments -- we're asking for comments on the documents
7 that were issued to you, if you have specific comments
8 on how the interim documents or guidelines are currently
9 written.
10 And, then, also, kind of stepping back and
11 taking a look at the programmatic MMHSRP and how it's
12 currently organized and then how, in your opinion,
13 either personal as part of an organization, it could be
14 organized or should be organized and then, the
15 activities that could be done or should be done, all

Page 11

24-JAN-1

16 those sorts of things, so that we can take a good look
17 at them as part of the EIS and hopefully come to some
18 sort of guidance or conclusion at the end of the
19 process.
20 And also how much should we as NMFS be
21 involved or dictating or requiring -- We have the
22 statutory authority to authorize and have oversight of
23 the stranding network, but, your comments on that are
24 also appreciated.
25 At this time, we're going to go to the oral

00027

1 comments, so this is your chance to get up and make
2 comment on the record, based on anything you've heard
3 tonight or any concerns or issues you already have.
4 This is obviously not your last chance to make a
5 comment.
6 If you do wish to stand up and give oral
7 comments, we ask that you sign in, there'll be a
8 four-minute limit but we can maybe stretch that a little
9 bit and the court reporter is here to help make sure
10 that we have an accurate record of what you say.
11 If you don't feel like getting up and
12 talking into the microphone your other option tonight is
13 to hand in written comments. We have comment sheets or
14 if you brought anything with you or you can submit your
15 written comments by February 28th. There's an address
16 which is also provided in the FR, the e-mail address is
17 my e-mail and the fax number.
18 The additional information, that includes
19 copies of all of the interim guidance, so it's available
20 for review at public libraries here at Santa Barbara
21 Main Branch Public Library, it's also available on our
22 web page for download.
23 And if you want to receive copies of the
24 draft EIS when it's issued in the future or any other
25 additional information we supply, if you register here

00028

1 or if you go back and check our Web site that'll be the
2 easiest way to do it.
3 And -- Okay. I guess I should ask at this
4 time, does anyone have an interest in making a comment
5 on the record?
6 Come to the microphone and please introduce
7 yourself, name and affiliation.
8 MS. BERMAN: My name is Michelle Berman,
9 Santa Barbara Museum of Natural History.
10 And I guess my comment or question has been
11 addressed on some different levels, but how much can
12 NMFS or NOAA Fisheries really demand of us with no
13 compensation in return?
14 Specifically disposal or burial or certain
15 activities that would be costly to network participants,
16 how much can they mandate us to do something without any
17 kind of financial compensation for that?
18 MS. WILKIN: I should clarify the only
19 comment period is the time for you to -- to give
20 comments and we're not actually going to respond to
21 them --
22 MS. BERMAN: Okay.
23 MS. WILKIN: -- tonight, here.
24 MS. BERMAN: All right.

Page 12

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25 MS. WILKIN: That's an issue which you

00029

1 raised that we can take into consideration in the
2 document.
3 And we will respond to it officially in the
4 EIS.

5 MS. BERMAN: I guess on the broad scale, a
6 lot of participants have been questioning how much can
7 be demanded of a volunteer network, essentially?
8 And another go-along with that would be
9 would the John H. Prescott Grant Program be considered
10 our financial compensation, even though it's a
11 competitive process, is that our compensation to follow
12 through with the mandated actions with the new SA?

13 Thank you.
14 MS. WILKIN: Anyone else?
15 Okay. Well, I think that we will end the
16 comment period there. So we'll be turning off the court
17 reporters record, the official record.
18 (The Hearing was adjourned at 8:03 p.m.)
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CERTIFICATE

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4 I, JOAN L. PARKER, CSR No. 12912, in and for
5 the State of California, do hereby certify:
6 That the foregoing proceedings were taken
7 down by me in shorthand at the time and place stated
8 herein, and represent a true and correct transcript of
9 the proceedings.
10 I further certify that I am not interested
11 in the event of the action.
12 Executed this ___ day of _____, 2006,
13 at Santa Barbara, California.
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JOAN L. PARKER, CSR No.: 12912
Certified Shorthand Reporter in
and for the State of California

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National Marine Fisheries Service
Marine Mammal Health and Stranding
Response Program

ENVIRONMENTAL IMPACT STATEMENT

January 25, 2006
Volume: 1

**CERTIFIED
COPY**

Reported By: Freddie Reppond
Job: 1-2786

NATIONAL MARINE FISHERIES SERVICE
MARINE MAMMAL HEALTH AND STRANDING RESPONSE PROGRAM
ENVIRONMENTAL IMPACT STATEMENT

SCOPING MEETING

January 25, 2006

50 California Street, Suite 2600
San Francisco, CA 94111

REPORTED BY: FREDDIE REPPOND

Combs Reporting, Inc. - (888) 406-4060
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A P P E A R A N C E S

2 For National Marine Fisheries Service:

3 Sarah Howlett

4 Sara Wilkins

5 Dr. Janet Whaley

6 From the public:

7 Bruce Bartholomew

8 Unidentified speakers (2)

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Page 2

1 [PROCEEDING BEGAN AT 1:35

2 P.M.]

3 SARAH HOWLETT: I'd just like to welcome
4 everybody to our scoping meeting for the Marine Mammal
5 Health and Stranding Response Program environmental
6 impact statement. My name is Sara Howlett. I am a
7 biologist with the MMHSRP; and with me today is Sarah
8 Wilkin, who is also a biologist; and Dr. Janet Whaley,
9 who is our national stranding coordinator.

10 Just to give you a little background on why we
11 are doing our scoping meeting, the purpose of this is to
12 allow for early public notification of the proposed
13 federal action, or actions. The scoping meetings allow
14 for NMFS to present the proposed action to the public
15 and to get input back on the scope or range of issues
16 for the EIS, as well as just getting some information on
17 environmental issues to include or possibly dismiss from
18 our analysis.

19 So this is the second of our scoping meetings.
20 Our first one was last night in Santa Barbara; and we
21 have one in Honolulu, in Seattle, and in Anchorage on
22 the West Coast; and our East Coast ones begin in St.
23 Petersburg, then Boston, and Silver Springs.

24 So the agenda for today. I've already
25 presented the information on scoping. We'll have a

Page 3

1 little bit on the background on the National
2 Environmental Policy Act process. Sara will give an
3 overview of MMHSRP as well as a review of the proposed
4 actions and alternatives for the EIS. And then we'll
5 have a formal public comment period.

6 So we highly encourage anybody who wants to
7 give an oral comment to sign up. So the registration
8 area everybody passed through and you can sign up for
9 our mailing list there as well as signing up to present
10 a comment; staff exhibit area, which are posters. We
11 will have a formal presentation and the oral comment
12 period. If you want to sign at the table for oral
13 comments. Also, written comments will be accepted
14 today. We have forms up here if you would like to take
15 one. You can hand it in today -- we'll have some
16 information at the end of where you can send it to as
17 well. And just so you know, transcripts of today's
18 meeting are being captured by a court reporter so that
19 we will have it for public record.

20 So the NEPA process: The purpose of NEPA is
21 the basic environmental charter for the U.S. It's to
22 encourage harmony between man and the environment, to
23 promote efforts to prevent or eliminate damage to the
24 environment, and to enrich man's understanding of
25 important ecological systems and natural resources.

Page 4

1 The requirements of NEPA: NEPA requires NMFS
2 to do an analysis of potential environmental impacts for
3 any federal agency action. And this just means that
4 NMFS needs to consider environmental consequences during
5 the decision-making to reduce, prevent, or eliminate
6 environmental damage and also to provide public
7 involvement in the process. And just know that NEPA
8 does not dictate the decision to be made by NMFS but it
9 helps to inform the decision-making process.

10 So why are we conducting an EIS? There's a
11 list of factors to be considered if an EIS should be
12 conducted; and this is a list that we feel applies to
13 our EIS; and the subject is of significant public
14 controversy based on potential environmental
15 consequences; and the action may have uncertain
16 environmental impacts or risk; and it may establish a
17 precedent or a decision in principle about future
18 proposals; may result in cumulatively significant
19 impact; or it may have adverse effects on endangered or
20 threatened species.

21 So the benefits of doing this EIS: It will
22 allow for our programmatic analysis of the MMHSRP and
23 all the activities and future activities of the program.
24 It will allow for an assessment of the cumulative
25 impacts of each of the activities of the program; and it

Page 5

1 will eliminate the need to conduct an individual Marine
2 Mammal Health and Stranding Program.

3 Why are we doing an EIS now? The current
4 Marine Mammal Production Act and the Endangered Species
5 Act permit that we hold will expire on June 30th of
6 2007. NEPA analysis of the MMHSRP activities covered
7 under the permit must be completed prior to the issuance
8 of our new permit. And, also, an EIS is needed to
9 finalize the interim standards provided in the policies
10 and practices manual; and both the permit and the
11 policies practices manual will be talked about later by
12 Sara.

13 The components of an EIS. The first is the
14 purpose and need, which is just the basic statement
15 describing why the action is needed; the proposed action
16 and alternatives; the affected environment or resources
17 that we believe will be impacted or could be impacted;
18 the potential environmental consequences and mitigation.

19 So what are the possible impacts? And these
20 could be adverse or beneficial; and if any mitigation
21 measures will be needed to correct the significant
22 adverse impacts; and also consideration of public input
23 and comment.

24 This is a list of the environmental resources
25 that are typically considered in an EIS. It is a big

Page 6

1 list; and some of the particular ones that we'll be
2 interested in are protected species, which are obviously
3 marine mammals and threatened and endangered species;
4 water quality; human health and safety; and cumulative
5 impacts as well.

6 The EIS process: The notice of intent, or the
7 NOI, was published December 28th in the Federal
8 Register; and that began our formal scoping process.
9 The scoping process will be concluded at the end of
10 February when all our written comments are due at the
11 end of February. Then we will take these into
12 consideration and pull together a scoping report which
13 will be probably be an appendix in the EIS; and we'll
14 take these into consideration when we're drafting our
15 EIS as well. Once the draft EIS is published, there's a
16 45-day comment period and public hearings as well to
17 collect input back from the public on the draft. Then
18 the final EIS is published and 30 days after the final
19 EIS, a record of decision is published, which basically
20 said this is what the agency decision-maker has decided
21 upon and the reasons for deciding on it.

22 So public input opportunities: Obviously
23 today you're here at the scoping meeting, so we would
24 like you to definitely identify specific issues that you
25 hear today and submit your comments. You can sign up to

Page 7

1 be on our mailing list to receive the draft EIS, the
2 final EIS, and any other information. You can
3 participate in a public hearing after the draft EIS is
4 completed; and you can review the final EIS.

5 So this is our tentative schedule. As I said
6 before, scoping will be concluded at the end of
7 February. The draft EIS should be completed September
8 of 2006. The public comment period will be from
9 September to November of 2006, including public
10 hearings. The final EIS will be out in May of 2007; and
11 the record of decision will be issued in June of 2007.

12 And Sara will take over and talk about the
13 proposed action alternatives.

14 SARA WILKIN: Sara's let you know about the
15 NEPA process in general. I'm here to give you more
16 specifics about our EIS.

17 So just a brief background about the Marine
18 Mammal Health and Stranding Response Program (MMHSRP).
19 It was established under Title IV, which was an
20 amendment to the Marine Mammal Protection Act. And the
21 legislative-mandated goals and purposes are to
22 facilitate the collection and dissemination of reference
23 data for health and health trends of marine mammals and
24 the marine mammal population in the wild; to correlate
25 the health and health trends of these marine mammals

Page 8

1 with environmental factors; and then, finally, to
2 coordinate effective responses to marine mammal and
3 unusual mortality events.

4 So taking kind of that charge from Congress,
5 we at NMFS have developed a kind of multifaceted
6 program, which consists of some of the following
7 components, including the stranding and disentanglement
8 networks on a national basis; the Prescott Grant
9 Program, which provides financial assistance to
10 stranding network members; the unusual mortality event
11 and emergency response program, which, again, draws most
12 of its participants from the stranding network but could
13 exceed; the information management program which manages
14 the data that's obtained from stranding networks,
15 containment networks, and other research activities; and
16 then the biomonitoring research development and tissue
17 banking programs.

18 So interim policies which are available on our
19 website and are kind of part of what we are discussing
20 here as -- these are the components of the policies and
21 practices manual which, in order to turn them from
22 interim to final guidance, they need to undergo a NEPA
23 review; so most of these deal with the stranding network
24 or disentanglement network, including the template for
25 the stranding agreement; the minimum qualifications for

Page 9

1 an organization or individual to obtain a stranding
2 agreement; the facility guidelines for marine mammal
3 rehabilitation facilities; and the release criteria for
4 releasing our rehabilitated marine mammals into the
5 wild. Then, finally, there's guidelines that are posted
6 for the disentanglement network which are currently
7 developed and implemented primarily on the East Coast,
8 but there's some interest in kind of expanding that.

9 Sarah talked about the permit. Our permit is
10 issued under the Marine Mammal Protection Act and the
11 Endangered Species Act. Teri Rowles, who is the
12 director of our program, is the principal investigator
13 in this department.

14 The primary activities that are covered under
15 the permit -- the big one is that it provides for the
16 response of those animals listed in the Endangered
17 Species Act. So the Marine Mammal Protection Act is
18 what give us the authority to then pass on to the
19 stranding network members to respond to marine mammals
20 that are in distress. An issue is that the Endangered
21 Species Act does not have kind of a similar provision to
22 delegate this authority downward so, therefore, we do
23 those activities under our MMPA/SA permit. It also
24 permits import/export and analyses of diagnostic
25 tissues, so allowing groups that are doing those

Page 10

1 analyses to maintain the tissues -- to hold them and
2 then do the studies on them.

3 Then another big part of the permit is the
4 health assessment captures in populations where there's
5 been some kind of question about health or health
6 transference and where there's been an unusual mortality
7 event in the past. So these are captures of what we
8 think are healthy animals, but in order to assess the
9 health of the population. There are other things
10 covered under the permit. These are kind of the main
11 items for today.

12 Just a little overview of the stranding
13 network: These are the total number of strandings that
14 were reported to the stranding network, for which a
15 Level A data sheet, which is kind of our basic data
16 sheet, was filled out, 2001 to 2004. You can see
17 there's a lot more pinnipeds than cetaceans. We have a
18 combined total of upwards of 6,000 strandings for some
19 years. So at the bottom there, one thing to keep in
20 mind is the cumulative impacts of some of these. The
21 response or rehabilitation of a single animal might have
22 very small, negligible, no impact at all; but when you
23 kind of add it up on a bigger scale across the country
24 and over time, you start having to consider the
25 cumulative impacts of all those responses.

Page 11

1 And then specifically for the Southwest
2 Region, for you folks, these are the pinniped
3 strandings; and those animals that stranded dead versus
4 the animals that stranded live and then the live animals
5 that were rehabilitated and released into the wild. So
6 in 2003 there were over a thousand pinnipeds released
7 from the state of California.

8 And then cetaceans stranded for the same time
9 period: Again, an analysis that stranded dead, animals
10 that stranded live; and only one animal has been
11 rehabilitated and released in the period that we covered
12 here, so something to keep in mind.

13 The purpose and need for our EIS: Pretty much
14 the same purpose and need as we see it for our period
15 program. The purpose is to respond to marine mammals in
16 distress, which includes those that are stranded and on
17 the beach disentangled, out of habitat, injured, et
18 cetera; and to answer research and management questions
19 related to marine mammal health, specifically wild
20 populations of marine mammals.

21 So the need for our program, or for this EIS,
22 is to operate the MMHSRP effectively and efficiently,
23 making the best use of available limited resources. We
24 always recognize that there's not enough money, time,
25 and people to go around, so we want to make the best use

Page 12

2 of what we have; to collect the necessary data on those
3 marine mammals and their health in order to meet our
4 agency needs -- information needs -- for conservation
5 and management purposes; and then to ensure that human
6 and animal health and safety is one of our highest
7 priorities.

8 So the proposed actions for our EIS is
9 actually a combination of a couple of different actions.
10 The first is the issuance of the policies and best
11 practices manual, which will cover those documents that
12 I talked about before that are establishing guidelines
13 and, in some cases, a baseline for the national
14 stranding network.

15 The second thing is the issuance of the MMHSRP
16 permit, so we will apply for a new permit. The
17 stranding agreement will continue to be issued and
18 renewed on a case-by-case basis by conforming to the
19 policies that are published in the manual.

20 And then other day-to-day operations, such as
21 response, rehabilitation, release determinations and all
22 that would continue, although conforming to the
23 policies.

24 So the first set of alternatives that I'm
25 going to present today are the ones that were laid out
in the Federal Register notice, or notice of intent.

Page 13

1 Upon further analysis and discussion, we have actually
2 kind of modified those slightly, so I will present that
3 as the second set of alternatives. But the action
4 alternation in the FR basically covers everything that I
5 just mentioned -- the issuance of the policy manual, the
6 issuance of the permit, the stranding agreement -- and
7 then the disentanglement network would also continue,
8 the health assessment captures would continue, the
9 monitoring program will continue, et cetera.

10 Alternative 2, the no-action alternative, is
11 we are required under NEPA to assess the no-action
12 alternative, which is what would happen if the
13 government did nothing, if we kind of didn't do
14 anything. So we wouldn't issue the policies and
15 practices; and, therefore, we would not issue -- we
16 would also not issue the new MMHSRP permit; new
17 stranding agreements would not be issued and renewal
18 stranding agreements would not be issued.

19 So what that would mean essentially over time,
20 as those stranding agreements expired, the network would
21 cease to function. Without the permit, research
22 opportunities would cease to function and
23 disentanglements would cease to function. So
24 essentially at some point in the future the program as
25 we kind of know it would not exist anymore.

Page 14

1 Now, one problem is that this could conflict
2 with the statutory mandates under Title IV, where we are
3 required to collect the necessary data on marine mammal
4 health; but NEPA guidelines also indicate that we should
5 continue to assess alternatives even if they conflict
6 with federal laws; and, also, the law does not dictate
7 how we have to have this network or how we have to
8 collect the necessary data. So, therefore, we are still
9 free to kind of rethink.

10 Then the status quo alternative, or
11 Alternative 3, is, rather than doing nothing, it's that
12 we keep exactly what we are doing right now. So the
13 policies and practices document would not be issued, but
14 current stranding agreements would continue to be
15 renewed as they are issued right now. The permit could
16 be renewed or reissued as it's currently written. We
17 would continue our current disentanglement partnership,
18 et cetera. Basically, everything would keep going. So
19 the network would continue to function at its current
20 level, but there's some question about whether it would
21 make any adaptive changes, whether any new partnerships
22 could come in, new facilities be granted an MOA, or
23 changes to the permit -- whether we could add new
24 research projects or modify the ones that we have. This
25 alternative might preclude adaptive changes. Also, by

Page 15

1 not issuing the policies and practices documents, we
2 would not have the guidance for the stranding network.
3 Alternatives that might be eliminated essentially focus
4 on doing some portion of our program but not the entire
5 program.

6 So I said that we kind of thought about it
7 some more and are looking at slightly modifying our
8 alternatives; and what this involves is taking and
9 looking at alternatives under each activity so it's not
10 so much an alternative for everything in the program but
11 each component of the program has alternatives under it;
12 and then as part of the EIS we could pick a preferred
13 alternative that would kind of include several
14 different -- a different choice under each one.

15 These are the six elements, or activities, of
16 the program that we're thinking about focusing on,
17 primarily because these are the ones where we have
18 identified the potential for environmental impact. That
19 includes stranding response, carcass disposal and
20 euthanasia issues, rehabilitation in general, release of
21 rehabilitated animals, disentanglement and
22 disentanglement network, and biomonitoring and research
23 activities. Okay.

24 Now, we have a lot of words on the slide. For
25 each activity they are going to look similar to this.

Page 16

1 Under each activity, there could be a no-action
2 alternative -- so what happens if we did nothing -- in
3 this case, for stranding response. The stranding
4 agreements would expire, so at some point in the future
5 there would be anymore stranding response.

6 The status quo alternative -- what if we keep
7 doing what we are doing now, so we keep renewing the
8 stranding agreement that we currently have but we don't
9 issue any new ones and we don't issue the policies and
10 procedures documents, so there's no rehab facility
11 guideline; there's no [inaudible].

12 Another alternative could be to immediately
13 curtail response -- cease and deacease.

14 And then the next two alternatives are
15 different ways to think about what if we chose to
16 respond to some animals or some species and not others?
17 So, for instance, if we responded only to cetaceans and
18 not to pinnipeds, if we respond only to those species
19 that are listed in our ESA and did not respond to
20 species that weren't.

21 There's two ways to do this. The first would
22 be that we require a response to one group; and then the
23 other group is kind of optional: If you have the
24 resources available, stranding participants could
25 respond to them.

Page 17

1 The second is that your stranding agreement
2 would authorize response to one group and not authorize
3 response to another group, so the second group would
4 essentially be prohibited. We would not have the
5 statutory authority to respond to those animals. This
6 comes up in all the activities -- the thought that
7 activities could be broken down and separated based on
8 what the animal is -- the subject animal.

9 Then the final three alternatives here relate
10 to the policies and procedures document to the stranding
11 agreement and how they are issued and whether they're
12 issued to anyone who applies for them or whether there
13 are minimum criteria invoked when you're evaluating a
14 stranding agreement and then whether we use the
15 stranding criteria as they're proposed right now or
16 whether we make some kind of changes to them and then
17 implement them after revision.

18 None of these alternatives -- the alternatives
19 are not necessarily mutually exclusive, so under
20 stranding response we could choose a couple of the
21 alternatives and proceed that way.

22 Carcass disposal and euthanasia -- again, we
23 have the no-action alternative and the status quo
24 alternative. Other alternatives that we've come up with
25 include burying all animals, transporting all animals

Page 18

1 offsite, and then disposing of them by some other means.
2 Then, with euthanasia, one alternative is to no longer
3 chemically euthanize an animal or then kind of combining
4 the euthanasia concerns with the carcass disposal
5 concerns by any animals that are chemically euthanized
6 must be transported and disposed of by some other means
7 than burial. But all the other animals that are not
8 chemically euthanized can be buried, transported,
9 disposed of however feasible. Most of these are to
10 combat the potential impact of having the euthanasia
11 released into the environment.

12 Rehabilitation -- again, no action, status
13 quo, immediate cessation; so we stop all rehab activity.
14 Again, splitting our activities so that some animals
15 would be rehabilitated and others wouldn't; or some
16 animals would be required and others would be kind of
17 optional. And then to deal with the facility
18 guidelines, whether we implement them as they're
19 proposed and issued right now or we make modifications
20 to them and implement them that way.

21 Release -- same thing -- no action, status
22 quo.

23 All-animals-released alternative: So if it's
24 not a release candidate, then the animal could not be
25 taken into rehabilitation in the first place. Again,

Page 19

1 some animals are released and others aren't, depending
2 on what category they fall into. And then dealing with
3 the documents, the release criteria implemented as
4 proposed or modified and implemented.

5 Disentanglement: No action, status quo.
6 Again, disentangling some animals and not disentangling
7 other animals. And then the implementation of the
8 disentanglement guidelines; and this could be
9 implemented on a national basis or on a regional basis.
10 The guidelines involve training prerequisites for
11 participants in the disentanglement network. Or
12 modifying those disentanglement guidelines and then
13 implementing them.

14 And, finally, the biomonitoring research
15 action -- no action -- end of biomonitoring project;
16 status quo -- renewal of the permit and we continue the
17 activities that we are currently doing.

18 Health-assessment captures: One alternative
19 would be to eliminate health-assessment captures; so
20 then biomonitoring would continue -- only tissues from
21 stranded animals, bipod animals, and subsistence
22 animals; or tissue-banking could be eliminated and only
23 have tissues on immediate analyses with no retrospective
24 study.

25 So in all these cases what we're trying to do

Page 20

1 is look at the activity and think about the potential
2 impact that that activity could have on the human
3 environment and then come up with alternatives that
4 might help us minimize that activity or potentially
5 mitigate that activity, which is minimal.

6 So, therefore, why we are here with you today
7 is because we are requesting input into helping us come
8 up with this EIS. We actually have specific questions
9 that we would request input on. The general categories
10 of information that we need is to help us identify
11 environmental concerns, to help us identify the
12 activities of the program that would potentially result
13 in environmental impact -- if we haven't identified them
14 already, if you think of others, or if you agree or
15 disagree with us that some of these activities could
16 have impact and to look at indirect and cumulative
17 impacts of the program.

18 The second is to help us define the
19 alternatives and potential mitigation measures. There's
20 a lot of alternatives up there. In most likelihood, not
21 all of them will be carried forward into the full
22 analysis. We can disregard them, especially on the
23 basis of public comment. So if some of these
24 alternatives are clearly, to you, not going to work,
25 then your comment to that effect could help us disregard

Page 21

1 those alternatives.

2 Then the third thing is to make necessary
3 modifications to the interim policy, so we are also
4 asking for comments on the draft interim document that
5 are posted on our website -- either very specific or
6 general comments.

7 So here is some of the specific information
8 that we would like you to think about providing us as
9 part of your comments:

10 What sorts of activities? This is kind of the
11 umbrella of activities that we do.

12 What sorts of activities should the MMHSRP be
13 doing -- on a local, national, regional level -- in
14 response to stranded, entangled, sick, injured, and
15 other marine mammals in distress?

16 Are there critical research and management
17 needs that we can meet by doing stranding
18 investigations, by doing rehabilitation, by doing
19 disentanglement, by doing health-related research and
20 biomonitoring? If we've identified these needs, are
21 they currently being met? And, if not, what are they
22 and how could we meet them?

23 The level of response effort: So alternatives
24 that were proposed under each of these activities
25 involve somehow dividing our effort.

Page 22

1 So the first question is should there be
2 different standards or levels of effort depending on
3 which species or group of species you're talking about.
4 If so, if you believe there are, how should NMFS set
5 standards? How should we set the effort and how should
6 we think about dividing species into these groups?

7 So some of the ways we've proposed is:
8 Cetaceans, pinnipeds listed under the SA, not listed;
9 the status of the population. OSP is optimal
10 sustainable population, which comes out of the stock
11 assessment program. Or whether a population has
12 increased or whether a population is decreasing, et
13 cetera.

14 The third major heading is organization and
15 qualification for the national marine mammal stranding
16 networks, for the disentanglement network, or the
17 biomonitoring research program. So is the current
18 organization adequate, thinking about it on a local, a
19 state, a regional, and a national level.

20 What changes could you see that would help us
21 make the organization of the networks more effective?

22 Qualifications questions: What about the
23 minimum qualifications prior to becoming a stranding
24 agreement holder or a disentanglement network
25 participant? We do have proposed minium qualifications

Page 23

1 that are the interim; and this is kind of asking you to
2 review that and let us know if you agree or disagree.

3 Then what are the requirements for continued
4 participation in the networks? Once you've received
5 your LOA, what should be required in order for you to
6 maintain the stranding agreement? So certification or
7 licensing process, continuing education credits. What
8 kind of training, if any?

9 Then the effects of the activities. So, first
10 question: Are public and animal health and safety needs
11 adequately addressed in the program as it currently
12 stands? The release criteria as proposed -- the interim
13 criteria -- are they adequate to protect wild
14 populations from introduced diseases? Are there
15 potential environmental impacts that you can see that we
16 have not identified? And if there are other relevant
17 views or data that you have that we should consider,
18 please provide it to us or give us a reference. If
19 there's a paper that's been published or a tech memo
20 that you know or anything like that, we would appreciate
21 it.

22 All right. So we're -- now it's time for the
23 oral comments. As Sarah mentioned, there are many
24 different ways for you to give public input into this
25 process. And the oral comment period is kind of one of

Page 24

1 them and the most immediate; and this is, I should
2 clarify, it's not a question-and-answer session. This
3 is your comment to us. It will taken down and made part
4 of the official record and then we will respond to it
5 later as part of the EIS document, but we're not going
6 to respond to it today at this point.

7 If you want to make an oral comment, we ask
8 that you sign in, let us know your name and affiliation.
9 There's a four-minute time period, unless there's not
10 that many people, in which case we can be flexible. And
11 again it's being reported, so that we have an accurate
12 and complete record of your comments. If you don't want
13 to go on the record and say anything today, you do have
14 several different options for entering written comments,
15 including handing in prepared comments today or using
16 the comment sheets that we have -- turning them in. Or
17 you can submit your written comments before the February
18 20th deadline to the address which is here in the
19 notice. There's an e-mail address and a fax.

20 The additional information, which includes
21 copies of all the interim documents, is available for
22 review at a public library in each city in which we're
23 having a scoping meeting. So here at the downtown San
24 Francisco library there's a binder with all this
25 information. It's also available for download on our

Page 25

1 web page. And, third, if you want to receive future
2 copies of the draft EIS or if we have any other
3 information, please make sure that you're on our mailing
4 list or check the website.

5 All right. So we will a take a brief break in
6 case anyone has decided that they want to make a
7 comment. And we'd like to thank you all for
8 participating.

9 UNIDENTIFIED SPEAKER: I'd like to have you
10 back up, because there was an option in there that you
11 mentioned. And it was -- [inaudible] oh, biomonitoring.
12 So I don't know if this needs to on the record, but you
13 can do no action or you can do status quo, which is what
14 you're doing right now, which is a continuation of
15 current, but no new projects; and the only two other
16 options up there are no health assessment or no tissue
17 banking. But you don't have anything up there for new
18 projects, so you might want to add another category.

19 SARA WILKIN: So I guess the other alternative
20 would be to issue the permit with kind of current and
21 future --

22 UNIDENTIFIED SPEAKER: You have no ability to
23 do greater biomonitoring. You're limited at what your
24 status quo is now or less than that, from your slide
25 there. It's just a comment. I just wondered if you

Page 26

1 might want to add another section to that slide. If the
2 possibility exists that you could do future greater
3 biomonitoring, it seems to me that would be a good
4 section to have on that slide.

5 SARA WILKIN: All right.

6 BARTHOLOMEW BOTTOMS: My name is Bartholomew
7 Bottoms. I'm a veterinarian down in Santa Cruz. I'm
8 working as a large-animal vet. And I volunteer with
9 Fish and Game; I've just been hired on as [inaudible]
10 down there in Santa Cruz.

11 And I was out in September on a marine turtle
12 research effort. We were assisting on a project on the
13 leatherback sea turtles, just a minor project with UC
14 Davis and Fish and Game and Moss Landing Marine Labs.
15 And we came upon a humpbacked whale entanglement in the
16 course of the day and made a series of calls. One of
17 the members of the stranding team was there. We were
18 not successful in disentangling the whale. We spent six
19 hours.

20 Now, in hindsight, with obvious 20/20, looking
21 back, there were a series of things that we probably
22 could have done more effectively if we had certain
23 things, like the proper tools, maybe a little bit more
24 formalized training, and, if anything, maybe more people
25 up and down the coastline. And I know that there is

Page 27

1 maybe not as many responders on the central and northern
2 California coast as there are down on the South Coast.
3 But I do think that to gear up this stranding network,
4 everybody on the stranding team, from my perspective,
5 should have a set of those long hook-knives with the
6 extending poles and the detachable heads so you don't
7 have to try to clamp a knife to a boot hook; and it's
8 not as effective. And I think that there should maybe
9 be some specific protocols in place when one of these
10 entanglements happens, because sometimes methodologies
11 improves response.

12 So I guess that's about all I have to say on
13 it. I also have a written thing that I will give
14 somebody.

15 DR. JANET WHALEY: Remember to look at the
16 disentanglement guidelines that are on our website.
17 They are listed as East Coast, the Northwest Coast,
18 Hawaii, and Alaska. So look at those guidelines and
19 have your comments on there.

20 SPEAKER: I don't want to go on the record --

21 SARA WILKIN: We have a formal comment period
22 right now. We are paying him money to record it. After
23 this, we turn him off and have an informal session. So
24 if you want it to be on the record, public record, speak
25 now. If not, wait a few more minutes.

Page 28

1 Anybody else want to make a public comment?
2 Okay. So that concludes our formal part.
3 [THE PUBLIC COMMENT PERIOD
4 ENDED AT 2:13 P.M.]

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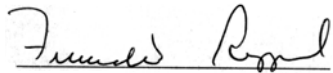
Page 29

STATE OF CALIFORNIA
COUNTY OF SAN FRANCISCO

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CERTIFICATE OF REPORTER

I, the undersigned, a duly authorized Shorthand
Reporter and licensed Notary Public, do hereby certify that
the within proceedings were taken down by me in stenotype
and thereafter transcribed into typewriting under my
direction and supervision and that this transcript is a true
record of the said proceedings.



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DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

MARINE MAMMAL HEALTH AND STRANDING
RESPONSE PROGRAM
ENVIRONMENTAL IMPACT STATEMENT SCOPING MEETING

TRANSCRIPT OF PROCEEDINGS

Held by The National Marine Fisheries Services at
the Hawaiian Islands Humpback Whale National Marine
Sanctuary, O'ahu Office, 6600 Kalaniana'ole Highway,
Honolulu, Hawaii, on Friday, January 27, 2006,
commencing at 4:00 p.m.

REPORTED BY:
Wendy Tomita, CSR 165
Notary Public, State of Hawaii

2

APPEARANCES:

SARAH HOWLETT
SARAH WILKIN
Marine Mammal and Sea Turtle Division
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Acting Assistant Regional Administrator
Protective Resources

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I N D E X

PAGE

PRESENTATION BY:

MS. SARAH HOWLETT

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MS. SARAH WILKIN

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FRIDAY, JANUARY 27, 2006

4:00 P.M.

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MS. SARAH HOWLETT: My name is Sarah Howlett and I'm a biologist with the MMHSRP. And with me today is Sarah Wilkin who is also a biologist, Dr. Janet Whaley, who is the National Stranding Coordinator from the Pacific, NMFS Pacific Islands Regional Office. We have David Schofield, who is the Marine Mammal Response Coordinator for Protective Resources, and Chris Yates, who is the Acting Assistant Regional Administrator for Protective Resources.

So the purpose of our scoping meeting is to allow for the early public notification of a proposed federal action or actions. This is to let us have the opportunity to present the proposed action to the public and to seek input on the scope or the range of issues to be discussed in the EIS.

So this is our third scoping meeting on the west coast. Two were in California, and we have one left in Seattle and one in Anchorage, and our east coast, St. Petersburg, Boston and Silver Spring. And these will all be wrapped up by the end of February.

So the agenda for today, information on

the scoping, background on the NEPA process, the National Environmental Policy Act, an overview of the MMHSRP, a review of the proposed action and alternatives, and the public comment period.

So everybody came through the registration area and our staff exhibit area with our posters. We'll have our formal presentation and then an oral comment period, and written comments will also be accepted today. So we encourage anyone who would like to give an oral comment to please sign up either right now or at the end of our presentation. And again, written comments may be turned in as well. And today's meeting is being captured by our court reporter.

So the National Environmental Policy Act process. The purpose of NEPA, this is taken directly from the Act itself, is "to encourage harmony between man and the environment, to promote efforts to prevent or eliminate damage to the environment and to enrich man's understanding of important ecological systems and natural resources."

So the requirement of NEPA. NEPA requires NMFS to look at the potential environmental impacts of any proposed federal action, then to consider the environmental consequences during their decision

making to reduce, prevent or eliminate environmental damage, and also provide public involvement in the key basis of the EIS.

It is important to note that NEPA does not dictate the decision to be made by NMFS, but it helps to inform the decision making process.

Now, why are we doing an EIS? There are a list of factors that NOAA should consider when doing an EIS to determine if an EIS needs to be done and these are the few that we have picked out that relate to our EIS. The proposed actions could be a subject of significant public controversies based on potential environmental consequences and may have uncertain environmental impacts or risks and may establish a precedent or decision in principal future proposals, result in cumulatively significant impacts and it may have adverse impacts on threatened and endangered species or habitats.

The benefits of conducting an EIS. It will allow for a programmatic analysis of the MMHSRP and all of the activities current and future that will occur, it will allow for an assessment of the cumulative impacts of these activities, and will also eliminate the need to conduct individual NEPA analysis on the activities under the MMHSRP.

Why is NMFS doing an EIS now? Well, the current Marine Mammal Protection Act, Endangered Species Act permit that's issued to the program will expire on June 30th of 2007, and in order for us to be issued a new permit, a NEPA analysis must be conducted on the MMHSRP activities. And a NEPA analysis is also needed in order to finalize the interim standards that are provided in the Policies and Practices Manual, and both the permit and the manual will be talked about by Sarah next.

The proponents of an EIS. It consists of the purpose and needs, which is just a brief statement explaining why the action is being considered, the proposed action and alternatives to the proposed action, the affected environment or the impacts, the resources that may be impacted by the federal action, potential environmental consequences and mitigations, and of consideration of public comment. So this is a list of environmental resources that are typically considered in an EIS, and the ones that we have picked out that we feel are of a concern for our actions are "protected species," which includes marine mammals and threatened and endangered species, "water quality," "human health and safety" and "cumulative impacts."

The EIS process. The Notice of Intent or NOI was published in the Federal Register in December and that began the official scoping process. We have scoping, and this will be wrapped up by February, and comments are due at the end of February. And so the comments will be taken in consideration while we are drafting our EIS. Once the EIS is published there's a 45-day comment period and a set of public hearings to get feedback from the public. The final EIS will be published and in 30 days after the final EIS, the record or decision will come out which says, the design document by the agency's decision maker, saying what action was chosen and how they came about that action.

Public input opportunities. Obviously today you're all participating in our scoping meeting. You can submit comments, you can sign up on our mailing list to receive information, the draft EIS, the final EIS. You can review and comment on the draft EIS, participate in a public hearing and also review the final EIS.

And this is our tentative EIS schedule. As I said, the scoping will wrap up at the end of February. Our draft EIS will be complete around September of 2006. The public comment period and

public hearings will be conducted between September and November of 2006, and the final EIS will be completed by May of 2007, with the record of decision coming out in June of 2007.

I'll turn this over to Sarah and she will talk about the MMHSRP.

MS. SARAH WILKIN: All right, Sarah. Well done. Great job of doing an overview of NEPA and what kind of the whole process is. I'm going to talk more about the specifics of our particular EIS.

So Marine Mammal Health and Stranding Response Program or MMHSRP was established under Title IV of the Marine Mammal Protection Act, which is an amendment to the Act, with the mandated goals and purposes shown here. There are three of them. First, to facilitate the collection and dissemination of reference data on health and health trends of marine mammals and marine mammal populations in the wild; to correlate the health and health trends of those marine mammals with physical, chemical and biological parameters. There are so many environmental factors. And third, to coordinate effective responses to unusual mortality events of marine mammals.

The current structure of the MMHSRP as

implemented by NMFS looks something like this.

There are many kind of different programs within the overarching program that all work together for the same goals, including the Marine Mammal Stranding Network, the Disentanglement Network, the Prescott Grant Program, which gives financial assistance to participants in the Stranding Network, the Unusual Mortality Event and Emergency Response Program, which incorporates the working group on Marine Mammal Unusual Mortality Event, and also incorporates some members of the Stranding Network and the response to the UME, the Information Management Program, which is concerned with managing the data that's collected as a result of the other activities of the program and, finally, the health, biomonitoring research, development and tissue banking programs.

8 So the interim policies that Sarah
0 mentioned that we were wanting to issue as final documents are shown here. These are available on our website. And our proposed method is to issue all of these together into one manual, so the policies and best practices for essentially marine mammal stranding and disentanglement response.

A little bit more information about our

permit. It's issued jointly under the Marine Mammal Protection Act and the Endangered Species Act. And the most important thing about it for this crowd is that it provides for response, both stranding and disentanglement for those marine mammals that are listed under the Endangered Species Act.

Although the MMPA sets up the mechanism that we use of entering into agreements and having state agencies respond to stranded animals, there's no similar provision in the ESA for stranding response. So therefore we, the program has applied for and obtained a permit with Teri Rowles as the principal investigator, that then flows down to the stranding network members to allow them to do ESA response. It also permits for the import and export and analyses and holding of diagnostic tissues collected as part of the stranding response, and provides for health assessment captures in populated wild populations of marine mammals where there is a question relating to the health or health trends of that animal. So these would be captures of theoretically healthy animals but in an area where there has been a health issue in the past, including an unusual mortality event or a disease outbreak.

Just to give you a little bit of overview

or background, these are the total strandings for which a level A data sheet, which is our basic response, was filled out in the entire United States from 2001 to 2004. And down at the bottom there are one -- one thing to keep in mind when we're doing this EIS on the program, are the cumulative impacts of stranding response and rehabilitation and release, because there are a lot of marine mammals represented here, close to 5,000 pinnipeds in 2003.

So specific to the Pacific Island region, this is the most up-to-date data reflecting cetacean strandings at least from 2001 to 2004. And the scale on the left is a bit different from the previous draft, but there still are a fair number of cetaceans during the year, both alive and dead.

So the purpose of our EIS is essentially the purpose of the program, the MMHSRP, and that is to respond to marine mammals in distress, which includes those that are considered stranded, entangled, out of habitat, and also to answer research and management questions related to marine mammal health. And the need for this action is to operate the program effectively and efficiently, making the best use of our available but limited resources. Everyone agrees there's never enough

money or time or people to go around, so we're trying to investigate ways that we can use the resources that we have in the best way possible, and to use those resources to collect the data that we need as an agency in order to meet our information needs for conservation and management of wild marine mammal populations. And thirdly, to insure that human and animal health and safety is always one of our highest priorities.

The proposed action for our EIS is the issuance of the policies and best practices, those five documents that I showed before, in one manual; the issuance of and permit under the ESA, MMPA. Stranding agreements will continue to be issued or renewed on a case-by-case basis, but implementing the products contained in the policies guidelines. So a criteria will be established for a minimum criteria in order to obtain an LOA, and the template is also contained. And then other day-to-day operations would continue, including stranding response, marine mammal rehabilitation and release determination. But again, those would be somewhat tempered by the policies as proposed.

I should take a moment here and say that the actions and alternatives as I'm presenting them,

we've presented one set of actions and alternatives in the Federal Registry Notice which went out in December 28th. And in kind of subsequent discussions we have come up with another series of alternatives that I'll talk about a little bit later that are just slightly -- they're different, they're differently organized than the ones that are presented here.

So as listed in the FR, the action alternative or alternative one, are also our preferred action, are the, basically the four things that I've already mentioned, including the issuance of the policies and practices document, the issuance of the permit, stranding agreements continuing to operate, and the disentanglement network continuing.

Alternative two. Under NEPA we are required to assess the "no action" alternative, just to say what would happen if the Federal Government did not undertake this action and didn't do anything. So under alternative two, the policies and practices document would not be issued and no new or renewal stranding agreements would be issued. And what that would mean is that over time, as the stranding agreements expire, the network would cease to function. There would be no new permit issued

and therefore no research activities, no response to ESA animals and no disentanglement. So eventually, it would take a few years, but eventually the network as we know it would cease to exist. However, this alternative does conflict with our statutory mandates under Title IV, which requires us to collect this health and health trends data. But NEPA also requires that we assess alternatives, even if they do conflict with other federal laws.

And then the status quo alternative would be, what if we did not issue the documents and continued as is, we continued with the status quo currently, what the government is doing right now. So current stranding agreements would continue to be renewed, new stranding agreements would be examined on a case-by-case basis, the permit would be renewed or reissued, and current activities would continue. So basically the network would continue to function exactly at its current level.

One fear that we have is that adaptive changes to the network might be precluded by undertaking this alternative. And that again, as we have listed in the FR, there are some alternatives that we'd continued that might be eliminated, which basically are changing the activities of the program

and limiting it or in some way doing only selective activities.

All right. So for the purposes of the scoping meetings, and again as a result of some of our discussions and further thinking, we are offering up these alternatives, which is to say that we're subdividing them into activities. And the six activities we have listed here are the ones for which we can see a potential impact on the environment, the human environment.

Health and human safety falls into all of these categories essentially. Response, there are also potential issues with disturbance of the beach and of other animals. Carcass disposal and euthanasia is a concern because of what may be released into the environment after disposing of a carcass, and if the animal is euthanized, of the chemicals that are used to euthanise it.

Rehabilitation concerns in facilities, because if they have an effluent, which is usually a concern once it's monitored. And then also human safety as far as zoonotic diseases, the potential for a disease exchange.

Release of rehabilitated animals is a concern for the health of the wild population as far

as putting an animal that's been in captivity back into the wild. Disentanglement is health and safety. And at the bottom, monitoring and research activities.

So underneath each of these activities, and I'll go on to show you this. There will be a range of alternatives with a preferred alternative selected within each of them. And the final EIS determination would involve choosing an alternative under each of these six categories.

So the first example, stranding response, so having alternatives under this. The first, no action alternative, where our stranding agreements would expire and there would not be any further stranding response. The status quo alternative, where current stranding agreements would be renewed. One alternative to curtail response immediately rather than waiting for agreements to expire.

The next two, which you'll see because they come up again and again in all these different alternatives, is the idea that we would have different response activities or different activities based on what kind of animal it was. And we have listed here at least three different ways proposed to separate out animals. So by species,

groups, where there would be a response to cetacean but not to pinnipeds. By population status, whether it's listed under the ESA or not. And then population status, if they're at or above their optimum sustainable population.

And then the two ways to look at those would be, in the stranding agreement, it could require a response to some animals but make the response to others optional, a function of whether there are resources available and interest. Another way would be that the stranding agreements would be modified so that response to some animals would be authorized and response to other animals would not be authorized, essentially meaning that that would then become a take under the MMPA and would be illegal.

Some further alternatives under this activity deal with the issuance of the stranding agreement. So whether stranding agreements are issued to anyone who applies for them, or whether the criteria are implemented as we're proposing to implement them, where applicants would be checked against the minimum criteria for obtaining a stranding agreement, and then whether we issue that criteria exactly as proposed or if we revise and

then issue and implement a revised criteria. And again, the preferred alternative under this could be a combination of some of these different alternatives.

For carcass disposal and euthanasia, again the no action alternatives, where stranding agreements expire so the animals won't be responded to in the first place, which negates worries about carcass disposal and euthanasia. Status quo, current agreements are renewed and so the current methods of carcass disposal, which are many and depend on the location and resources, would continue.

Others for, specifically for carcass disposal, that all animals would be buried, thereby kind of returning to the environment. Or that all animals would be transported and disposed of in a different way but not burial. With euthanasia, a requirement that no animals would be chemically euthanized. So if euthanasia would -- the option of something else would be used. Or that chemically euthanized animals would be transported off site for disposal. And other animals that were not chemically euthanized could be left on the beach, buried or transported.

Under rehabilitation, again, the no action alternative, the status quo alternative, and immediate cessation alternative, where we wouldn't wait for agreements to expire but there would be no further rehabilitation.

Again with the subdivision of activities, based on what group of animal we're dealing with. And then the two alternatives dealing with the facility guidelines, whether they're implemented as currently proposed, or if they're modified and then implemented.

Under release, again, no action, status quo. All animals released, which would go back to the fact that animals would not be taken into rehabilitation if they weren't release candidates. Again with the division of effort based on kinds of animals. So some animals would be released and some animals would be required, for others it would be optional.

The release of some animals would be authorized, and for others it would not be authorized. And the two dealing with the documents, the release criteria either implemented at proposed, or modified and then implemented.

Disentanglement. Again, the no action and

the status quo. The disentanglement of some animals authorized and other animals not authorized. Implementation of the disentanglement guidelines, and this would be a national implementation. They are currently implemented for the northeast and southeast regions. And these have training prerequisites before you can be a member of the disentanglement network, or modification of the disentanglement guidelines in some way prior to implementation.

And finally, biomonitoring alternatives. The status quo, and no action again. And then the elimination of some activities that are currently done, including no further health assessment captures. So biomonitoring would continue, but it would only be on tissues collected from strandings, bycatch and subsistence animals.

Another one would be no tissue banking. All tissues collected as part of the biomonitoring projects would be used immediately and not be saved, which results in no retrospective studies, or the issuance of a new permit that would cover current and also new foreseeable biomonitoring and research activities.

All right. We've given you a whole bunch

of different alternatives. This is the result of ones that we could see that could be used in the analysis, but we are requesting specific information from you as part of our public scoping, and the specific information kind of goes into three forms. The first is to help us identify environmental concerns. As I've said to you we've singled out these six kind of scope of activities because we see that they have potential impacts, but we could have missed something. So we are requesting information about our activities that could result in environmental impacts both direct, indirect and cumulative impacts.

The second is to help us define the alternatives as well as potential mitigation measures. We've given a whole bunch of alternatives and we realize that not all of these alternatives are necessarily feasible or a good idea. And what we would prefer to do is rule some out in the beginning of the process and not analyze them further. So we're asking for the help of the public to help us determine the definitional alternatives.

And then the third is to make necessary modifications to the interim policies. We have presented them to you in their current form on our

website and through a couple of other means I'll talk about later, and we would like to use your input to help us make changes to them if changes are necessary.

So here are some of the specific questions that we've asked. You will see these on the handouts and in the Federal Registry notice and many other places, but I'll just go through them one more time.

The first is what sort of activities. So what kinds of activities should be conducted by the MMHSRP on a local, a regional, on a national level in response to stranded, entangled, sick, injured and other marine mammals in distress? Secondly, are there critical research or management needs that may be met by stranding response, by rehabilitation, by disentanglement, by biomonitoring, et cetera, and are these needs currently being met? And if they are not, what are they? What could you identify and how are they likely to help, to benefit the marine mammal species or the ecosystem, and what should we do in order to meet those needs?

The second category concerns the level of response effort. The first question is should there be different standards or levels of effort for

different species or groups of species? As we've set out in all of the alternatives that was proposed, as one alternative could be to kind of stratify a response. If so, if you believe that there should be different standards, how should we set them, and how should we divide the species into the different groups? We've kind of proposed three different ways, but if you have other ideas, that would be appreciated.

Organization and qualifications. Is the current organization of the National Stranding and Health Assessment adequate at kind of all levels, local, state, regional, ecosystem and nationally? What changes would make the organization more effective, if any?

And then qualification issues. What in your opinion should be the minimum qualifications of an individual or organization prior to becoming a stranding agreement holder or disentanglement participant? And relating back to the "Interim Minimum Qualifications" document that we've posted and is it adequate? And what about the requirements for a continued participation in the networks? Currently there's not really anything. Should there be certification or licensing process? Should there

be some kind of renewal process? Should there be required training? And if so, what kinds of training?

And the effects of the activities. So do you feel that public and animal health and safety needs are adequately addressed by the current program? How about the current release criteria, are they adequate to protect wild populations from introduced diseases? Are there potential environmental impacts you can see that we have not identified? And if you have any other relevant issues or data that we should consider, we would appreciate it if you would provide it or provide us some reference.

And that basically concludes the presentation as far as our activities, our proposed activities. We're now going to take the time for oral comments. These are comments that will be taken by the court reporter and considered part of the formal record. I'll go through this.

If you are interested in doing a formal oral comment at this time, we'd appreciate it if you'd let us know. And there's a four minute time limit that we could alter. And we do have, as we said, a court reporter here to insure that we have

an accurate and complete record of your comments.

Oral comments are not the only way to provide us input. Although if you do have anything that you've heard today that kind of raises some issues or something that you would like to see addressed, we would appreciate it if you would go ahead and state it as part of the oral comments. But if you're not ready to do that you can submit written comments. You can either do those today if you've prepared them already, or if you have a comment, one of the comment sheets, you can write on that. Or you can submit them by mail, e-mail or fax to the addresses here, and make sure that they are received by February 28.

The additional information are, namely the copies of all the interim documents, are available for your review on our web page and also at the public library and each of the locations of our scoping meetings, so there's one here in Honolulu. And if you want to receive copies of the draft EIS and the final EIS in the future, if you've registered here, then we'll make sure you get on our mailing list, or we'll also be posting them on our website. So you can check that further locally.

All right. Now we're going to collate all

your signup information, which there's so much of.

We'd like to thank you for your participation. I do want to stress that the oral comment period that we'll go into now is kind of a, it's a forum, it's an open forum for you to make comments, but it's not necessarily -- it's a one-way forum. You're going to be providing comments to us. We will respond to those comments as part of the EIS, but not here today. Once we're finished with the formal comment period, then we will adjourn the formal portion of the meeting and dismiss the court reporter and then we could have informal question-and-answer if there's any interest in that.

So at this time does anybody have a formal comment that they want to submit, anything that they want to say on what they've heard here today? Speak now or forever hold your peace.

All right. Then I think that will conclude our formal scoping meeting. Thank you all for coming.

(The meeting concluded at 4:14 p.m.)

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C E R T I F I C A T E

I, WENDY TOMITA, in and for the State of Hawaii, do hereby certify:

That I was acting as shorthand reporter in the foregoing matter on the 27th of January 2006;

That the proceedings were taken down in machine shorthand by me and were thereafter reduced to typewriting by me; that the foregoing represents, to the best of my ability, a correct transcript of the proceedings had in the foregoing matter;

I further certify that I am not counsel for any of the parties hereto, nor in any way interested in the outcome of the case named in the caption.

DATED: January 30, 2006.

Wendy Tomita
 WENDY TOMITA CSR 1818
 NOTARY PUBLIC
 STATE OF HAWAII

Notary Public, State of Hawaii
 My commission expires: 3-12-09

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MARINE MAMMAL HEALTH & STRANDING
RESPONSE PROGRAM MEETING
JANUARY 30, 2006

BE IT REMEMBERED THAT, the MMHSRP Scoping Meeting, was taken before, Karen M. Kane, a Certified Shorthand Reporter, #3072, and a Notary Public for the State of Washington, on January 30, 2006, commencing at the hour of 2:28 p.m., being reported at 7600 Sandpoint Way Northeast, Building 9, Seattle, Washington.

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MS. HOWLETT: I'd like to thank you for attending our scoping meeting today for the Environmental Impact Statement on the Marine Mammal Health and Stranding Response Program.

My name is Sarah Howlett, and I'm a biologist with the MMHSRP. My colleagues are here today: Sarah Wilkin, who is also a biologist; Dr. Janet Whaley, who is the national stranding coordinator; and we also have Brent Norberg, who is the northwest regional stranding coordinator.

So, the purpose of our scoping meeting today is to allow for the early public notification of a proposed federal action or actions. So, these are just providing us the opportunity to go to the public and tell them what we are proposing to do and to also seek input on the scope of issues for our Environmental Impact Statement.

So, this is our fourth scoping meeting on the West Coast. We've been to Santa Barbara, San Francisco, and Honolulu, and we'll be also going to Anchorage; on the East Coast, St. Petersburg, Boston, and Silver Spring.

So, our agenda for today's meeting: A little background on scoping, an overview of the National Environmental Policy Act process; an overview of the MMHSRP; a review of the proposed actions and alternatives for our EIS, and the public comment period.

There is a layout we had at our registration area

1 out front. You could sign up for our mailing list, sign up
2 to give an oral comment or pick up a written comment form,
3 our staffed exhibit area with posters, our formal
4 presentations, and then our oral comment period will follow.

5 Okay. So, hopefully you signed in at the
6 registration table. And just to let you know that our
7 meeting today is being captured by a court reporter for
8 public record.

9 So, the NEPA process: The purposes of NEPA -- this
10 comes straight from the act itself -- is to encourage harmony
11 between man and the environment, promote efforts to prevent
12 or eliminate damage to the environment, and enrich man's
13 understanding of important ecological systems and natural
14 resources.

15 The requirements of NEPA: As a federal agency,
16 NEPA must analyze the potential environmental impacts of
17 their actions and this is to consider environmental
18 consequences during the decision making to reduce, prevent,
19 and eliminate environmental damage and also to provide an
20 opportunity for public involvement in the EIS process. And
21 it's important to note that NEPA does not dictate the
22 decision that will be made by them, but it does help to
23 inform the decision-making process.

24 So, why are we preparing an EIS? There are a list
25 of factors NMFS will consider to determine if an action

1 warrants an EIS, and these are the few factors off the list
2 that we believe our EIS falls under.

3 So, the federal action could be the subject of
4 significant public controversy based on potential
5 environmental consequences; it may have uncertain
6 environmental impacts or risks; it may establish a
7 precedent -- precedent and principle about future proposals,
8 and may result in cumulatively significant impacts, and it
9 may have adverse effects on threatened and endangered
10 species.

11 The benefits of conducting an EIS: This EIS will
12 allow for a programmatic analysis of the MMHSRP, including
13 the current and future activities of the program; it will
14 allow for an assessment of the cumulative impacts of these
15 activities, and it will eliminate the need to conduct
16 individual NEPA analyses on the activities of the program.

17 Why are we conducting an EIS now? Our current
18 Marine Mammal Protection Act/Endangered Species Act permit is
19 issued and it will expire on June 30th of 2007. To receive a
20 new permit, the NEPA analysis must be conducted on the
21 activities that are covered by the permit and it must be
22 considered prior to the issuance of the new permit; and an
23 EIS is also needed to finalize the interim standards that are
24 provided in the policies and practices manual, and both the
25 permit and the policies and practices manual will be

1 discussed later.

2 So, the components of an EIS: The purpose and
3 need, which is just a brief statement about why the action is
4 being considered; the proposed action and alternatives; the
5 affected environments or the resources that may be impacted
6 by the proposed action; potential environmental consequences
7 and mitigations, and consideration of public input.

8 This is a list of environmental resources that are
9 typically considered in an EIS, and the ones that we feel are
10 truly important for our areas are: protected species, marine
11 mammals, threatened and endangered species, water quality,
12 human health and safety, and cumulative impacts. That
13 doesn't mean that the other resources will not be covered.

14 The EIS process: Our notice of intent was
15 published in the Federal Register, December 28th; and that
16 became -- began the formal scoping process. Our scoping will
17 be wrapped up at the end of February. The draft EIS will
18 then be published and once the draft is published, there's a
19 45-day comment period and we will conduct public hearings as
20 well to gather comments.

21 The final EIS will be published and 30 days after
22 the final EIS, the record of decision is published, which is
23 just a document by the agency to say what they decided upon
24 and how they came to that decision.

25 Our public input opportunities: Today you're

1 participating in a scoping meeting. You can submit comments
2 either today or by mail. You can sign up to be on our
3 mailing list to receive the draft EIS, the final EIS, and any
4 other information on the EIS; you can review and comment on
5 the draft; you can participate in a public hearing, and you
6 can review the final EIS.

7 And our tentative EIS schedule of this scoping will
8 commence at the end of February; our draft EIS will be
9 complete in September of this year; public hearings, November
10 of this year; the final EIS will be completed in May of 2007
11 with the record of decision in June of 2007.

12 And I'll turn this over to Sarah Wilkin, and she
13 will talk about the MMHSRP.

14 MS. WILKIN: All right. So, Sarah has done a great
15 job of giving you kind of an overview of NEPA in general; and
16 my job now is to talk a little bit more about what our
17 particular EIS plans are.

18 The Marine Mammal Health and Stranding Response
19 Program, or MMHSRP, was established under Title IV of the
20 Marine Mammal Protection Act, which is an amendment to the
21 act, and the goals and purposes as they're stated in act are
22 these three things: To facilitate the collection and
23 dissemination of data on the health and health trends of
24 marine mammals and marine mammal populations in the wild, the
25 first one; the second is to correlate those health data with

1 physical, chemical, and biological or environmental
2 parameters; and the third is to coordinate effective
3 responses to unusual mortality events. So, these are the
4 charges given to the program by Congress.

5 Since the passage of Title IV, the Marine Mammal
6 Health and Stranding Response Program has been organized in a
7 variety of different components that all work together to try
8 and achieve those three goals, including the components you
9 see here: The National Stranding Network; the National
10 Disentanglement Network; the John H. Prescott Marine Mammal
11 Rescue Assistance Grant Program, which awards financial
12 assistance to participants in the stranding network and
13 researchers conducting research on tissues from stranded
14 animals; the Marine Mammal Unusual Mortality Event and
15 Emergency Response Program, which, again, incorporates some
16 members of the stranding network but also includes an
17 advisory panel of the working group of Marine Mammal Unusual
18 Mortality Events; the Information Management Program, which
19 is organized to manage all of the information collected by
20 all the various components in the overarching program; and
21 the Health Biomonitoring, Research, Development and Tissue
22 Banking Programs, which work together to provide more of the
23 research arm of the MMHSRP.

24 So, one of the reasons for us conducting an EIS at
25 this time is there are several interim policies that have

1 been in development for quite some time, and prior to
2 releasing the final drafts -- or final documents, we need to
3 undertake a NEPA analysis of the potential impact. And these
4 documents are available on our Web site for download and also
5 at a public -- a public library here in Seattle, and they
6 include a stranding agreement template, the minimum
7 qualifications for attaining a stranding agreement, the
8 minimum facility guidelines for rehabilitation facilities,
9 and the criteria prior to release of a rehabilitative marine
10 mammal, and then network guidelines that are being
11 established for the disentanglement network.

12 A little bit more information about our permit: It
13 is issued to the program under both the Marine Mammal
14 Protection Act and the Endangered Species Act with Dr. Teri
15 Rowles, who is the head of the program as the principal
16 investigator; and then all the regional stranding
17 coordinators and regional stranding networks are incorporated
18 as coinvestigators under this permit. The main thing that
19 the permit does that you may not have known is that it
20 provides for both stranding and disentanglement response of
21 animals that are listed under the Endangered Species Act.
22 So, the Marine Mammal Protection Act gives NMFS the authority
23 to establish stranding agreements -- or as they used to be
24 called -- letters of agreement -- with stranding
25 organizations to respond to stranded marine mammals.

1 However, there is no similar provision under the Endangered
2 Species Act. So, in order to be authorized to respond to
3 stranded animals and animals in distress, we have applied for
4 and received this permit. It also permits for the import and
5 export and analyses of diagnostic tissues. So, any of those
6 tissue samples that you may have had of ESA-listed animals
7 would be covered under this and the import and export of all
8 MMPA and ESA animals, and also it provides for health
9 assessment captures in populations where there's a question
10 relating to their health or health trend. So, these would be
11 captures of animals that we believe are healthy but in an
12 area where there's been some kind of health concern such as
13 an unusual mortality event, other kind of die-off, mass
14 stranding, et cetera.

15 Just a little bit of over -- overview on the
16 stranding network. These are the total strandings that were
17 reported to the network and then had a Level A data sheet
18 filled out, which is kind of the basic information sheet,
19 from 2001 to 2004 in both cetaceans and pinnipeds; and what I
20 have there down at the bottom is cumulative impacts. One of
21 the things that we're supposed to be looking at under NEPA is
22 the impacts of all of the actions taken together. So, while
23 the impacts of response or rehabilitation release of one
24 marine mammal might be very, very small or nothing at all,
25 once we're looking at around 5,000 pinnipeds, for instance,

1 in the year 2003, we have to start looking at the cumulative
2 impacts of response and rehabilitation and release of all of
3 those animals.

4 Here is your northwest region data from 2001 to
5 2004. This is the pinnipeds. So, animals that stranded dead
6 are on the far left, animals that stranded alive in the
7 middle; and then the far right is those animals that stranded
8 alive, were introduced into a rehabilitation facility, and
9 then were released back to the wild.

10 So, the number is increasing a little bit up to
11 20,000 in 2004, which 2004 had the most live strandings. And
12 then cetacean strandings in '01 and '04, there were no
13 cetaceans released after rehabilitation. In fact, very few
14 live-stranded cetaceans in any of those years.

15 All right. So, the purpose and need of our EIS:
16 The purpose is essentially the same as the purpose of the
17 program, and that is to respond to marine mammals in
18 distress, which includes those that are stranded, entangled,
19 and out of habitat, and to answer research and management
20 questions related to marine mammal health.

21 The need: Our need is to operate this program
22 effectively and efficiently, making the best use possible of
23 our available but limited resources. I think one thing
24 everyone can always agree on is there's not enough money to
25 go around and there's not enough people and there's not

1 enough time. So, the question is how can we fulfill the
2 purpose of those mandated goals while making the best use of
3 the resources that we have in order to collect the necessary
4 data on marine mammal and health trends to meet our
5 information needs as an agency for conservation and
6 management and, finally, to ensure that human and animal
7 health and safety is always one of our highest priorities.

8 So, the proposed action, therefore, is the issuance
9 of the policies and best practices manual, which incorporates
10 all five of those interim documents, which would be releasing
11 it in one kind of combined form as a final; the application
12 for and subsequent issuance of a new ESA/MMPA permit to the
13 program; stranding agreements would continue to be issued or
14 renewed on a case-by-case basis but utilizing the guidance
15 policies from the interim guidance. So, the interim criteria
16 documents would be implemented and then a template would be
17 utilized and other day-to-day operations of the stranding
18 disentanglement and other programs would continue, including
19 response, rehabilitation, release determinations; but, again,
20 this would all be done utilizing the guidance provided in the
21 policies and practices manual.

22 All right. So, we have a set of alternatives here
23 that are the same as those proposed in the Federal Register
24 notice. The fifth publication of the notice in the FR at the
25 end of December, we had further discussions and brainstorming

1 and come up with another set of alternatives that I will be
2 providing immediately after these. So, for your reference,
3 these are the ones that were initially proposed.

4 So, the action alternative is essentially the same
5 as the preferred alternative that I just mentioned, which
6 includes the issuance of the documents, the issuance of the
7 permit, stranding agreements continuing to be issued or
8 renewed, and the disentanglement network continuing --
9 continuing.

10 Alternative 2: Under NEPA we are required to
11 consider the no action alternative, which is to say what if
12 the government didn't do anything. So, under this
13 alternative, a policies and practices manual would not be
14 issued, the permit would not be reissued. And what this
15 would mean was, first, with the no reissuance of the permit,
16 all response to endangered species and all
17 disentanglement response would have to halt because it would
18 no longer be authorized and then, also, in the future with no
19 action, no new or renewal stranding agreements could be
20 issued or extended. So, therefore, as stranding agreements
21 expired, the network -- kind of as we have it today -- would
22 cease to function and there would be no biomonitoring or
23 research activities under the permit.

24 So, as it states at the bottom, this does conflict
25 somewhat with our statutory mandates under Title IV that

1 require us to obtain this data. However, under NEPA we are
2 actually instructed to con -- to consider not only the no
3 action alternative but also consider alternatives that might
4 conflict with other laws.

5 And then the third alternative status quo, which is
6 to say what if the government continued as is and kind of
7 maintained what we have today.

8 So, the new actions: The policies and practices
9 manual would not be issued, but current stranding agreements
10 could be renewed as issued; the permit could be renewed or
11 reissued as it is currently; current partners that we have
12 would continue, and then new applications could be considered
13 on a case-by-case basis, essentially following what we do
14 today. So, this would ensure that the network could continue
15 to function at its current level. However, there are
16 concerns that we may be precluded from making adapting
17 changes if we wanted to change the permit, for instance.

18 And then alternatives that were listed in the FR
19 that might be eliminated from further consideration include
20 limiting some of the actions of the program; for instance, to
21 only doing biomonitoring research to only doing stranding
22 response or limiting somehow the animals or types of animals
23 that we respond to.

24 All right. After our further discussion, these are
25 our new envisionment of alternatives; and this is breaking

1 down and having alternative kind of subclassified under each
2 category of activity.

3 We have chosen the following six activities because
4 they are the ones that we see as having potential impacts to
5 the environment especially in the cumulative sense. So,
6 human health and safety is inherent in all of these as a
7 potential impact, both the direct health and safety of the
8 volunteers who are interacting with the marine mammals and
9 also public health concerns from having diseased animals.
10 And, so, those are the primary concerns and response along
11 with some disturbance potential for beach responses.

12 Carcass disposal and euthanasia are concerns based
13 on the potential loads of toxins in the carcasses; and then
14 with euthanasia, if you chemically euthanize an animal, the
15 chemicals that are being used and then being released into
16 the environment.

17 Rehabilitation: Again, human health and safety
18 concerns and also concerns in a facility having an affluent;
19 the release of rehabilitated animals. This is a concern for
20 the health of the wild populations as you're releasing an
21 animal that has been sick and has potentially been in contact
22 with other things back out into the wild; disentanglement;
23 again, health and human safety, and then biomonitoring and
24 research activities.

25 So, under each of these activities there will be a

1 range of alternatives and a preferred alternative or
2 combination of alternatives would be chosen from within each
3 activity; and we'll go into that in exhaustive detail.

4 So, for instance, stranding response, the first
5 major class of activity that we had. Again, a no action
6 alternative and the status quo alternative will show up under
7 each of these.

8 So, under the no action alternative we would allow
9 stranding agreements to expire and the network would cease to
10 function; the status quo alternative, we would renew current
11 stranding agreements but there remains a question of how we
12 would treat any future stranding agreements. Another
13 option alternative is to curtail response immediately so that
14 we don't wait for stranding agreements to expire but we just
15 don't do anything.

16 The next two both involve what happens if we have
17 different criteria for response depending on what kind of
18 animal it is, and there are two ways to go about this and
19 they both depend on kind of the terms and conditions
20 established in the stranding agreement; and the first would
21 be to require a response to some group of animals while
22 making the response to the other group of animals be optional
23 so that if you had -- if resources permitted, you could
24 respond to those, but it wouldn't be necessary.

25 The other way is to have the stranding agreement

1 actually authorize the response to some animals and not
2 authorize the response to other animals, which would
3 essentially prohibit those other response activities. And
4 then under each of these we have a couple of different ways
5 that we kind of thought of -- of breaking down the animals
6 into different groups.

7 So, cetaceans versus pinnipeds, those animals that
8 are listed under the Endangered Species Act versus those
9 animals that are not listed. And then another way of
10 determining populations, those animals at or above the
11 optional stranded population versus those animals that are
12 below or where the status is unknown. So, keep these in mind
13 because you'll see them again.

14 And then the final three alternatives here have to
15 deal with the -- the policies and practices documents; in
16 this case, the stranding agreement minimum criteria template.
17 And the first one would be the issuing of stranding
18 agreements to anyone who applied, essentially; secondly,
19 implementing the minimum criteria which then establishes a
20 baseline and then only those applicants that meet the minimum
21 criteria will be issued a stranding agreement; and then the
22 third is revising that document from what is currently
23 proposed and then implementing it.

24 All right. Under carcass disposal and euthanasia,
25 again, the no action alternative so that stranding agreements

1 expire and there will be no further response; so, therefore,
2 there's no further carcass disposal.

3 The status quo: Current methods of carcass
4 disposal may continue, whatever they may be; all animals
5 could be buried on site or, conversely, all animals would be
6 transferred off site for disposal; and then with the
7 euthanasia question, there could be essentially that chemical
8 euthanasia would be not allowed; no animals would be
9 chemically euthanized or that we would require that
10 chemically euthanized animals would have to be transported
11 off site for disposal while the other animals could be left,
12 buried, or transported, depending on logistics.

13 All right. Under Rehabilitation, again, no action
14 alternative and status quo alternative: The third, immediate
15 cessation of activities -- in other words, not waiting for
16 response -- the stranding agreement to expire; then the
17 partitioning of activity based on the kinds of animals and,
18 again, whether it's required and optional or authorized and
19 not authorized and then how we decide on the categories of
20 animals. And then the final two again deal with the
21 policies, those rehabilitation facility guidelines, whether
22 they're implemented as proposed or whether they're modified
23 and implemented.

24 Release: No action, status quo, all animals
25 released, which would imply that animals that are not release

1 candidates would, therefore, not be taken into rehabilitation
2 in the first place or would be euthanized upon being
3 determined that they were not a release candidate; again,
4 release of some animals versus not releasing other animals
5 and how we divide that up and a couple different ways; and
6 then the release criteria, whether we implement them as
7 proposed in the interim documents or whether we modify them
8 and implement them.

9 Disentanglement: Again, no action, status quo, and
10 then authorization of disentanglement of some animals and not
11 authorizing disentanglement activities for other animals and
12 how we divide that up, and then the implementation of the
13 disentanglement guidelines. This would be implementing them
14 nationwide. They currently are implemented, for the most
15 part, on the East Coast voluntarily and they have pretty
16 strict training prerequisites set out before members can
17 be -- participants can be part of the disentanglement
18 network, or the other alternative is to modify those
19 disentanglement guidelines prior to implementing them.

20 And, finally, Biomonitoring: Again, a no action
21 and the status quo. Some kind of modification of the
22 activities that are currently permitted, including no health
23 assessment captures or no tissue banking or the issuance of
24 the new permit that would include current and new foreseeable
25 projects under biomonitoring research.

1 I think I should stress that there are -- we're
2 presenting you a lot of alternatives, and we recognize that
3 not all of them are good ideas. They're not all feasible,
4 they won't all work; and, therefore, we're requesting
5 information from you to help us narrow it down a little bit
6 and kind of focus our scope.

7 So, the specific information that we're requesting
8 from the public kind of falls into these three categories,
9 and the first is to identify environmental concerns. I've
10 presented you with those six kind of major groups of activity
11 that we've identified, but if you see anything else that is
12 encompassed under the MMHSRP that you think could lead to
13 environmental impacts that we have not identified, we would
14 like to know what that might be. And, also, anything that
15 you have concerns about -- environmental concerns about with
16 the activities of the program and both direct, indirect, and
17 cumulative impacts.

18 The second is to help us define the alternatives
19 and potential mitigation measures. So, we've presented a
20 whole bunch of different alternatives and we would like to
21 focus our analysis and only look at a few of them. And, so,
22 we need input from the public to help us determine which of
23 those are actually feasible alternatives.

24 And, third, to make necessary modifications to the
25 interim policies, we are also seeking comments on all of the

1 documents that are currently out as interim events.

2 So, here are some of the major categories under
3 which we're really looking for specific information, and
4 these are specific questions we are asking:

5 Types of Activities: What sort of activities
6 should be conducted on the local, on the regional, and on the
7 national levels in response to stranded animals, in response
8 to entangled animals, sick, injured, et cetera, how do those
9 break down.

10 Are there critical research or management needs
11 that we can meet through stranding investigations, through
12 rehabilitation, disentanglement, or health-related research
13 and biomonitoring activities? And are we currently meeting
14 those critical research or management needs and, if not, what
15 needs do you see that we could be meeting and what should be
16 done -- what should we be doing in order to meet them.

17 The level of response effort, that question of
18 should we somehow divide or partition our response. So,
19 should there be different standards or levels of effort for
20 the different species or groups of species? If so, how
21 should we go about setting those levels or standards and how
22 should we think about dividing species. And, again, these
23 are kind of three that we're proposing for discussion, but if
24 you have other ideas...

25 And then organization and qualifications. So, in

1 your opinion, is the current organization of the national
2 stranding and health assessment networks adequate on the
3 local, state, regional, ecosystem, and national levels; and
4 what changes could you envision that would make the
5 organization more effective. Although we are mandated to be
6 collecting this data, there is nothing in the law that tells
7 us how we have to go about doing it and, therefore, we do
8 have a little bit of latitude to make changes if they're
9 necessary. And what should the minimum qualifications of an
10 individual or organization be prior to becoming a holder of a
11 stranding agreement or disentanglement participant, and this
12 goes back to the minimum qualifications document and
13 essentially your assessment of that document.

14 But then, also, what about the requirements for
15 continued participation in the networks? In other words,
16 once you've received a stranding agreement, what should
17 you -- what should we expect an organization do in order to
18 maintain that agreement? Should there be a certification or
19 licensing process or required training, continuing education
20 credits, something along those lines?

21 And then the effects of the activities. So, are
22 public and animal health and safety needs currently addressed
23 adequately by the MMHSRP; the release criteria as proposed,
24 are they adequate to protect wild populations from introduced
25 diseases and other concerns; are there any potential

1 environmental impacts that we have not identified; and can
2 you think of any other relevant issues or data that we should
3 consider in our analysis and, if so, then we ask you to
4 please provide us a -- the data or a reference for the data.

5 That concludes the formal presentation of our
6 proposed EIS. So, we're now going to take oral comments.
7 The oral comment period is a time for you, the members of the
8 public, to make a statement that will be captured on the
9 record and then included in our -- in our document as far as
10 public comments and our response to those comments. It's
11 not -- it's not a -- a forum for discussion. So, in other
12 words, we're not going to respond to your oral comments today
13 here; although they will be responded to as part of the EIS.
14 Once we finish with the formal oral comment period, we will
15 adjourn the official meeting and turn off the court reporter,
16 and then we can have an informal question and answer session
17 if there's any burning issues that haven't been answered.

18 So, if you wish to give an oral comment, we ask
19 that you sign in at the table. We just have, I think, two
20 sign-ups so far. If anyone else is interested, please let us
21 know. We have stated a 4-minute time limit, but that could
22 be a little bit flexible. And, again, we want to stress that
23 it's being recorded for an accurate and complete record of
24 your comments.

25 If you don't feel like making a statement, you can

1 hand in written comments which will -- which will be treated
2 the same way as an oral comment. And your options are to
3 hand them in today, to take one of our comment sheets and
4 write on that and turn that in later or today, and/or submit
5 written comments before the end of February either by mail,
6 by E-mail, or by fax; and all of these addresses are also
7 available on the handouts and in the Federal Register notes.

8 So, the additional information: Those documents,
9 again, as I said, are available for review at public
10 libraries. They're at one library in each city where we're
11 giving scoping meetings. So, there's one here at the Seattle
12 Public Library; it's also available on our Web page for
13 download; and then to receive copies in the future of our
14 draft and final EIS's, you can either register here or check
15 the Web site where we'll be posting copies of them.

16 All right. We probably don't need a break, but we
17 would like to thank you for your participation. The public
18 input is extremely important to us as we're developing the
19 EIS, and I think now we'll take comments.

20 And I would ask that if you're going to make a
21 comment, to come to the front to that we can make sure it
22 will be captured.

23 MEETING PARTICIPANT: The slides will be on the Web
24 site, too?

25 MS. WILKIN: Yes. Yeah, this slide show will also

1 be available on the Web site since we modified the
2 alternatives for you.

3 Okay. So, we had two sign-ups for oral comment,
4 which are David and Nathan. So, David, do you want to start?

5 MR. BAIN: I need just a few more minutes to get
6 organized --

7 MS. WILKIN: Okay.

8 MR. BAIN: -- and then I'll be ready to go.

9 MS. WILKIN: Are you ready?

10 MR. PAMPLIN: Okay.

11 MS. WILKIN: All right. And, if you'd, please,
12 introduce yourself and your affiliation.

13 MR. PAMPLIN: Hello. My name is Nathan Pamplin.
14 I'm a biologist with Makah Fisheries Management in Neah Bay,
15 Washington. I appreciate the opportunity to comment and
16 welcome the -- the efforts that go into an EIS. I can -- I
17 can appreciate that firsthand.

18 The first thing I'd like to start with -- and I'll
19 be kind of hitting on -- on a variety of topics -- but the
20 first topic is -- is the effect of one of the resources that
21 you've identified and just to give some additional attention
22 to, and that is of treaty rights.

23 Native Americans have been utilizing stranded
24 animals for thousands of years for both subsistence and
25 cultural purposes and encouraged to recognize not only wi thin

1 the -- the reservation boundaries but also access to those
2 resources within the usual and accustomed hunting and fishing
3 areas recognized in -- in a number of different court cases
4 but, in particular, the Bolt decision; ensure that the
5 participants in the stranding network understand that Native
6 Americans have access and -- and rights to the stranded
7 animals as well as allowing both cultural ceremonial
8 subsistent practices to continue as well as gathering the
9 scientific data. Both can be done. There's been numerous
10 examples throughout the United States for both cultural
11 practices and -- and scientific practices can go hand in hand
12 and both can learn a lot from each other. But just to
13 encourage, also, that if -- if samples are removed from the
14 site, et cetera, for scientific purposes, that -- that
15 knowing the stranding agency does a good job trying to make
16 sure that the tribe has access to those sites once the
17 scientific sampling is -- is completed.

18 On a -- a completely separate topic, talking about
19 the rehabilitation of marine mammals, I'm also concerned with
20 what was kind of brought up as far as how to -- how to spend
21 limited competitive federal funds. I think as far as
22 separate NGO's or nonprofits that are involved in -- in rehab
23 of marine mammals and following the standards that are set up
24 by knowing they can do that, that's fantastic; but as far as
25 under the grant program and things like that, the federal

1 funds should probably be targeting species that are either
2 depleted or -- or listed under the ESA. Also, I felt that
3 the -- the rehab guidelines that were put out on the Web site
4 should hopefully be kind of the minimum standards just as far
5 as concerns on releasing animals that have acquired a new
6 disease being in rehab, et cetera.

7 With that, though, I recognize that by avoiding
8 essentially some of the -- the federal funded rehab of
9 recovered species -- I mean, No. 1, recovered species are
10 going to be the most frequent species to strand, and the
11 public wants the stranding network to act and respond to
12 these animals; and, so, I think along with this needs to come
13 a lot more public education. I know that's something that's
14 thrown out a lot. That's something that -- that really could
15 be put into as far as the planning of how -- how money is
16 spent in terms of why is it that NOAA is not going to respond
17 to a recovered species, et cetera, and as well as provide
18 funding for the stranding network participants to have
19 education programs as well for within their -- their areas
20 that they're operating.

21 Another completely separate shift, I would
22 appreciate seeing that summaries are presented of strandings,
23 and particularly of cetaceans -- mainly baleine whales and
24 sperm whales, but also even small odontocetes under the
25 international convention of the regulation of whaling. Other

1 countries are providing information on stranding. It seems
2 like the U.S. doesn't at IWBC -- or we do, but it's like from
3 2001 as more recent years, and it would be good to
4 incorporate at least a previous calendar year's data every
5 year for the meeting just to show that we're on par. And
6 that's important both in the environment subgroup as well as
7 during the main commission meetings when they have the annual
8 report for that country, it's important to be in compliance
9 with the -- the international convention.

10 Last thing as far as the Level A data form, I would
11 encourage -- and I think a lot of stranding participants are
12 doing this, anyway, but probably make it a requirement on the
13 Level A form is to do photo ID shots on particular baline
14 whales or small odontocetes or killer whales, et cetera, on
15 dorsal patches as part of the routine Level A data. And, so,
16 hopefully that's four minutes. Okay. Thanks.

17 MS. WILKIN: Thank you.

18 MR. BAIN: Okay. I'm David Bain. I have a number
19 of profession affiliations, but I'm speaking on my own for
20 now.

21 Let's see. I think we need to think about probably
22 three different things: conventional stranding of an animal
23 on a beach, and entangled animals were mentioned; but we also
24 from time to time get misplaced animals where you have
25 orphaned individuals or animals that are far outside their

1 range and they're not really stranded but human intervention
2 may well be in the best interest of those individuals.

3 We've heard some discussion of trying to limit
4 treatment to individuals directly impacted by humans. So, if
5 you have an animal with a gunshot wound, it's kind of obvious
6 that human factors were involved; but I would also like to
7 point out there can be indirect effects. For example, human
8 activities might separate a young animal from its mother and
9 that separated animal may not be able to take care of itself
10 and by the time it hits the beach, the record of that human
11 impact is missing.

12 There can also be cryptic factors such as exposure
13 to toxic chemicals, ingestion of plastics or things like that
14 that won't be obvious to somebody on the beach but may be
15 indicative of human factors contributing to the stranding.

16 I think one thing the status quo does not do well
17 is allow research with stranded individuals. There's some
18 things that are well taken care of, like archiving tissues,
19 but there are other things like studying hearing ability that
20 unless somebody has a permit to study hearing in that
21 particular species in stranded individuals, it can't be done;
22 and I think it might be good to have more flexibility. So,
23 if somebody has a research technique that's determined to be
24 humane and, you know, suitable for use on marine mammals and
25 the attending veterinarian determines it won't affect the

1 likely outcome of the individual being cared for, that the
2 research should be allowed to go ahead.

3 I think there could also be a lot more work done to
4 facilitate collaboration between people who specialize in
5 research and people who specialize and work with stranded
6 animals.

7 I'd like to emphasize the importance of isolating
8 stranded animals that may be released from terrestrial
9 diseases so that we don't introduce new diseases into the
10 wild. Also, I would like to see more emphasis on postrelease
11 follow-up than what we saw in the presentation here.

12 As far as the qualifications of individuals, I
13 think we need to recognize that in the rehabilitation program
14 there are lots of different kinds of individuals. There's an
15 attending veterinarian who is there a limited amount of time
16 and making decisions on, you know, diagnosing diseases and
17 determining what medication to present; but there also are
18 more managers who are there, you know, say, eight hours a day
19 and would be directly supervising care much of the time; and
20 then there's also volunteers that do a lot of the hands-on
21 things and they may be involved in feeding stranded animals
22 and that sort of thing, but don't necessarily need the
23 expertise to do a lot of decision making.

24 The physical plant needs to be adequate so the
25 animals are well cared for and while they're being cared for,

1 and as I mentioned before, they need to be isolated from
2 exposure to terrestrial disease factors.

3 On the safety side, it seems like people should
4 have training in working in the physical environment they'll
5 be in, whether it's in water dealing with entanglement or,
6 you know, rocky shorelines or sandy beaches, you know, the
7 way you need to behave.

8 One of my stranding responses was in quicksand,
9 which was an interesting situation to be involved in.

10 Also, they need to be informed about the risk of
11 injuries. They need to know, you know, how much you have to
12 worry about from the teeth and how much you have to worry
13 about from the tail and injuring your back by lifting
14 something too heavy and all those sort of things. They need
15 to be advised about zoonoses and diseases that can be
16 transmitted between people and animals and steps they should
17 take to prevent that, and I think there should also be some
18 safety training in transport mechanisms. I've been involved
19 in some responses where people haven't driven appropriately
20 or, you know, being in the back of a truck with an animal
21 raises safety issues that are different than what we might
22 experience in a tank or a pool.

23 Let's see. I think it would be good to expand
24 disentanglement programs to try to coordinate the
25 disentanglement efforts with gear design. So, if there are

1 problems that make gear especially hard to get off animals,
2 maybe the gear itself could be redesigned to be easier to
3 remove. It would also be good to facilitate risk -- or
4 identify risk factors so that, you know, a particular gear
5 design more likely to entangle animals than others, that
6 modifications could be made.

7 I'd like to see a consideration of changing the
8 Prescott program from people making proposals about what they
9 will do in the future to being more rewarded for past
10 achievement. So, if somebody has a track record of
11 successfully responding to strandings that, you know, they
12 should get funding based on that as opposed to saying I want
13 to go out and buy a truck or I want to go out and, you know,
14 buy new dissecting knives; that, you know, once they've
15 demonstrated they know what they're doing, you have to say,
16 "Okay. Do what you need to do and tell us how you spent the
17 money."

18 I think data-access policies and sharing -- or
19 data-access policies and also sharing care protocols in -- in
20 things like formulas for feeding young animals is an area
21 that deserves a lot of attention. And another thing that
22 would be good to have is a database of stranding response
23 personnel and what their experiences are so that if you need
24 somebody that has experience in working with beached whales
25 or, you know, working with calves that your particular staff

1 doesn't have at that time, then you can just look in the
2 database and go, you know, this organization has somebody and
3 we might be able to borrow them to match our expertise to our
4 needs at the moment.

5 And another thing that might be good to look at at
6 this time is thinking about moving from being volunteer based
7 to getting people who are going to do stranding response as a
8 career. So, you know, start paying people more and also
9 start treating them like professionals so that, you know,
10 they'll be going to professional meetings and they'll be
11 going to in-service training and those sorts of things. And,
12 obviously, that will cost money, but, you know, it may be
13 having well-trained people and people that know they're in
14 this for the long run rather than, you know, for the next few
15 months, and then it depends on whether the next grant comes
16 through whether they'll still be doing that or they'll be
17 going back to real life afterwards, I think improve the
18 quality of the people involved and improve maybe the
19 effectiveness of the stranding program.

20 When we start thinking about discriminating amongst
21 species, we should be thinking about whether we can
22 extrapolate results from one species to another. So, for
23 example, the blood values in one species tell us something
24 about blood values in another species or what the norms are.
25 We should also be thinking about the value of the experience.

1 So -- and, you know, maybe there's no real need to
2 rehabilitate and reintroduce harbor seals as a way of
3 maintaining the population, but the experience with the
4 harbor seals may be quite valuable for dealing with
5 threatened or endangered Steller sea lions and similarly you
6 may have bottle-nosed dolphins that are quite common and you
7 don't necessarily have a need to release them but, you know,
8 maybe you would have an endangered killer whale and what we
9 learn from working with other species may turn out to be
10 quite important. And we've also seen how quickly the status
11 of the species can change. You know, you get a morbilli
12 outbreak and all of a sudden you've lost 50 percent of your
13 population. So, what once was a population well above OSP
14 could, you know, a year later be well below OSP.

15 And then another important thing about working with
16 what we might think of as a low-priority species is
17 technology developments. So, if you're trying to figure out,
18 you know, how do you get food into a calf, you know, with the
19 least amount of stress, you can, basically, work on those
20 sorts of things with calves of other species and then you've
21 got a high priority species to take care of.

22 I think coastal zone management may need a bit more
23 consideration and there are lots of different types of
24 shoreline and, you know, the policies for how you deal with
25 strandings may be different depending upon whether it's

1 private land or state land or county land or tribal lands and
2 so on. So, making sure that people know which is which and
3 what the rules are and, you know, what the range of rules
4 should be, you know, those different types of categories.

5 Another thing that we need to think about in -- in
6 this area especially is a lot of the carcasses we're dealing
7 with may be toxic waste even before animals are euthanized;
8 and when we're dealing with carcass disposal, that needs to
9 be taken into consideration. And then as far as the
10 alternatives to consider that may be eliminated from further
11 study, I encourage eliminating all of them. And I guess I
12 won't take any more time to go into that right now but follow
13 up with written comments later.

14 MS. WILKIN: Is there anybody else who has been
15 inspired or would like to contribute?

16 All right. In that case, thank you-all for coming;
17 and we'll adjourn the formal public meeting at this time.

18 (Whereupon the meeting was concluded at 3:18 p.m.)
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1 CERTIFICATE

2 .
3 I, Karen M. Kane, do hereby certify that
4 pursuant to the Rules of Civil Procedure, the witness
5 named herein appeared before me at the time and place
6 set forth in the caption herein; that at the said
7 time and place, I reported in stenotype all testimony
8 adduced and other oral proceedings had in the
9 foregoing matter; and that the foregoing transcript
10 pages constitute a full, true and correct record of
11 such testimony adduced and oral proceeding had and of
12 the whole thereof.

13 .
14 IN WITNESS WHEREOF, I have hereunto set my
15 hand this 12th day of February, 2006.

16 .
17 .
18 _____
19 Karen M. Kane Commission Expiration

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National Marine Fisheries Service
MARINE MAMMAL HEALTH & STRANDING RESPONSE
SCOPING MEETING
February 1, 2006
U.S. Fish & Wildlife Service
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Anchorage, Alaska

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PROCEEDINGS
(Anchorage, Alaska - 2/1/2006)

MS. HOWLETT: I'd like to welcome everybody to our scoping meeting for our Marine Mammal Health and Stranding Response Program EIS. My Name is Sarah Howlett I'm with the MMHSRP, I'm a biologist and we have Sara Wilken who is also a biologist with the MMHSRP. Doctor Janet Waley who is the National steering coordinator. And we also have Eliree Jensen who is the Alaska Regional steering coordinator.

So the purpose of today's meeting is to allow for the early public notification of a proposed Federal action or actions. And this meeting will just give NMFS the opportunity to present to the public our proposed action and to gain some insight on the range of issues that should be covered in the EIS. This is our fifth scoping meeting on the West Coast, we've been in California, Honolulu, and Seattle. And then we continue on to St. Petersburg, Boston and then Silver Spring.

So the agenda for our meeting, the information on scoping, we'll have a background on the National Environmental Policy Act process, an overview of the Marine Mammal Health and Stranding Response Program, a review of the proposed actions and alternatives for our EIS and the public comment period. So we ask that you please sign up at

1 the registration table to present your oral comments. And if
2 you haven't you can also do it later after you've seen our
3 presentation. Written comments may also be turned in today,
4 if you have prepared ones we can take them we also have a
5 written comment form that you can take with you as well. And
6 just to let you know that today's meeting is being recorded
7 by a court reporter.

8 So the National Environmental Policy Act.
9 The purpose of NEPA, this is straight from the act itself, is
10 to encourage harmony between man and the environment, to
11 promote efforts to prevent or eliminate damage to the
12 environment and to enrich man's understand of important
13 ecological systems and natural resources. The requirements
14 of NEPA, NEPA requires any agency that is going to propose a
15 Federal action to assess the potential environmental impacts
16 of the action and they must consider the environmental
17 consequences during decision making to reduce, prevent or
18 eliminate environmental damage. And NEPA also requires
19 public involvement in different phases of the EIS. And it's
20 important to know that NEPA does not dictate the decision
21 that will be made by NMFS but it just helps to inform the
22 decision-making process.

23 So why are we preparing an EIS? There are a
24 list of factors that NOAA must consider when they are
25 proposing an action and this list will determine if a EIS is

1 necessary. So these are the ones that we feel apply to our
2 EIS. That is the Federal action maybe subject -- a subject
3 of significant public controversy based on potential
4 environmental consequences. It may have uncertain
5 environmental impacts, it may establish a precedent and
6 principle about future proposals, it may result in
7 cumulatively significant impacts or it may have adverse
8 affects on threatened or endangered species or their
9 habitats. The benefits of preparing this EIS.
10 It will allow for a programmatic analysis of the MMHSRP the
11 current activities and the future activities. It will allow
12 for the assessment of the cumulative impacts of the current
13 and future activities of the program and it will eliminate
14 the need to conduct individual NEPA analysis on each of the
15 individual activities.

16 Why is NMFS doing an EIS now? The current
17 Marine Mammal Protection Act and Endangered Species Act
18 permit that is issued to the MMHSRP will expire June 30th of
19 2007 and in order for us to obtain a new permit a NEPA
20 analysis must be done on the activities that are covered
21 under the permit. The EIS is also needed to finalize the
22 interim standards that are provided in the policies and
23 practices manual. And both the permit and the policies and
24 practices manual will be talked about by Sara in a few
25 minutes.

1 What are the components of an EIS? The
2 purpose and need is just a statement detailing why the
3 action is being considered. The proposed action and
4 alternatives to the proposed action are also covered. The
5 affected environment which basically covers resources that
6 may be impacted by the proposed action. Potential
7 environmental consequences and mitigations to these
8 consequences and also consideration of public input.

9 This is a list of environmental resources
10 that are typically considered in an EIS and those that we
11 feel are important area are protected species, water quality,
12 human health and safety, treaty rights and cumulative
13 impacts. It doesn't mean that the other won't be covered in
14 our EIS but these are just the main ones. The EIS process,
15 the notice of intent or the NOI was published in the Federal
16 Register December 28th and that actually began our formal
17 scoping process. Our scoping process will wrap up in
18 February and comments are due February 28th. The draft EIS
19 will be published and once the draft EIS is published there's
20 a 45 day comment period and we will also have public meetings
21 as well. The final EIS is published and 30 days after the
22 final EIS a Record of Decision is issued and this is just a
23 document that says what the agency decided upon and how they
24 came to those conclusions.

25 Public input opportunities, obviously you're

1 participating today in our scoping meeting and we recommended
2 that you, you know, identify any issues and please comment on
3 them by oral or written. Sign up on our mailing list to
4 receive the draft EIS, the final EIS and any other
5 information that we may give out. Review and comment on the
6 draft EIS, participate in a public hearing and also review
7 the final EIS.

8 So this is our tentative schedule for our
9 EIS. As I said scoping will be finished at the end of
10 February. The draft EIS will be complete by September of
11 this year. Public hearings in November of 2006, the final
12 EIS should be completed by May of 2007 with the ROD being
13 issued in June of 2007.

14 So I'll pass this over to Sara for the rest
15 of our presentation.

16 MS. WILKEN: All right. So Sarah's told you
17 kind of NEPA in general and I'm here to tell you more about
18 our EIS and what exactly we're planning -- proposing to do.
19 So just first a general background about the MMHSRP. It was
20 established under Title 4 which is an amendment to the Marine
21 Mammal Protection Act. And it has these three mandated
22 goals, so these are written into the statute, that the MMHSRP
23 should facilitate the collection and dissemination of
24 reference data on health and health trends of marine mammal
25 populations in the wild. That it should correlate these

1 health findings and health trends of the marine mammals with
2 environmental parameters. And third, to coordinate effective
3 responses to marine mammal unusual mortality events.

4 So, the MMHSRP then as it was -- it was
5 established in the statute and this is how it's been
6 implemented by NMFS to date. Under the overarching big
7 program there's many components to it, including the Marine
8 Mammal Stranding Network, which is a national organization of
9 agreements that NMFS has with different facilities to do
10 stranding response. The Disentanglement Network which is
11 similar to the Stranding Network but uses different partners.
12 The Prescott Rescue Assistance Grant Program which is
13 established to give financial assistance to participants in
14 the Marine Mammal Stranding Network and to scientific
15 researchers who are using tissues from stranded marine
16 mammals.

17 The unusual mortality event and emergency
18 response program, which again uses members from the Stranding
19 Network but also involves another body the working group, on
20 Marine Mammal Usual Mortality Events which acts as a
21 consulting group. The information management program which
22 is responsible for managing the information obtained by all
23 the other different aspects of the MMHSRP and finally the
24 Health Bio Monitoring Research Development and Tissue Banking
25 programs which serve as the research arm for the MMHSRP.

1 Sarah mentioned the issuance of the policies
2 and practices manual. This is what we have envisioned at the
3 current time to be issued as all together as part of one
4 manual. So these policies are for stranding agreements, both
5 the template how the agreement will be written and the
6 minimum qualifications required before a group can obtain a
7 stranding agreement. Again the minimum guidelines for a
8 rehabilitation facility and the criteria for a release
9 determination prior to releasing a rehabilitated marine
10 mammal. And then the Disentanglement Network guidelines
11 which are current implemented and essentially this form on
12 the East Coast but issuing them as part of the policies would
13 expand them nationwide.

14 Just a little bit about the permit. The
15 permit is issued to the program with Dr. Terry Rolls who's
16 the head of the program as the principle investigator. It is
17 issued jointly under the Marine Mammal Protection Act and the
18 Endangered Species Act. And probably the number one thing
19 that the permit allows is that it provides for both stranding
20 and disentanglement response of ESA listed animals. So while
21 under the MMPA we have the authority to enter into agreements
22 for stranding response there's no parallel kind of authority
23 under the ESA, so we need another mechanism to permit the
24 takes involved in stranding response, so this permit is how
25 it's done. And each of the regional coordinators is listed

1 as a co-investigator under the permit and then the authority
2 is delegated down to the facilities.

3 The permit also allows for import and export
4 so international transfer of tissues and also the analysis of
5 diagnostic tissues without needing to get a separate permit
6 for that group to do the diagnostics. And then it provides
7 for health assessment captures in populations where there's
8 a question relating to health or health trends. So these are
9 captures of what we believe to be healthy animals but in a
10 population where's there's been some kind of health question
11 like a UME or a disease outbreak or something in the past.

12 So just to give you a little bit of overview
13 of what we're -- the scope of what we're talking about here.
14 These are the total U.S. strandings for which a Level A data
15 form or basic data sheet was filled out from 2001 through
16 2004. And down at the bottom there one of the important
17 things to keep in mind we're doing a programmatic analysis so
18 looking at the activities of the stranding network throughout
19 the entire country and on a fairly significant time scale.
20 So accumulative impacts becomes kind of a big concern where
21 we're looking at you know, not just responding to one or a
22 handful of animals but responding to, for instance, almost
23 5,000 pinnipeds in one year.

24 And specifically for your region these are
25 the most recent numbers we have for Pinaped strandings in

1 2001 to '04. Dead pinnipeds, so animals that were stranded
2 and reported when they're dead. Animals that stranded --
3 pinnipeds that stranded live. And then the last category is
4 released pinnipeds which are those that were taken into
5 rehabilitation and then released from rehabilitation. And
6 again also with citation strandings, with dead, live and
7 cetaceans that were rehabilitated and then released.

8 So that's a little bit of background about
9 the program, and now a little bit more about the EIS. So
10 every EIS has a purpose and needs statement which should
11 explain relatively concisely and in plain language what it is
12 that we are trying to accomplish. So the purpose for our EIS
13 is essentially the same as the purpose for our program. And
14 that is to respond to marine mammal in distress, which
15 includes stranded animals, entangled animals and those that
16 are out of habitat. And to answer research and management
17 questions related to marine mammal health.

18 And the need, why we need to do this response
19 is threefold. And the need for our EIS, is to operate the
20 program effectively and efficiently making the best use of
21 limited resources everyone can pretty much agree across the
22 board there's never enough money to go around and there's
23 never enough time and people and effort. So our challenge is
24 to try and figure how to operate the program the most
25 efficiently using what we have. In order to collect the data

1 on Marine mammal health and health trends that we need to
2 meet our information needs and these are our information
3 needs as an agency for appropriate conservation and
4 management and eventual recovery of marine mammal
5 populations. And finally to ensure that human and animal
6 health and safety is always one of our highest priorities.

7 So the proposed action then is the issuance
8 of the policies and best practices in one manual that would
9 incorporate all of the interim documents but they would be
10 released as final guidelines. The application and reissuance
11 of a permit under the ESA and MMPA. Stranding agreements
12 would continue to be issued and renewed on a case by case
13 basis but this would take into account the policies that are
14 in the manual so the criteria would be implemented and the
15 template would be implemented. And other day to day
16 operations would continue including response, rehabilitation
17 and release determinations, but again using the criteria and
18 the policies set forth in the best practices manual.

19 So the action alternative or the alternative
20 one as listed in the FR, and I should state though, in the
21 Federal Register notice which is published on December 28th
22 we set forward a list of proposed alternatives. Since the
23 date of publication we have kind of kept on the development
24 process and thinking about it and brainstorming we've come up
25 with alternate alternatives or different alternatives that I

1 will be presenting after these. So these are the ones as
2 they were presented in the Federal Register. The action
3 alternative or alternative one, is the same essentially as
4 the preferred alternative which is the issuance of the
5 policies, the issuances of the permit and issuing and
6 renewing stranding agreements and the continuation of the
7 Disentanglement Network.

8 NEPA requires that we analyze a no action
9 alternative, which is what would happen if the government did
10 nothing or stopped doing what it's currently doing. Under
11 the no action alternative the policies and practices would
12 not be issued and the permit would not be issued because
13 those are Federal activities. However, it would also have a
14 trickle down affect in that stranding agreements would not be
15 issued when the expired and there would be no extension of
16 contracts or any kind of authorizations and no further
17 biomonitoring research activities. So essentially as these
18 agreements expired or weren't extended the network as we know
19 it right now would cease to function. And I state here that
20 this could conflict with our statutory mandates under Title
21 4 which say that we have to obtain the health information,
22 but NEPA -- actually the guidance that we've been given says
23 that we should consider alternatives even if they conflict
24 with other state mandates -- Federal mandates. Also all the
25 no action alternative would mean is that we would stop

1 implementing the program the way we currently do, but if we
2 could come up with an alternative implementation we could
3 still collect that data.

4 The status quo alternative or alternative
5 three, is what happens if we keep doing what we're doing. So
6 we would not issue the policies and practices because that
7 would be a new action. However we could keep renewing
8 stranding agreements that currently exist, we could renew the
9 permit as it's written and implemented right now. We could
10 continue our agreements with disentanglement partners that we
11 currently have and we would continue to consider new
12 applications for stranding agreements on a case-by-case
13 basis. So this would ensure that the network could continue
14 to function at it's current level, however, there are
15 concerns that we would not be able to make adaptive changes
16 to the network as new technologies came out or as new
17 partners wish to come on board and be part of the network, et
18 cetera.

19 And then alternatives that are considered but
20 maybe eliminated from further study involve restricting or
21 limiting the activities of the program in some way. So
22 either only doing biomonitoring and research and no longer
23 doing stranding response. Alternately only doing stranding
24 response, only responding to cetacean or only responding to
25 ESA listed marine mammals.

1 Okay so here's what we're here today to
2 propose as our alternate alternatives or a different way of
3 thinking about it. And that is to have a subset of
4 alternatives under different activities, we've chosen the six
5 activities shown here as kind of large categories of
6 activities that the MMHSRP does and then under each one of
7 these there would be a series of alternatives. The reason
8 we've chosen these six is because these are the ones that we
9 have identified today as having potential impacts on the
10 environment. So stranding response -- actually I should say
11 health and human safety is present in all of these. But
12 stranding response has the potential for disturbance to the
13 beach communities in both physical and biological
14 communities. Carcass disposal and euthanasia is a concern
15 because we already have carcasses that have high contaminate
16 loads and are considered a disposal hazard -- they're
17 considered hazardous waste and need to be disposed of
18 properly. And if you euthanize an animal then you have
19 euthanasia solution or chemicals than will be distributed
20 into the environment. Rehabilitation: again, health and
21 safety of especially the volunteers who are coming in -- and
22 staff who are coming into contact with the animals. Release
23 of rehabilitated animals is the concern of potential spread
24 of disease and other organisms to the wild population.
25 Disentanglement is primarily a health and human safety and

1 also a potential controversy, and then biomonitoring and
2 research activities. So each of these activities
3 will be set up with alternatives under it and then a
4 preferred alternative or a combination of alternatives can be
5 chosen from within each activity and then combined into one
6 large action. And we'll go through that in very fine detail.

7
8 So we start with the stranding response
9 activity. The alternatives under this include a no action
10 alternative, which we don't do anything and we allow
11 stranding agreements to expire which means the network ceases
12 to function at some point in the future. Status quo
13 alternative where we renew the current stranding agreements
14 that we have but don't authorize any new groups or we do it
15 on a case-by-case basis. And immediate curtailment of the
16 response so this is similar to the no action although it
17 happens on a sooner time line.

18 And then the last two on this slide are
19 recurring themes that you'll see over and over again as we go
20 through all of these. That is that we would have different
21 categories or types of response depending on the status of
22 the animal that we're responding to. And there's two ways to
23 think about it and they both tie back to the stranding
24 agreement and what is contained within in the stranding
25 agreement. So the first way is that the stranding agreement

1 would require a response to one category of animals and a
2 response to the other category or the remaining animals would
3 be what we call optional or not required in the agreement.
4 And then the second is that the stranding agreement would
5 authorize response activities to some subset of animals but
6 then the other animals would not -- you would not be
7 authorized to respond to them, which would essentially
8 prohibit response.

9 And then underneath each of these we have
10 kind of three ways that we have currently thought of kind of
11 splitting up the groups of animals between requiring response
12 to cetacean and making response to pinnipeds be optional,
13 requiring response to ESA listed animals and making response
14 to animals that are not listed be optional and species below
15 their optimum sustainable population as deemed in the stock
16 assessment report or with an unknown population level would
17 be required in species at or above OSP would be optional.
18 And again all of those go down to the response to animals
19 authorized and other animals not authorized. So these are
20 just ways of trying to break up the effort.

21 In addition we have three more alternatives
22 that are about the products, the interim documents. And the
23 first one is that a stranding agreement would be issued to
24 any applicant after review of their application materials,
25 essentially that the minimum criteria would not be

1 implemented. The second is that the criteria would be
2 implemented exactly as they are proposed right now so that
3 only applicants that meet that criteria would be issued a
4 stranding agreement. And the third is that the stranding
5 criteria under goes some kind of revision as a result of the
6 EIS process and are then implemented.

7 All right. Under carcass disposal and
8 euthanasia, again there's a no action alternative, which we
9 would allow stranding agreements to expire and animals would
10 no longer be responded to, therefore they're left on the
11 beach. The status quo alternative where we continue what
12 ever current stranding agreements are existing and therefore
13 current methods of carcass disposal continue what ever those
14 may be. Another alternative would be to require that all
15 animals were to be buried, returned to then environment.
16 Another alternative is that all animals can not be left at
17 the site but must be transported off site and then disposed
18 of by any other means, a landfill, a incinerator, towed out
19 to sea, et cetera. And then with regards to euthanasia
20 either that you know one alternative is that no animals are
21 chemically euthanized and therefore we have to come up with
22 other still humane ways of euthanasia or that chemically
23 euthanized animals have to be transported for disposal and
24 disposed of in a allowed facility. While animals that are
25 not chemically euthanized can be left on the beach, buried or

1 transported as feasible.

2 All right. And by under the activity the
3 heading of rehabilitation the no action alternative again
4 that agreements expire. Statues quo, we keep renewing
5 current agreements, immediate cessation again is the same as
6 the no action although on a sooner time line. Again with
7 partitioning effort between different groups of animals and
8 whether it's required versus optional or authorized versus
9 prohibited and then with the facility guidelines whether
10 they're implemented as proposed or modified and then
11 implemented.

12 Release of marine mammals back to the wild.
13 Again a no action alternative, status quo, all animals are
14 released so if they're not release candidates they're either
15 not taken into rehabilitation in the first place or they are
16 euthanized. Release of some animals and not release of
17 others, broken up in a couple different ways. And then the
18 release criteria either implementing them exactly as proposed
19 or modifying them and then implementing.

20 Disentanglement, again no action and status
21 quo. And then partitioning as where some -- disentanglement
22 of some animals would be authorized under the permit and
23 other would not be. And then the implementation of
24 disentanglement guidelines this would be nationwide and would
25 involve training prerequisites prior to participation in the

1 Disentanglement Network or the modification of the
2 disentanglement guides and then implementation.
3 And finally biomonitoring. The no action
4 alternative, the permit would be allowed to expire and
5 therefore biomonitoring activities would cease. Status quo
6 we renew the permit and continue those activities that are
7 currently existing. One thing to limit would be no more
8 health assessment captures, so biomonitoring would still
9 continue but only through tissues from stranded animals by-
10 caught animals and animals from subsistence hunts.
11 Alternately no tissue banking so that tissues would be used
12 -- the tissue bank, marine mammal tissue bank as we know it
13 would end and any tissues collected would be used in
14 immediate analyses and that would preclude the ability to do
15 retrospective studies in the future. Or the issuance of a
16 new permit with both current and new foreseeable research
17 projects, essentially allowing biomonitoring activities to
18 continue and even expand.
19 All right. So under each of those activities
20 there's a pretty wide range of alternatives and we are
21 seeking input from you the public to assist us in a couple of
22 different ways as we proceed with the analysis. The first is
23 to identify environmental concerns, I put forward those six
24 activities as activities which we have seen have the
25 potential to have impacts on the environment. If you can --

1 if you see any other activities that we have that also have
2 the potential, if you could identify those that's one thing
3 we're requesting. And also is concerns with direct, indirect
4 and accumulative impacts of the MMHSRP on kind of a national
5 scale.
6 The second is to help define the alternatives
7 and potential mitigation measures, so we've proposed a wide
8 range of alternatives under each of the activities and we
9 understand that not all of those alternatives are feasible or
10 even necessarily a good idea. And we're asking for public
11 input to help us kind of limit the range of alternatives that
12 we actually consider in depth. And assist us to reject some
13 of them. And then the third thing is to make necessary
14 modifications to the interim policies, so as part of this
15 process we are also asking for your comments on all of the
16 interim documents that are proposed and whether editorial in
17 scope or kind of broader.
18 So here are some of the specific questions
19 that we're asking. And the first heading is types of
20 activities, so in your opinion, personal, professional, as an
21 organization, as a government agency. What sort of
22 activities should the MMHSRP be conducting on a local,
23 regional and national level in response to stranded and
24 entangled, sick, injured and other marine mammals in
25 distress, and how should those activities differ. And are

1 there critical research or management needs that may be met
2 by doing stranding investigations, by doing rehabilitation,
3 by doing disentanglement or by doing this health related
4 research and biomonitoring. If there are these needs do you
5 see that they are currently being met, or if not what needs
6 can you identify that are not currently being met and what
7 can we do in order to meet them.

8 The next category is the level of response
9 effort and should there be different standards or levels of
10 effort for different species or groups of species. So under
11 each of those activities it was proposed that we partition
12 our effort or restrict our effort in some way. So the first
13 question is, is that a good idea just in general? If so, how
14 would you advise NMFS to set standards or levels or effort
15 and how would you like to see species divided? So these are
16 some that we've come up with, cetacean, pinnipeds, ESA
17 listed, non-listed or somehow based on their population
18 status, if you have other ideas those would be appreciated.

19 The next main category is about organizations
20 and qualifications. So participates in the Stranding
21 Network. And the first is, is the current organization of
22 the National Stranding and Health Assessment Networks
23 adequate and this is at the local, at the state, at the
24 regional, at the ecosystem and at the national level. What
25 changes do you see that would make the organization of the

1 MMHSRP more effective? The next question has to do with the
2 minimum qualifications, interim document. Which is that,
3 what should the minimum qualifications of a individual or
4 organization be, prior to becoming a stranding agreement
5 holder or disentanglement participate? In other words, do
6 you think the minimum interim document as proposed is
7 adequate or should it be changed and if so, how?

8 And then what about the requirements for
9 continue participation in the network. Once you have
10 obtained a stranding agreement, what if anything should we
11 ask of you in order to maintain it? Should there be
12 certification or licensing process? What about required
13 training or continuing education credits or something
14 similar? And the effects of the activities of the MMHSRP are
15 public and animal health and safety needs currently
16 adequately addressed by the program? Are the current release
17 criteria as proposed adequate to protect wild populations
18 from introduced diseases? Are there any other potential
19 environment impacts that we have not identified resulting
20 from any of the activities conducted under the program? And
21 are there any other relevant issues or data NMFS should
22 consider in this analysis? And if you have other
23 information, if you could provide or a reference for it that
24 would be useful.

25 All right. That concludes the formal

1 presentation that we're giving you. The next part of the
2 process is oral comment period which is a formal comment
3 given from you to NMFS, it's not a question and answer
4 session, in that we will respond to comments as part of the
5 EIS document, but we will not respond to them today. But if
6 you have comments if you want to sign in and let us know your
7 name and affiliation. You'll have four minutes which is
8 flexible if there's not very many of you. And just to stress
9 that the meeting is being recorded so that we'll have a
10 complete record of your oral comments. Oral comments and
11 written comments hold the same weight in that they all get
12 treated equally, so with written comments your options are to
13 hand them in today if you have prepared comments, to take one
14 of our comment sheets over there and fill it out and then
15 hand it in later either today or later. Or submit them on a
16 sheet or typed up separately however you want, by mail, email
17 or by fax. And all of these addresses are available in the
18 FR notice in the handouts and on our website. And comments
19 are due at the end of February.

20 Additional information is available regarding
21 our EIS it's available for review at public libraries,
22 there's one in each city where we're having a scoping
23 meeting, so there's here, the public library in Anchorage has
24 a copy of all the documents, for instance, and any other
25 additional information. And we will be maintaining those

1 through the process so the draft EIS, for instance, will also
2 be housed there and a final copy. It's also available for
3 download on our web page, listed at the bottom. And then if
4 you want to receive a copy of the draft EIS when it's
5 published if you register on our mailing list here or you can
6 check the website.

7 And we'd like to thank you for your
8 participation. Is there anybody who wants to make a comment?

9 (No responses)

10 MS. WILKEN: Anyone at all?

11 (No responses)

12 MS. WILKEN: All right then that will

13 conclude the formal portion of our meeting.

14 (Off record)

15 (END PROCEEDINGS)

1 CERTIFICATE

2

3 UNITED STATES OF AMERICA)

4)ss.

5 STATE OF ALASKA)

6

7 I, Joseph P. Kolasinski, Notary Public in and for the
8 state of Alaska, and reporter for Computer Matrix Court
9 Reporters, LLC, do hereby certify:

10 THAT the foregoing Scoping Meeting for NMFS was
11 electronically recorded by Nathan Hile on the 1st day of
12 February 2006, in Anchorage, Alaska;

13 That this hearing was recorded electronically and
14 thereafter transcribed under my direction and reduced to
15 print;

16 IN WITNESS WHEREOF, I have hereunto set my hand and
17 affixed my seal this 12th day of February 2006.

18

19

20

21

22

23

Joseph P. Kolasinski
Notary Public in and for Alaska
My Commission Expires: 3/12/08

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MARINE MAMMAL HEALTH AND STRANDING RESPONSE PROGRAM
ENVIRONMENTAL IMPACT STATEMENT
SCOPING MEETING

DATE: February 7, 2006

TIME: 5:30 p.m.

PLACE: NMFS Southeast Regional Office
263 - 13th Avenue South
St. Petersburg, Florida

REPORTED BY: DANIEL J. RUSSETTE, RMR
Notary Public
State of Florida at Large

PRESENT: SARAH WILKINS
SARAH HOWLETT

Pages 1 through 31

MORGAN J. MOREY & ASSOCIATES

1 MS. HOWLETT: We're going to start our meeting
2 today. I'd like to welcome everybody to the scoping meeting
3 for the Marine Mammal Health and Stranding Response Program
4 Environmental Impact Statement. My name is Sarah Howlett,
5 and I'm here with my colleagues, Sarah Wilkin and Trevor
6 Spradlin, and we're from the Office of Protected Resources
7 in Silver Springs. And I'd also like to introduce Mike
8 Payne, who is the chief of the Marine Mammal and Sea Turtle
9 Conservation Division. And we also have, from the Southeast
10 Region, we have Laura Engleby, Vicki Cornish and Blair
11 Mase-Guthrie, who is the Regional Stranding Coordinator.

12 So the purpose of our scoping meeting today is to
13 allow for the early public notification of a proposed
14 federal action or actions. And this just provides the
15 National Marine Fisheries Service, NMFS, the opportunity to
16 present you, the public, the proposed action. And we also
17 are seeking input on the scope of our EIS or the range of
18 issues that will be covered in our EIS.

19 This is actually our sixth scoping meeting. We
20 had five on the West Coast within the past two weeks. Two
21 in California, one in Honolulu, one in Seattle and one in
22 Anchorage. And after today's we go to Boston, and then we
23 will have one in Silver Spring as well. So our agenda for
24 today's meeting is providing information on scoping. I will
25 also be providing background on the National Environmental

MORGAN J. MOREY & ASSOCIATES

1 Policy Act process. And Sarah will be giving the overview
2 of the MMHSRP program as well as a review of the proposed
3 actions and alternatives for our EIS. And we'll also have a
4 formal public comment period.

5 So we please ask that you sign in at the
6 registration table. If you'd like to be on a mailing list
7 or if you would like to make an oral comment today. Also we
8 will be accepting written comments today. If you have
9 brought them you can give them to us. Or we also have a
10 written comment form you can take with you. And also
11 today's meeting is being recorded by a court reporter to
12 keep our record.

13 So the National Environmental Policy Act process.
14 The purposes of NEPA, this is straight from the act itself,
15 is to encourage harmony between man and the environment, to
16 promote efforts to prevent or eliminate damage to the
17 environment and to enrich man's understanding of important
18 ecological systems and natural resources.

19 The requirements of NEPA. Any federal agency
20 action that's considered a major action must be analyzed for
21 the potential environmental impacts. And this means that
22 the federal agency must consider environmental consequences
23 during decision-making to reduce, prevent or eliminate
24 environmental damage and also to provide the public time to
25 basically be involved in the EIS process. And it's

1 important to note that NEPA does not dictate the decision.
2 That will be made by NMFS. But it helps to inform the
3 decision-making process.

4 So why does NMFS prepare an EIS? There are a list
5 of factors that need to be considered to determine if an EIS
6 must be prepared, and these are just the factors that we
7 believe I guess pertain to our federal action, and that is
8 that the action could be the subject of significant public
9 controversy based on potential environmental consequences
10 and it may have uncertain environmental impacts. It may
11 establish a precedent in principle about future proposals.
12 It may result in cumulatively significant impacts. Or it
13 may have adverse effects upon endangered or threatened
14 species or their habitats.

15 The benefits of this EIS. It will allow for a
16 problematic analysis of the MMHSRP. The current and the
17 future projects that may fall under it, it will allow for an
18 assessment of cumulative impacts of the actions and it will
19 eliminate the need to conduct individual NEPA analyses of
20 the programs' activities.

21 Why are we conducting an EIS now? Our current
22 Marine Mammal Protection Act Endangered Species Act permit
23 will expire on June 30th of 2007. In order for us to be
24 reissued this permit we must conduct a NEPA analysis of the
25 activities that are covered under the permit. An EIS is

1 needed to finalize the standards provided in the Policies
2 and Practices manual. And both the permit and the Policies
3 and Practices manual will be discussed a little bit later.

4 The components of an EIS. The EIS contains the
5 purpose and need, which is just a brief statement explaining
6 why the action is being considered. The proposed action and
7 the alternatives to the proposed action. The effected
8 environment or what resources may be impacted by the action.
9 Potential environmental consequences and mitigations to
10 these environmental consequences, as well as consideration
11 of public input and comments.

12 So this is a list of resources that are typically
13 considered in an EIS and those that we feel are most
14 important for our EIS. Protected species, including marine
15 mammals and threatened and endangered species, water
16 quality, health, human health and safety and cumulative
17 impacts.

18 In the EIS process the Notice of Intent or the NOI
19 was published in December and it began the official scoping
20 period for our EIS. Once that is done the draft EIS will be
21 published, and after it is published there will be a 45 day
22 comment period and a set of public hearings to gain comments
23 back from the public. The final EIS will be published, and
24 30 days after the final EIS the Record of Decision or ROD
25 will be published. And this just states the agency's

1 decision and how they came upon the decision.

2 Public input opportunities for the EIS process.
3 Tonight you are participating in a scoping meeting. We ask
4 that you can identify specific issues and submit comments
5 about those issues. You can sign up on our mailing list to
6 receive information about the EIS, including the draft EIS.
7 You can review and comment on the draft EIS. You can
8 participate in a public hearing. And you can also review
9 the final EIS.

10 So our tentative schedule for the EIS scoping will
11 be wrapped up by the end of February. The draft EIS will be
12 complete by September of this year. The comments and the
13 public hearings will be conducted between September and
14 November of this year. The final EIS will be completed by
15 May of 2007 with the Record of Decision being issued in June
16 of 2007. And here is Sarah, who will give you the proposed
17 action and alternatives.

18 MS. WILKIN: All right. So while Sarah gave you a
19 great overview of what NEPA is in the general sense, I'm
20 here to give you more in the specifics of what it is
21 exactly. So just a little bit of background about the
22 Marine Mammal Health and Stranding Response Program. If
23 you're not familiar, it was established under Title IV,
24 which is an amendment to the Marine Mammal Protection Act,
25 and there are three mandated goals and purposes. These are

1 written into the statute. That the MMHSRP is to facilitate
2 the collection and dissemination of reference data on health
3 and health trends of marine mammals and wild populations.
4 And then to correlate the health and health trends that it
5 has collected to environmental parameters. And then, third,
6 to coordinate effective responses to unusual mortality
7 events of marine mammals.

8 So while the act established the program NMFS has
9 implemented the program in this way by having many different
10 components. All these are kind of subprograms under the
11 umbrella of the Marine Mammal Health and Stranding Program.
12 These include the Marine Mammal Stranding Network, the
13 Marine Mammal Disentanglement Network, the John H. Prescott
14 grant program, which awards financial assistance to
15 stranding network members and scientific researchers
16 utilizing tissues collected from stranded animals. The
17 Marine Mammal Unusual Mortality Event and Emergency Response
18 Program, which, again, incorporates many of the people from
19 the stranding network as part of the response but also
20 involves an advisory group called the Working Group and
21 other outside partners. The Information Management Program,
22 which is charged with managing and collecting and actually
23 disseminating the data that's collected by all of the other
24 components of the program. And then the Marine Mammal
25 Health Biomonitoring, Research, Development and Tissue

1 Banking Program, which is kind of the broad, overreaching
2 research arm of the MMHSRP.

3 The interim policies, which we've discussed, are
4 currently available for your review. And these are the
5 following five policies, which are mostly aimed at the
6 stranding network but also include the Disentanglement
7 Network guidelines. So there is an interim Stranding
8 Agreement template, which is the template language of how
9 stranding agreements are going to be issued between NMFS and
10 facilities. The Stranding Agreement minimum qualifications,
11 which are the qualifications necessary to attain a Stranding
12 Agreement in the first place. Rehabilitation facility
13 guidelines, which are the minimum requirements for a
14 facility to be doing rehabilitation of marine mammals. And
15 the release criteria that should be fulfilled prior to the
16 release of a rehabilitated mammal to the wild. And, again,
17 the disentanglement network, which are implemented on the
18 East Coast but we are proposing to implement them
19 nationally.

20 Just a little bit of overview on the permit. This
21 permit is issued to the program under the Marine Mammal
22 Protection Act, which is issued to Dr. Teri Rowles, who is
23 the principal investigator. She's the head of the program.
24 And what it provides for is the very important element that
25 some of you might not be aware of, which is the response,

1 both stranding, disentanglement, rehabilitation, release,
2 everything for those animals are listed under the Endangered
3 Species Act.

4 So the Marine Mammal Protection Act sets up ways
5 that allows NMFS to enter into agreements with facilities to
6 conduct stranding response and rehabilitation under
7 stranding agreements and also allows for state and federal
8 and local governments to conduct stranding response
9 activities. The ESA doesn't have any kind of comparability
10 provision, so in order to undertake these response
11 activities we actually need to be covered under a permit for
12 the Endangered Species Act.

13 So this permit is issued to the program, and then
14 the regional coordinators or co-investigators and
15 authorities, going down to the stranding responders. The
16 permit also permits import and export of tissues that are
17 collected for diagnostic purposes from marine mammals
18 stranded and rehabilitated. And also analyses of those
19 tissues. And finally -- well, actually not finally, but
20 another major component of the permit is the
21 health-assessment captures, and these are captures of
22 animals that we believe are healthy but in populations where
23 there is some kind of question about the health or health
24 trend of the population, such as in an area where there has
25 been an unusual mortality event in the past or recurring

1 mortality events. There are other aspects to the permit,
2 but these are the major ones, particularly for the EIS.

3 Just an overview of the stranding network. These
4 are the total U.S. strandings, the most recent data that we
5 have for 2001 to 2004, and these are animals for which a
6 Level A data sheet was filled out, which is our basic
7 baseline kind of data for both cetaceans and pinnipeds. And
8 this is nationwide.

9 So one thing I have down at the bottom that we're
10 really trying to consider in this EIS is the cumulative
11 impacts of the actions of the network. So while response
12 and rehabilitation to one animal or a few animals, or
13 whatever your facility might do, might not seem like a lot,
14 when you look at the entire country you see that, for
15 instance, in 2003 the response is almost 5,000 pinnipeds
16 nationwide. For you in the southeast region this is what
17 the picture looks like over the same number of years. These
18 are pinniped strandings. You notice the Y axis scale is
19 quite a bit different than the previous slide. But the
20 released pinnipeds are those that are pinnipeds that were
21 stranded live, taken into rehabilitation and then
22 subsequently released. And some of these may have been
23 transported out of the region but they were eventually
24 returned.

25 And these are the numbers for cetacean strandings.

1 Again, it is important to note the Y axis. There are a
 2 significant number of cetacean strandings in the southeast
 3 region. Most of them would be dead animals, although there
 4 were some live cetacian strandings. Some animals that are
 5 rehabilitated and released.

6 So the purpose and need for our EIS is essentially
 7 very similar to the purpose and need for the program in
 8 general. And that is to respond to marine mammals in
 9 distress, which include those that are stranded, those that
 10 are entangled and those that are out of habitat, among
 11 others, and to answer research and management questions
 12 related to marine mammal health.

13 So our need, therefore, is to operate the MMHSRP
 14 effectively and efficiently, making the best use of
 15 available and limited resources. I think one thing everyone
 16 can always agree on is there's not enough money to go around
 17 and there is not enough time and there is not enough people,
 18 and so our challenge is to try and make the best use of
 19 those resources that we can in order to operate the program.
 20 And the program needs to collect the necessary data on
 21 marine mammal health and health trends for our agency, need
 22 for appropriate conservation and management of the marine
 23 mammal species and ensure human and animal health and safety
 24 is always one of our highest priorities.

25 So this is our proposed action for the EIS. The

1 issuance of the Policies and Best Practices manual, which
 2 encompasses all those five documents that I talked about
 3 earlier, and then the subsequent implementation of those
 4 documents once the manual is issued. The issuance of a new
 5 permit to the MMHSRP which would encompass those activities
 6 I talked about earlier and potentially others. Stranding
 7 agreements would continue to be issued and renewed on a
 8 case-by-case basis, but it would be done using the templates
 9 that are part of the Policies and Practices manual. So the
 10 Stranding Agreement template and the minimum criteria. And
 11 then other day-to-day operations would continue, response,
 12 rehabilitation, research, et cetera, but, again, utilizing
 13 those policies and practices.

14 So action alternative or alternative one. Then I
 15 have, parenthesis, as listed in the Federal Register. So
 16 the Federal Register notice, which you had in front of you,
 17 or maybe you've looked at our website, was issued on
 18 December 28th, 2005. It listed a series of alternatives.
 19 And since then in kind of further discussions and analyses
 20 we've come up with a different way of framing these
 21 alternatives that I'll go into in just a minute. But for
 22 now these are the way that they were presented within the
 23 Federal Register.

24 So the action alternative is essentially the
 25 proposed action that I just stated that would involve the

1 issuance of the Policies and Practices, the issuance of the
 2 permit. Stranding agreements would continue to be issued or
 3 renewed on a case-by-case basis utilizing Policies and
 4 Practices and the disentanglement network would continue
 5 under the permit.

6 NEPA requires we consider a no action alternative,
 7 which is to say what if the government didn't do anything.
 8 So on our no action alternative Policies and Practices would
 9 not be issued and the permit would not be renewed. So with
 10 this alternative, therefore, there would be no new or
 11 renewal stranding agreements either and those agreements
 12 that currently exist would not be extended. There would be
 13 no extension of contracts or authorization for our partners
 14 in the disentanglement network and there would be no
 15 biomonitoring or research activities. Essentially as these
 16 stranding agreements continue to expire the network as we
 17 recognize it today would cease to function.

18 Now, you may know I have my conflict with our
 19 statutory mandates under Title IV of the MMPA which require
 20 us to collect health and health trend data, however, NEPA
 21 also advises us that we should assess alternatives even if
 22 they conflict with other federal laws, and the bottom line
 23 is those, the statute merely requires us to collect data and
 24 it doesn't tell us how we should go about doing it. And so
 25 this is a question of whether the current implementation of

1 the program is sufficient.

2 Status quo alternative or Alternative Three is an
 3 assessment of what would happen if we maintain the status quo
 4 or kept on doing kind of business as we're doing it now
 5 where the Policies and Practices would not be issued,
 6 current stranding agreements would be renewed as they are
 7 currently issued and the permit would be renewed or reissued
 8 as it's currently written and current research activities
 9 would continue. Current disentanglement permits and new
 10 applications would be considered on a case-by-case basis,
 11 much as they are today.

12 So what this means is the network would continue
 13 to function exactly at its current level into the future.
 14 And the problem with that is that adaptive changes in the
 15 network may be precluded from including, adding new
 16 partners, or as people drop out of the network, for
 17 instance, or adding a new research technique under the
 18 permit.

19 And then alternatives that we considered but may
 20 be eliminated from further study involve limiting the
 21 impacts of the program in some way by changing what it is
 22 that we do. So, for instance, one alternative would be to
 23 only conduct biomonitoring/research activities. Another
 24 would be to only conduct stranding response and no longer do
 25 rehabilitation or research. Another would be to respond and

1 do other activities on cetaceans only. The other would be
2 for most marine mammals. Again, these are alternatives that
3 would be eliminated from further discussion.

4 So I said that we kind of reconsidered how we're
5 thinking about these alternatives, and this is how I'd like
6 to propose you to think about them when you're giving us
7 your comments. And that is on organizing our alternatives
8 under each activity. And I have listed here six activities
9 that are kind of categories of what we do under the MMHSRP.
10 These are ones that we have identified as having the
11 potential to have impacts on the human environment.

12 So the first one listed is response. And that
13 encompasses beach response, capture of animals, transport of
14 animals, and the potential impact there includes impacts on
15 the beach and the environment, community by disturbance, and
16 also health and human safety issues are present throughout
17 all of these alternatives, but that is one. And also there
18 is the potential for public controversy.

19 The second is carcass disposal and euthanasia,
20 which has the potential for environmental impacts. And we
21 have carcasses that have undetermined or in some cases
22 extremely high loads of contaminants and toxins and other
23 chemicals that would be released into the environment,
24 depending upon the disposal. And then euthanasia as a whole
25 other suite of issues when you have animals that you know

1 have chemicals added to them and you have to consider how
2 you're going to dispose of those carcasses.

3 Rehabilitation, again, is health and human safety,
4 primarily of those volunteers that are working directly with
5 the animals. Release of rehabilitated animals is a concern
6 for the wild populations of animals that we are sending
7 rehab animals back out to and the concern for the
8 introduction of novel diseases or pathogens that the animal
9 may have acquired while in rehabilitation.

10 The disentanglement activity primarily encompasses
11 health and human safety. And then biomonitoring and
12 research activities, again, are human safety. And then some
13 other issues. Threatened and endangered species is another
14 one that comes up. So for the scoping for alternatives
15 within each of these activities a preferred alternative or
16 combination of alternatives would be selected and then could
17 be chosen.

18 And we'll go into that in detail. Starting now.
19 So under stranding response, for instance. This is the
20 first activity, stranding response. There is a no action
21 alternative, which is to say that the government does
22 nothing and allows all current stranding agreements to
23 expire, which would essentially end the stranding network at
24 sometime in the future when those expirations are reached.
25 This status quo alternative would be that those current

1 stranding agreements would continue to be renewed in
2 perpetuity so that the stranding network would continue with
3 exactly the same partners now. If a partner would choose to
4 drop out of the network there would not be another
5 organization to replace it.

6 Another alternative could be to curtail a response
7 immediately. So rather than waiting for stranding
8 agreements to expire, just decide to stop responding today.
9 And then the next two are kind of the thought process of
10 limiting our activities based on the kind of category or
11 class of animal that we're responding to. And there is two
12 ways to think about this. And both of these involve how the
13 stranding agreements are set up. And the first would be
14 that the response to some animals would be required as part
15 of the Stranding Agreement, and then response to other
16 animals would be optional, depending on whether you had the
17 resources and were able to mount a response.

18 The second one is some animals would be authorized
19 under the Stranding Agreement and response to other animals
20 would not be authorized, essentially would be prohibited.
21 And then under either of these we have a couple of different
22 ways we thought of divvying up the animals, including
23 cetaceans on one hand, pinnipeds on the other. Those
24 animals that are listed under the Endangered Species Act and
25 species that are below optimal sustainable populations is

another part of where a population value is set for a
species. So if the animal is below that level or had an
unknown status the response could be required or authorized,
and if the species was at that level or above it, then it
would be optional or prohibited.

The final three alternatives under the stranding
response activity all involve the Stranding Agreements and
how they'll be issued. So the first is the Stranding
Agreement could be issued to any applicant after review.
The second would be that the criteria, the minimum criteria
would be implemented as proposed, and, therefore, only those
applicants that meet minimum criteria will be issued a
Stranding Agreement. And the third is the criteria as
proposed would somehow be revised and then implemented.

All right. For the second activity, carcass
disposal and euthanasia. Again, we have a no action
alternative. If the stranding agreements expire then there
will be no longer a response, so carcass disposal is not an
issue, animals are left on the beach. Status quo
alternative would be that current Stranding Agreements are
renewed and current methods of carcass disposal continue,
which seems to be kind of a case-by-case and
facility-by-facility basis.

Another method of carcass disposal would be to
require all animals would be buried on site. Another, all

1 animals would be transported off site for disposal. This is
 2 kind of the opposite of the other one. And disposal methods
 3 could include landfill, incinerator, towed out to sea, et
 4 cetera. And then under the euthanasia, no animals will be
 5 chemically euthanized or chemically euthanized animals would
 6 be transported off-site for disposal and other animals would
 7 be left, buried or transported as feasible.

8 Under the activity category of rehabilitation,
 9 again, we have no action. Status quo alternative where
 10 current rehabilitation activities would immediate cease or
 11 rehabilitation, no more rehabilitation and animals would be
 12 left euthanized or translocated. Again, the idea of
 13 dividing our activities between different categories of
 14 animals and whether that's required or optional. And the
 15 last two dealing with the Rehabilitation Facility
 16 Guidelines, whether we implement them as proposed or we
 17 modify or revise them or implement the revised version.

18 Release. Again, a no action. Again, status quo.
 19 Another alternative is all animals are released, so animals
 20 are not taken into rehabilitation. Again, the alternative
 21 of dividing our effort based on categories of animals and
 22 whether that's required and optional or authorized or not
 23 authorized, and then the release criteria, whether they are
 24 implemented as proposed or modified and implemented.

25 Disentanglement. No action would be to allow the

1 contracts and agreements that we currently have in the
 2 permit to expire. So there essentially would be no further
 3 disentanglement response once that happens. Status quo
 4 where we continue current contracts in the permit but this
 5 would preclude modifications and technology and also
 6 preclude the addition of different groups into the stranding
 or the disentanglement network.

8 The question of partitioning our effort between
 9 different groups of categories, but whether it's authorized
 10 or not authorized. The implementation of the
 11 disentanglement guidelines. This, again, would be on a
 12 nationwide basis, which requires training prerequisites for
 13 those participants that wish to be part of the
 14 Disentanglement Network or the modification of these
 15 guidelines and implementation.

16 And biomonitoring. Again, no action, the status
 17 quo, and then limiting our current research activities in
 18 some way, whether that's through no health assessment
 19 captures where we would continue biomonitoring but only on
 20 tissues collected from stranded animals, by caught animals
 21 and no tissue banking, which would mean tissues could only
 22 be used for immediate analyses and there would be no future
 23 retrospective studies. Or the issuance of a new permit that
 24 would include the current and new, foreseeable projects.

25 So specific information requested by NMFS. The

1 first is to identify environmental concerns. So as we had
2 identified those six activities as kind of broad areas that
3 we thought might have some impacts on human environment. If
4 you see any other areas of the program that could have
5 impacts on environment that we have not identified, we are
6 requesting that you help us out by doing that. And also to
7 be considered, not just the direct impacts of our
8 activities, but also indirect activities and the cumulative
9 impacts.

10 The second is to help define the alternatives and
11 potential mitigation measures. I presented a whole bunch of
12 alternatives there. Not all of them are necessarily good
13 ideas. Not all of them are necessarily feasible. And we
14 would like input from the public to help us determine which
15 of those alternatives should be carried forward and actually
16 analyzed and which should be redacted without further
17 analysis as being not workable.

18 And the third is to make necessary modifications
19 to the interim policies. We have all of these policies
20 currently available in their interim form and we're also
21 taking comments on them, how they are written, whether
22 that's kind of logistical comments or typographical or
23 editorial or whatever. So these are some of the questions
24 that we're asking that you all think about when you're
25 composing your comments to us to help us determine the scope

1 of this EIS.

2 And the first is the very basic question of what
3 kind of activities should we be doing? On a local, on a
4 regional or national level, what kind of activities should
5 the program do in response to stranded, entangled, sick,
6 injured and other marine mammals in distress, and if the
7 activities should vary under each of those categories.

8 Second, are there research or management needs that are
9 critical that may be met by doing stranding investigations,
10 by doing rehabilitation, disentanglement or health-related
11 research and biomonitoring, and are we currently meeting
12 those needs? If not, what are they and how do you think
13 that the program could better meet those needs?

14 Next is the level of response effort. So I said
15 that one of our ideas for alternatives was to kind of
16 stratify the response effort in some way. And this goes
17 back to kind of making the best available use of our
18 resources. So the first question is should there be in your
19 opinion different standards or level of effort for different
20 species or groups of species? And this could be at any of
21 those different activities. If so, if you believe that
22 there could be different levels of response or effort, how
23 should we set those standards? And then the third question
24 is how should we divide the species?

25 Again, we kind of proposed the cetacean and

1 pinniped species category. Those that are listed under the
2 ESA versus those animals that are not listed. And
3 population status, whether that's figured using OSP or if
4 they are increasing or decreasing, et cetera. If you have
5 other ideas, we would welcome them.

6 Organization and qualifications. So the current
7 organization of the National Stranding and Health Assessment
8 Network, in your opinion is it adequate to meet the purpose
9 and need that I stated earlier? And this is at the local
10 level, at the state, regional, ecosystem and national
11 levels. What changes can you envision that would make our
12 organization more effective?

13 Then the qualifications. What should the minimum
14 qualification of an individual or organization be prior to
15 becoming a Stranding Agreement holder or entanglement
16 participant? This goes back to this interim policy and
17 essentially your interpretation whether you think it's
18 adequate or not. But then the next question is what about
19 the requirements for continued participation in our
20 networks? Which is once you've obtained a Stranding
21 Agreement what should we ask of you to maintain that
22 agreement every time? So some ideas. Should there be
23 certification or a licensing process? Every few years you
24 would be expected to do some kind of licensing or training,
25 required training, continuing education credits or some kind

1 of participation in NMFS training, et cetera.

2 The effects of activities. The first question,
3 are public and animal health and safety needs, are they
4 currently adequately addressed by the current MMHSRP as they
5 exist? The second question is about the release criteria
6 and whether they are adequate in your opinion to protect
7 wild populations from introduced diseases. Are there
8 potential environmental impacts from the activities of the
9 program which are broad that we have not identified? And if
10 you have any other relevant issues or data that you think we
11 should consider, we would appreciate if you could provide
12 that to us or at least give us a reference for it.

13 All right. That concludes our formal presentation
14 about our proposed EIS. And so now we start the formal oral
15 comment period. If you would like to get up and speak, then
16 we ask that you sign in at the registration table. Some of
17 you did as you came in. If you didn't and you would like to
18 give a comment based on what you've heard tonight, please
19 let us know. If there are multiple comments we might impose
20 a time limit, but I don't think that's going to be a
21 problem. And just, again, to repeat, that the meeting is
22 being recorded by a court reporter so that we have an
23 accurate and complete record of what you're saying. If you
24 don't feel up to getting up and speaking on the record
25 tonight, you have many other options for input into our EIS,

1 including handing in prepared written comments today, using
2 either -- if you have them already prepared or if you use
3 our comment sheets or submitting comments for receipt by
4 February 28th, either by mail, e-mail or fax to any of these
5 numbers which are available on the information on our
6 website on posters in the back and in this presentation.

7 And additional information, again, since one of
8 the things we're asking about is comments on these policies
9 and procedures, and since that impacts some of the
10 alternatives, those are provided for your review at public
11 libraries. There is a public library in each of the cities
12 in which we're doing a scoping meeting, including the
13 St. Pete Public Library. Also available at our website. If
14 you know of anyone who would need to receive paper copies,
15 they can let us know. And then to receive future copies for
16 the draft EIS or any other information that we might have
17 you can register here at the registration table or we will
18 be posting it on our website.

19 So we'd like to thank everyone for their
20 participation, and now we're going to open the floor to oral
21 comments. I want to stress that the comment period is kind
22 of a forum for you as the public to stand up and express
23 your opinion. It is one sided. In other words you are
24 presenting to us. And, again, we're going to have it taken
25 down by the court reporter and we will address those

1 comments, but we will do it in a written form as part of the
2 EIS. After we conclude the formal oral comment period we
3 will open the floor and off the record can have a more
4 informal question and answer dialogue. So at this time we
5 have at least one oral comment. Anybody else interested in
6 giving a comment?

7 MR. O'DELL: I have a question. First, are all
8 these alternatives that you listed up there in the documents
9 on the web or are --

10 MS. WILKIN: This presentation. This presentation
11 will be -- I think it was posted today, actually.

12 MR. O'DELL: That's new.

13 MS. WILKIN: If you'd like to come up and use the
14 microphone.

15 MR. O'DELL: Yeah, such a big room. My name is
16 Dan O'Dell. I am a senior research biologist with the Sea
17 World Research Institute, and will remain that way for the
18 foreseeable future, unless I win the Florida Lottery or
19 something like that. By way of background, I've been
20 involved in stranding operations here in Florida since 1973
21 before there was any formal stranding network, and up
22 through 2001, between myself and a number of my students, we
23 were responsible for computerizing all of the Level A
24 stranding data for cetaceans and pinnipeds in the
25 Southeastern United States.

1 So I've seen a lot of water go over the dam in
2 terms of different forms and responses and how the network
3 has grown. I do want to point out that I have commented in
4 writing on some of the documents that are already on the web
5 and will probably do so again. A couple of points I want to
6 make today. Especially -- and this cuts across the board
7 with the multiple categories of things that might be
8 addressed. And this deals with the basic Level A data.

9 I see lots of paperwork generating for
10 qualifications for people and training and things like that,
11 but even today currently I enter stranding data for the
12 State of Florida for those individuals or organizations not
13 yet certified to use the online data base, and we need a lot
14 of work. I mean we can have all the regulations and things
15 and requirements, but I think there needs to be a lot of
16 training, a lot more training.

17 There has certainly been a lot done on people
18 filling out the Level A data forms, and I sort of say these
19 comments at just about any stranding meeting that I go to,
20 these Level A data are the key, they are the foundation for
21 interpreting just about everything else that comes out of it
22 way down the road, tissues are saved, archived, analyzed
23 maybe 10 years later. It's important to have that single,
24 unique identifying number for that animal so it can be
25 tracked out backwards just to put the pieces together maybe

1 10 or 15 years down the road.

2 That doesn't always happen. There is often
3 confusion, especially with mass stranding, which is
4 confusing in itself as to who is responsible for filling out
5 the data sheets. It's never quite resolved, especially in a
6 larger mass stranding. Some of the things, like the
7 Incident Command System, may be used, and in some of these
8 cases might solve some of that problem.

9 But the point, again, is paying a lot of attention
10 to this basic information, training people, put your field
11 number on there, make sure it's unique, and if the animal
12 goes from facility to facility, especially a live animal
13 rehab, each facility might assign its own field number or
14 internal I.D. number, and things tend to get lost down the
15 road.

16 Certainly there's been a huge improvement. We see
17 people, you've got your GPS unit now, and location, latitude
18 and longitude, and I've been going back through old data,
19 and it's really obvious in the past couple of years how good
20 these locations are when things are stranded. If people
21 know how to use their GPS, and I check every one of these,
22 and it's downtown somewhere, somebody punched the button the
23 wrong place.

24 So there is a lot of checking and double checking,
25 even at the very basic level. So that's really the key

1 thing I want to make, is call for basic training, filling
2 this Level A data out. The importance of the unique field
3 identification number on each and every specimen. And
4 personally I believe that all stranded marine mammals should
5 be treated equally, even though live animals take lots more
6 money than the other ones, really, to study the health of
7 the populations, you really need to examine every stranding
8 to see what is there, 'cause you often don't know until you
9 get out on the beach and look closely even what species it
10 is because these are often misidentified in the initial
11 reports.

12 So lots of very basic, basic things. Even though
13 we have lots of high tech things that can be done, the
14 basics or back to the basics is extremely, extremely
15 important in my opinion. Like Sarah said, there is never
16 enough money to do everything you wanted to do. Something
17 as an aside that occurred to me that's not so much, well, an
18 impact on the human environment, but each year in Florida we
19 remove several hundred cetacean carcasses from the beach.
20 And I'm not even counting the manatees that go.

21 That's a lot of biomass that's pulled out of the
22 environment, and something I've wondered in the back of my
23 head, well, is that an effect on the environment, taking all
24 that energy out? Assuming these animals are dying naturally
25 for different reasons. Is there an effect on the habitat in

1 any way, putting hundreds of thousands of kilos of tissue
2 that would be recycled into the environment are taken out
3 and put in a landfill or something like that. I'm not sure
4 how that fits into the whole program. Something you sort of
5 tend to think about, all those vultures out there being
6 deprived of dinner or something like that. That's really
7 all I want to say today, is the importance of the level A
8 data training and the completeness, because it really is the
9 foundation for all the analyses that are to come in the
10 future.

11 MS. WILKIN: Thank you. Anyone else interested in
12 making a statement? Anyone inspired? All right. If
13 there's nothing else, then I'll close the formal comment
14 period. Again, thank you for attending.

15 (MEETING CONCLUDED AT 6:13 p.m.)
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STATE OF FLORIDA)
COUNTY OF PINELLAS)

I, Daniel J. Russette, Registered Merit Reporter certify that I was authorized to and did stenographically report the Scoping Meeting, and that the transcript is a true and complete record of my stenographic notes.

I further certify that I am not a relative, employee, attorney, or counsel of any of the parties, nor am I a relative or employee of any of the parties' attorney or counsel connected with the action, nor am I financially interested in the action.

Dated this 21st day of February, 2006.


Daniel J. Russette, RMR

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00001 2044 response program 021306
1 MARI NE MAMMAL HEALTH AND STRANDING RESPONSE PROGRAM
2 OFFICE OF PROTECTED RESOURCES
3 NATIONAL MARI NE FISHERIES SERVICE
4
5 February 13, 2006
6 5:17 p.m.
7 Boston Aquarium
8 Central Wharf
9 Boston, Massachusetts
10 Amanda Stevens, Notary Public and Professional Shorthand Reporter
11 in and for the Commonwealth of Massachusetts.
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00002 APPEARANCES:
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3 SPEAKERS:
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00003 MARI NE MAMMAL HEALTH AND
1 STRANDING RESPONSE PROGRAM
2 OFFICE OF PROTECTED RESOURCES
3 NATIONAL MARI NE FISHERIES SERVICE
4 FEBRUARY 13, 2006
5 PROCEEDINGS:
6 Page 1

7 2044 response program 021306
8 MS. WILKIN: I'd like to
9 welcome you all here for the scoping
10 meeting for the Marine Mammal Health and
11 Stranding Response Program and
12 Environmental Impact Statement.
13 My name is Sarah Howlett, and with
14 me is my colleague, Sarah Wilkin, and we
15 are from NOAA Headquarters, Office of
16 Protective Resources. And also with us
17 tonight is Mendy Garron, the Acting
18 Northeast Regional Stranding Coordinator,
19 and Jamison Smith in the back who is the
20 East Coast Dientanglement Coordinator.
21 So the purpose of our meeting today
22 is to allow for the early public
23 notification of the proposed federal action
24 or actions. And so this meeting is just
giving the National Marine Fisheries

00004 Service, or NMFS, the opportunity to
1 present to the public the proposed
2 actions, and to seek input on the scope or
3 the range of issues that will be discussed
4 in our EIS.
5 And so far, this is actually our
6 seventh scoping meeting. Our West Coast
7 locations, as you can see, we've had some
8 in California, Hawaii, Seattle and in
9 Anchorage, and also in the East Coast, St.
10 Petersburg, and this coming Friday we will
11 also be having one in Silver Spring.
12 So the agenda for our meeting today
13 is to give you some background in the
14 scoping process, the background on the
15 National Environmental Policy Act process,
16 and overview of the Marine Mammal Health
17 and Stranding Response Program, review of
18 the proposed actions and alternatives for
19 our EIS, and an opportunity to receive
20 public comment.
21 So we ask that you please sign in
22 at our registration table outside, if you
23 haven't already. You can sign up to be
24

00005 on our mailing list. We will also be
1 accepting written comments today if you
2 have prepared them already. If not, you
3 can also pick up a written comment form
4 that's also out on the registration table.
5 And let you know that today's
6 meeting is being captured by our court
7 reporter, so that we will have it on
8 public record.
9 So the NEPA process. The purposes
10 of NEPA -- this comes directly from the
11 act itself -- is to encourage harmony
12 between man and the environment, to
13 promote efforts to prevent damage to the
14 environment, and to enrich man's
15 understanding of important ecological
16 systems and natural resources.
17 Page 2

2044 response program 021306

18 The requirements of NEPA, as a
19 federal agency, required to analyze the
20 potential environment impact of a proposed
21 agency action. And this means they have
22 to consider the environmental consequences
23 of the action during decision making and
24 provide for public involvement key phases

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1 of the EIS process, obviously one of them,
2 and it's important to note that NEPA does
3 not dictate the decision that's made by
4 NMFS, just helps to inform the decision
5 making process.
6 So why are we conducting an EIS?
7 There are a list of factors that NOAA must
8 consider to determine in a federal action,
9 and EIS is warranted for a federal action,
10 and these are just a few that we picked
11 out that are relevant to our EIS or that
12 we feel are relevant to our EIS. And
13 that's the federal action could be subject
14 to significant public controversy based on
15 the potential environmental impact, it may
16 have uncertain environmental impact, it may
17 result establish a precedent about future
18 proposals, it may result in cumulatively
19 significant impacts, and it may have
20 adverse impacts on threatened or endangered
21 species or their habitats.
22 The benefits of conducting the EIS
23 is that it will allow for programmatic
24 analysis of the MMHSRP, which means the

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1 current program and any other activities
2 that hold current in the future. It will
3 allow for an assessment of a cumulative
4 impact of every single activity that will
5 occur under the program, and it will
6 eliminate the need to conduct individual
7 NEPA analyses on the activities of the
8 program.
9 We are doing an EIS now because the
10 current Marine Mammals Protection Act and
11 Endangered Species Act permit that's issued
12 to the program will expire on June 30th of
13 2007, and a NEPA analysis must be
14 conducted on the activity of the program
15 before a new permit can be issued. Also,
16 NEPA analysis is needed to finalize the
17 interim standards provided in the Policies
18 and Practices Manual. And both the manual
19 and the permit will be talked about by
20 Sarah in a little bit.
21 An EIS is composed of both purpose
22 and need, which is just basic data about
23 why the action is being considered. The
24 proposed action and alternatives to the

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1 proposed action are also covered. The
2 affected environment of the resources that
Page 3

2044 response program 021306

3 may or may not be impacted, either
4 adversely or a beneficial impact by the
5 federal action, potential environmental
6 consequences and mitigation for these
7 consequences, as well as consideration of
8 public input.

9 And this is just a list of
10 environmental resources that are typically
11 considered in an EIS. And while they will
12 be covered, the ones that we feel are most
13 important are Protected Species, Threatened
14 and Endangered and Marine Mammals, Water
15 Quality, Human Health and Safety and
16 Cumulative Impacts.

17 The EIS process. The notice of
18 intent or the NOI was published on
19 December 28th, and that began the formal
20 scoping process, the scoping which is now
21 and will be conducted until basically
22 February 17th.

23 Once we get scoping comments back,
24 that will be incorporated into the

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1 comments and report that will be in the
2 EIS, and the draft EIS will be published
3 via a time line I will show you later.
4 Once the EIS is published, there is
5 a 45-day comment period and another round
6 of public hearings for the public to come
7 and comment on the EIS.

8 The final EIS will be published,
9 and then 30 days after the final EIS, a
10 record of decision, or ROD, is published,
11 and this basically just says what the
12 agency decided upon, how they came upon
13 that decision.

14 Public input opportunities.
15 Obviously tonight is one. You're here at
16 a scoping meeting. We ask that you
17 identify any issues that you have, that
18 you find out tonight and submit your
19 comments. We ask that you sign up on the
20 mailing list so that you can review the
21 draft EIS and any other information that
22 we might put out. And we definitely have
23 to review and comment on the draft EIS,
24 participate in a public hearing, and

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1 review the final EIS.
2 So here is the tentative EIS
3 schedule. It says scoping will be
4 finished on Friday, then the draft EIS
5 should be completed September of this
6 year. The comment period between
7 September and October with public hearings
8 in November, and the final EIS will be
9 completed by May of 2007, and the record
10 of decision will be issued by June of 2007
11 as well.

12 And I will turn this over to Sarah,
13 who will address the MMHSRP proposed
Page 4

2044 response program 021306

14 actions and alternatives.
15 MS. WILKIN: All right. So
16 Sarah has given you kind of the generic
17 overview of NEPA and what it is and why
18 we're doing it, and I'm here to tell you
19 more specifically about our program and
20 our EIS.

21 So MMHSRP, or the Marine Mammal
22 Health and Stranding Response Program, was
23 established under federal mandate, Title
24 IV, which was an amendment to the Marine

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1 Mammal Protection Act. And there were in
2 the law was written three goals and
3 purposes. First, the collection and
4 dissemination of reference data on health
5 and health trends of marine mammals in the
6 wild specifically; to correlate both health
7 data and health trends to physical,
8 chemical and biological, basically
9 environmental parameters, and then to
10 coordinate effective responses to marine
11 mammal unusual mortality events.

12 So the law established the
13 over-arching program, and then NMFS has
14 chosen to implement this law in the
15 following way by having many different
16 components under the umbrella of the
17 MMHSRP. So some of the components that we
18 are talking about here tonight that are
19 all included in the program are Marine
20 Mammal Stranding Network, national, The
21 Marine Mammal Disentanglement Network, the
22 John H. Prescott Rescue Assistance Grant
23 Program, which provides financial
24 assistance in the form of grants to

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1 stranding network members and to
2 researchers who are doing research on
3 tissues and samples obtained from stranded
4 marine mammals.

5 The Marine Mammal Unusual Mortality
6 Event and Emergency Response Program, which
7 again incorporates many of the same folks
8 that are part of the stranding network,
9 but also adds some other people and
10 includes an advisory panel of a working
11 group on marine mammal unusual mortality
12 levels.

13 The Information Management Program,
14 which is charged with managing all the
15 information collected by all these
16 different components, including the
17 National Marine Mammal database, into which
18 stranding Level A records are entered, and
19 then Marine Mammal Health Biomonitoring
20 Research, Development and Tissue Banking
21 program, which is kind of the research arm
22 of the MMHSRP.

23 So we said, Sarah said that one of
24 the reasons for us doing the EIS is

Page 5

2044 response program 021306

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1 because the Best Practices and Policies
2 Manual was going to be published. And it
3 is currently out. All of these documents
4 that you see up there are available on our
5 Web site for review and comment, and
6 they're available on an interim form, and
7 they can't be finalized until NEPA
8 analyzes the impact of finalizing these
9 documents.

10 So they include the Stranding
11 Agreement Template, which is a formal
12 template for Letters of Agreement, which
13 will now be called Stranding Agreements,
14 will be written between NMFS and members
15 of the stranding network. And it includes
16 the Minimum Qualifications Document, which
17 states the qualifications that an applicant
18 must have in order to obtain a Stranding
19 Agreement. Rehabilitation Facility
20 Guidelines, which are considered the
21 minimum guidelines for a facility to meet
22 to do rehabilitation on stranded marine
23 mammals. That's a joint document between
24 the National Fisheries Service and U.S.

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1 Fish and Wildlife Service.
2 The Release Criteria are the
3 criteria that must be satisfied in order
4 to release a stranded marine mammal to the
5 wild after rehabilitation has completed.
6 Then the Disentanglement Network
7 Guidelines, which are currently implemented
8 in that form on the East Coast and we're
9 proposing to expand them nationwide.

10 A little bit more about our permit.
11 There is a permit that's issued to the
12 Marine Mammal Health and Training Response
13 Program with Dr. Teri Rowles, as the head
14 of our program, as the principal
15 investigator. All of the regional
16 coordinators will submit under this permit
17 as well as investigators and a variety of
18 other folks as well. It's issued jointly
19 under the Marine Mammal Protection Act and
20 the Endangered Species Act. And one of
21 the main things that it does, which you
22 may not be aware of, is that it actually
23 provides for stranding and disentanglement
24 response to animals that are listed in the

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1 ESA, because the Marine Animal Protection
2 Act gives them the authority to enter into
3 Stranding Agreements with groups to go out
4 and respond to stranded animals, and it
5 also has clauses that allow for states and
6 local governments to respond to stranded
7 marine mammals.

8 But the ESA doesn't have any
9 similar provisions or allowance for these

Page 6

2044 response program 021306
kind of authorizations to take place. So
in order to kind of accomplish that, we've
gone through the permitting process and
obtained a permit to allow us and all the
people that we delegate the authority to
respond to stranded, entangled and other
endangered marine mammals, endangered and
threatened marine mammals in distress.
And that's probably the most
important point about the permit, but it
also does allow for import and export of
tissues and samples collected from stranded
marine mammals for diagnostic and
analytical purposes.

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assessment captures, which is where we go
out and do captures in populations of
animals that we believe are healthy, but
it's a population that has some kind of
lingering question about their health
because of something that has happened in
the past, whether it's an unusual
mortality event, die-off, or some kind of
environmental parameters.

So those are three of the things
that are under this permit. That's not
everything under the permit, but those are
probably the key points for you to be
aware of.

Just a look at the stranding
network. These are the hot off the press
recent data for Level As, for the entire
United States between 2001-2004. So the
Level A data sheet is the very basic data
that's obtained on a stranded marine
mammal: location, species, length, if
possible, and a few more items.

So what I have down there at the
bottom of the slide that's important to

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remember is cumulative impact. So because
we're doing a programmatic document where
we're assessing the impact of the entire
program nationwide, it is important to
remember that while you might not see the
impact of a single response or a single
rehabilitation or a single release,
nationwide, there are fairly significant
numbers of these activities going on.

So for instance in 2003, we had
close to 5,000 Pinnipeds that were
responded to nationwide. And then if you
put that into a time line, where you're
actually looking over the period of time,
there is a potential to have impact from
all of these additives adding up.

Closer to home, these are your --
the Pinniped strandings here in the
Northeast region for '01 to '04. The left
group of bars are those animals that

Page 7

2044 response program 021306
stranded dead. The middle are those that
were stranded and reported live, initially,
and then on the right are Pinnipeds that
were admitted into rehabilitation,

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rehabilitated, and then released following
rehabilitation.

So the left-hand scale has changed
quite a bit since the earlier graph, but
it's still fairly significant numbers in
some years, you know, upwards of 500
animals.

These are Cetacean strandings,
again '01 through '04, with animals that
stranded dead, animals that stranded live,
and animals that were rehabilitated and
then released.

All right. Every EIS has at the
beginning a Purpose and Need Statement,
which is a plain language simplified
version of why are we doing this document.

And for us, this purpose and need
for the EIS come very close to our
believed purpose and need for the program,
in general. So the purpose is to respond
to marine mammals in distress, including
those that are stranded, entangled and out
of habitat, and to answer research and
management questions related to marine

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mammal health.

And our need, therefore, to meet
that purpose, is to operate the MMHSRP
effectively and efficiently, making the
best use available of limited resources.
One thing that we found across the county
everyone can agree is that there's not
enough money to go around and there's
generally not enough time and not enough
people and not enough resources in
general. So our goal, our challenge is to
try and make the best use of what we've.

And we want to make the best use
of what we have to answer questions. So
we need to collect data on marine mammal
health and health trends to meet our
agency needs for appropriate conservation
and management. And finally, we need to
ensure that human and animal health and
safety is always one of our highest
priorities.

So this is our proposed action.
This is what we at NMFS are proposing to
do.

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The first is the issuance of the
Policies and Best Practices for Marine
Mammals Stranding Response Rehabilitation
and Release. That would be issuing the
interim documents in final form, and then
Page 8

2044 response program 021306
6 their implementation. And it would also
7 be the issuance of a new permit to the
8 program encompassing those activities that
9 I had talked about earlier and perhaps
10 some others.
11 Stranding agreements would continue
12 to be issued or renewed on a case by case
13 basis, but it would be done implementing
14 the policies and practices, so using the
15 minimum criteria to determine if a group
16 is eligible, and then using the template
17 as the language.
18 And then other day to day
19 operations of the stranding and
20 disentanglement and all the other programs
21 would continue, including response,
22 including rehabilitation, including release
23 determinations, but again, it would be all
24 be done utilizing those documents and

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1 implementing them.
2 So we've rehabilitation facilities
3 that would be expected to comply with the
4 facility guidelines, the releases would be
5 done following the release criteria, and
6 the Disentanglement Network would operate
7 under the network guidelines.
8 All right. So when we published
9 the Federal Register Notice on December
10 28th, we stated that purpose and need and
11 proposed action, and then listed action
12 alternatives. And since then, we've
13 continued kind of discussing and thinking
14 and framing within our minds, and we've
15 actually come up with a different way to
16 present those alternatives, which I will
17 do in just a minute.
18 But first, I'm going to go through
19 how they are spelled out in the FR Notice.
20 So the Action Alternative is
21 essentially our preferred action or
22 proposed activity, which is the issuance
23 of the Best Policies and Practices, the
24 issuance of the permit, continuing to

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1 issue and renew Stranding Agreements, and
2 continuing the Disentanglement Network and
3 its activities under the permit.
4 So the second is the No Action
5 Alternative. NEPA requires us to consider
6 a No Action Alternative, which is what
7 would happen if the government did not do
8 its proposed action or what would happen
9 if the government did not do the activity.
10 So under the No Action Alternative, we
11 would not issue the policies and
12 practices, which would not change anything
13 from what's currently happening except that
14 we would also not issue new or renewal
15 Stranding Agreements, and we would not
16 issue a new permit to the MMHSRP, and
Page 9

2044 response program 021306
17 contracts and authorizations for the
18 partners in the Disentanglement Network
19 would not be extended, and there would be
20 no further biomonitoring or research
21 activity.
22 So what this means is that over
23 time, as all of those agreements expire,
24 the network, as we know it, would

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1 essentially cease to function.
2 Now, as I say at the bottom, this
3 could conflict with the statutory mandates,
4 which is that we're required to collect
5 data on health and health trends. And
6 that's true, it is a potential conflict;
7 however, NEPA also requires us to assess
8 alternatives even if they're in conflict
9 with other federal law.
10 The other thing, though, is that
11 there is nothing in the law that says how
12 we need to have the program organized and
13 so therefore we are free to think of other
14 ways of organization that would still
15 potentially fall within the No Action
16 Alternative.
17 Then the Status Quo Alternative is
18 essentially what if we didn't do our
19 proposed action but we just kept doing
20 exactly what we're doing. And the good
21 news about this alternative is we know
22 what the impacts are because we know what
23 we're doing right now, at least in theory.
24 So under the Status Quo Alternative

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1 we would not issue the Policies and
2 Practices document, the current Stranding
3 Agreements could continue to be renewed as
4 they are issued right now, the permit
5 would be renewed or reissued as it is
6 currently written, the disentanglement
7 partners that we currently have could
8 continue in the network, and new stranding
9 agreement and disentanglement applications
10 would be considered case by case basis as
11 we do it today.
12 So like I said, that would mean the
13 network could continue to function exactly
14 at its current level, but the problem is
15 that we might preclude ourselves from any
16 adaptive changes, including adding new
17 members into the network or changing
18 research activities or changing our
19 operating procedures.
20 And then alternatives that we
21 listed in the FR that were considered but
22 might be eliminated from further analysis
23 include those that in some way change what
24 the program currently does. So for

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1 instance doing only biomonitoring, research
Page 10

2044 response program 021306
activities, doing only stranding response
and not doing rehabilitation, or responding
to one group of animals and not another
group. But again, these may be
eliminated. And again, those are all the
alternatives that were presented in the
Register.
So, as we were discussing this
more, this way seemed to make a little bit
more sense to us. And that's that we
take their alternatives and we kind of
subdivide them under different headings and
the headings are the activities that we do
under the program.
So these six activities are up
there because these are what we conceded
that the program does that has the
potential to impact the environment. And
all of them involve health and human
safety risks, all of them have the
potential to involve threatened and
endangered species, and all of them could
have uncertain risks, some more than

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others.
And so the first group is the
response activities, which is actually
getting on the beach or getting in a boat
and responding to a stranding or entangled
animal, and kind of all the activities
that go on with that, including
potentially transport or beached property;
those kinds of things.
The second is carcass disposal and
euthanasia, which also has a more direct
link to the environment, which recently
some of our carcasses have tested, for
large whales in particular, have tested so
high in contaminant levels, that they are
considered toxic waste under Federal EPA
guidelines and must be disposed of in
special ways.
So the impact of our network in
leaving those carcasses or disposing of
them, however we do it, is one thing that
we need to think about, and also
euthanasia, but particularly chemical
euthanasia. If we are chemically

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euthanizing an animal, then we know that
we've added chemicals to it, and how we
dispose of that carcass becomes a concern.
Rehabilitation is again an issue
for health and human safety, particularly
in the volunteers who are working closely
with those animals.
And then also just the concerns of
having a facility with some kind of
effluent treatment and then potentially
spreading pathogens between animals in that
facility and then from that facility out
Page 11

2044 response program 021306
to the environment.
Which brings us to release of
rehabilitated animals. Probably the main
concern here is for the wild population,
that they would be introduced to something
from that rehabilitated animal that it
acquired while in rehabilitation that was
not known to the wild population.
Disentanglement, again mostly a
health and human safety issue. And
biomonitoring and research activities.
So underneath each of these

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activities, we've a range of alternatives,
and then a preferred alternative or a
combination of preferred alternatives can
be chosen within each activity, and we
will go after that in great detail.
For instance, the first activity,
stranding response. So again, under each
of these alternatives we're going to have
a No Action Alternative, which is what if
we do nothing. So in this case, we would
allow Stranding Agreements to expire at
some point in the future and the network
would cease to function when that happens.
The Status Quo Alternative would be
that we would renew those current
Stranding Agreements and keep the network
at the same level.
A third alternative could be to
curtail response immediately and not wait
for the expiration date on the LOAs.
The next two I'm going to go into
some detail, because you're going to see
them over and over again. But it
basically involves changing our activities

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based on what kind of animal we are
dealing with.
And there are two ways to think
about this, and it goes back to how the
Stranding Agreements or how the
disentanglement authorization is written.
And that's to say that in that agreement
we could require response to one category
of animals and make response to the other
category of animals not required but
optional. So that if you had the
resources and if you had the capability,
response would be possible.
The second way would be to write
those agreements such that response to
certain animals was authorized and response
to another category of animals was not
authorized or prohibited, and therefore
even if you had the resources and the
capability, you couldn't respond to that
second group of animals.
And then under each of these we've
three ways that we've kind of thought up
Page 12

24 2044 response program 021306
how to divide up animals in ways that we

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1 might want to think about, which is
2 Cetaceans and Pinnipeds and changing
3 response based whether you have a Cetacean
4 or a Pinniped.

5 The second way is whether animals
6 are listed under the Endangered Species
7 Act or whether endangered or threatened
8 versus the species that are not listed.

9 And then the third way deals with
10 the optimum sustainable population, or OSP,
11 which is a stock assessment designation
12 where animals whose population -- species
13 whose populations were below the OSP would
14 have some response, and peak species that
15 were at or above OSP would have a
16 different category of response.

17 And the final three alternatives
18 that we've up here all deal with the
19 Stranding Agreements and how they will be
20 issued. And the first is that Stranding
21 Agreements would be issued to any
22 applicant once the review had been
23 conducted by NMFS.

24 The second is to implement the

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1 criteria as they are proposed, as they are
2 in the interim form, where only those
3 applicants that meet the minimum criteria
4 will be issued a stranding agreement, and
5 then the third is to revise the criteria
6 in some way and then implement them so
7 that only applicants who meet the revised
8 criteria will be issued a stranding
9 agreement.

10 Okay. Our second activity,
11 euthanasia, again, has a suite of
12 alternatives under it. Again, a No Action
13 Alternative, where Stranding Agreements are
14 allowed to expire and therefore animals
15 won't be responded to anymore, so
16 therefore they're left on the beach, which
17 takes care of carcass disposal question.

18 The Status Quo Alternative is that
19 we continue with current Stranding
20 Agreements and concurrent methods of
21 carcass disposal, whatever those may be.

22 The next would be that all animals
23 would be buried on site versus kind of an
24 alternate is that all animals would be

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1 transported off site for some kind of
2 disposal, whether that's landfill,
3 incinerator, towed to sea, et cetera.

4 And then to look at the euthanasia
5 question, to have no animals chemically
6 euthanized so that some other form of
7 euthanasia would have to be -- have to
8 come up with it, or that

2044 response program 021306
9 chemically-euthanized animals would be
10 transported off site for disposal and
11 others could be left, buried or
12 transported, depending on what was useful.
13 Rehabilitation. Again, we've a No
14 Action Alternative which allows the
15 agreements to expire and therefore there
16 is no more rehabilitation.
17 Status Quo Alternative where we
18 continue with current stranding agreements,
19 and current rehabilitation activities. And
20 immediate cessation of rehabilitation,
21 which is to say that we would no longer
22 have rehab facilities, so while response
23 could continue, rehab wouldn't be an
24 option.

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1 Again, the idea of somehow dividing
2 our efforts, depending on the category of
3 animal, whether it's required and optional
4 and authorized or not authorized, and
5 whether or not Cetaceans and Pinnipeds are
6 ESA listed or not listed, et cetera.

7 And then the final two have to deal
8 with the facility guidelines and whether
9 they are implemented as they are currently
10 proposed or if they are modified in some
11 way and then implemented. But
12 rehabilitation facilities would be expected
13 to meet the minimum guidelines.

14 Release of rehabbed animals, again,
15 no action where the stranding agreements
16 expire so the animals would no longer be
17 rehabilitated. The Status Quo Alternative
18 where current stranding agreements are
19 renewed and current rehabilitation and
20 release activities continue exactly as they
21 are.

22 All animals released, so that
23 animals that are not release candidates
24 are either not brought into rehab in the

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1 first place or euthanized.

2 Again, changing effort, depending
3 on what kind of species it is with
4 required versus optional and authorized
5 versus not authorized.

6 And the last two are again the
7 release criteria, either implementing them
8 exactly as proposed or modifying them and
9 then implementing them.

10 Disentanglement. The No Action
11 Alternative would be to allow the contract
12 and agreements to expire and there would
13 be no further disentanglement response.

14 The status quo would be to maintain
15 the current contract agreements and the
16 permit as it is so there not be
17 modifications if technology improved or
18 members wanting to be added to the
19 disentanglement network.

2044 response program 021306

20 And then the thought of
21 disentangling some animals but not other
22 animals and how we split that out.
23 And then the last two are the
24 disentangling guidelines and again this

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1 would be implementing them nationwide.
2 And one way would be to implement them and
3 require training prerequisites for
4 participants, and the second way is to
5 modify them in some way.
6 And finally biomonitoring and
7 research activities. Again no action, no
8 permit, so all the projects would end.
9 The status quo is renewal of the current
10 permit and continuation of current
11 projects.
12 The next alternative would be to
13 have no health assessment captures, so
14 biomonitoring could continue to be
15 conducted, but only on tissues from
16 stranded animals, by catch animals and
17 animals from subsistence.
18 No tissue banking to eliminate the
19 marine mammal tissue bank so that tissues
20 can be used for immediate analyses, but it
21 would preclude us from doing retrospective
22 studies.
23 And then finally the issuance of a
24 new permit that would include current

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1 projects and also new foreseeable projects.
2 All right. So what do we want
3 from you, the public. There's a couple of
4 different and relatively specific things.
5 The first is to identify environmental
6 concerns. So I said that those six
7 activities are the ones that we at NMFS
8 and the program have identified as having
9 the potential to impact the human
10 environment.
11 We recognize that there might be
12 others that we've not thought of, and so
13 therefore we are asking you to help us by
14 identifying anything that you can see
15 might be an environmental concern, and
16 that's any activity that results in
17 environmental impact, and those can be
18 direct impacts on the actions of the
19 network, indirect impact or a cumulative
20 impact, and as Sarah briefly mentioned
21 before, it's both beneficial and negative
22 impact on the environment.
23 The second thing is to help define
24 the alternatives. There are a whole lot

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1 of alternatives that just went scrolling
2 across the screen in front of you. And
3 we recognize that not all of those
4 alternatives are feasible and not all of
Page 15

2044 response program 021306

5 them are necessarily a good idea.
6 So what we're asking your help in
7 is helping us to eliminate those
8 alternatives that are not the best and
9 that therefore we cannot continue and do a
10 further analysis on.
11 And then also defining mitigation
12 measures. If there are activities that we
13 can identify that we know have impact on
14 the environment, but we can also identify
15 ways to mitigate or somehow minimize or
16 control those impacts, that would be a
17 great help as well.
18 And then finally is to make
19 necessary modifications to the interim
20 policies. We've the policies posted again
21 in interim form, but we are requesting
22 comments on those as well, everything from
23 editorial and grammar to broad, sweeping
24 rewriting of sections. All those kind of

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1 comments are also welcome during this
2 period.
3 So specifically, here's the kind of
4 questions that we hope you are thinking
5 about as you are thinking about the
6 comments that you are giving back to us on
7 the EIS.
8 And the first is, what sort of
9 activities should be conducted on a local
10 level, regional, national level in response
11 to stranded, entangled, sick, injured and
12 other marine mammals in distress.
13 Secondly, are there critical
14 research or management needs that we can
15 meet by investigations into stranding by
16 doing rehabilitation, by doing
17 disentanglement activities, or by other
18 health-related research and biomonitoring
19 activities that we might be doing or that
20 we might want to do in the future, and
21 are we meeting those research or
22 management needs, and if we're not, what
23 are they, help us identify them and then
24 help us decide what we should do in order

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1 to meet them.
2 The level of response effort. All
3 right. A lot of those alternatives had
4 some kind of difference in effort or
5 difference in activities, depending on what
6 kind of animals it were. So the first
7 question is, should there be different
8 standards or level of effort for different
9 species or groups of species.
10 And this gets back to making the
11 best use of our limited available
12 resources. If you feel that there should
13 be different standards, how should we set
14 them, and how should we divide those
15 species up into categories.

2044 response program 021306

16 And again, these are the three that
17 we've -- three ways that we've thought of.
18 If you have other options, that would be
19 helpful.
20 Organization and qualifications.
21 Is the current organization of the
22 national stranding and health assessment
23 network adequate? And I should add that
24 this includes the disentanglement network

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1 as well. And this is at every level,
2 from local to national.
3 The second is, what changes would
4 make the organization more effective.
5 The third, what should the minimum
6 qualifications of an individual or
7 organization be prior to becoming a
8 stranding agreement holder or a participant
9 in an disentanglement network.
10 This goes back to the minimum
11 criteria for stranding agreements and the
12 disentanglement network guidelines and
13 essentially your interpretation of those
14 documents. But then the fourth one, what
15 about the requirements for continued
16 participation in the network?
17 So we've gone about establishing
18 what needs to be done to get a stranding
19 agreement in the first place, but what
20 should we be expecting or asking in order
21 for a group or a person to maintain a
22 stranding agreement over time.
23 And some ideas are a certification
24 or a licensing process or some kind of

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1 required training, continuing education
2 class, et cetera.
3 And then the effect of activities.
4 Public and animal health and safety needs,
5 and are we currently addressing them
6 adequately.
7 The release criteria, and are they
8 as proposed adequate to protect wild
9 populations from introduced diseases.
10 Are there any potential
11 environmental impacts that you feel we've
12 not identified and are there any other
13 relevant issues or data that we should
14 consider as part of our analysis, and if
15 so, if you could identify it and either
16 provide it or give us a reference to it,
17 we would appreciate it.
18 All right. That concludes the
19 presentation part of our scoping meeting.
20 I should let you know this presentation
21 will be available on our Web site some
22 time later this week, I would assume, in
23 case you didn't manage to scribble down
24 everything.

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2044 response program 021306

1 But now we're going to have time
2 for oral comments. If you would like to
3 give a comment, we ask that you signed in
4 at the registration table. If you didn't
5 when you came in, you are still welcome to
6 do so.
7 If we've multiple comments, which
8 we do have signed up right now, we might
9 impose a time limit on you. But I don't
10 think that's going to be necessary. And
11 again we're recording the meeting, so that
12 we've an accurate record of your comments.
13 I should say this comment period is
14 essentially your opportunity to stand up
15 and let us know what your thinking or
16 impressions are on this process and on the
17 scope and on the EIS at this point.
18 We will not be responding to your
19 comments today in this environment, but
20 there will be response to them in the EIS
21 document, most likely in an appendix or
22 something along those lines.
23 Your other option, if you don't
24 feel like standing up in front of this

00043

1 group having oral comment, is a written
2 comment. You can either hand in comments
3 today if you have them prepared. We've
4 comment sheets out at the registration
5 table that you can take and fill out, or
6 you can submit written comments in any
7 form by the end of the month, either by
8 mail, e-mail or fax, and these addresses
9 are available on our Web site, on the
10 handouts you've gotten in this
11 presentation, and any other way we can
12 think of to give them to you.
13 Additional information. If you're
14 curious, we do have information review
15 available for review at public libraries.
16 There is a set of information in every
17 city in which we did a scoping meeting.
18 So here it's in the downtown Boston Public
19 Library. This includes copies of all of
20 the draft documents. It's also available
21 on the NMFS Web page, and we will be
22 keeping that information updated, both on
23 the Web page and in the libraries.
24 And if you would like to register

00044

1 here, then we can make sure that you are
2 informed whenever we add documents or
3 change that, or you can check availability
4 on our Web site.
5 So we would like you to thank you
6 for your participation.
7 So we've four people who identified
8 themselves as giving comments. Does
9 anybody else who did not sign up on the
10 sheet? Is anyone else interested in
11 giving comments?

12 2044 response program 021306
13 MS. MERIGO: Is it okay to
14 ask a clarification question?
15 MS. WILKIN: No. So, after
16 we finish the formal comment period, then
17 we're going to have an informal off the
18 record question and answer discussion
19 session.
20 MR. MAYO: So no formal
21 questions? In other words, nothing on the
22 record?
23 MS. WILKIN: Yes. That's
24 first, then we'll go to an independent --
MR. MAYO: But I mean, can

00045

1 we ask questions in the formal period?
2 MS. WILKIN: You can ask
3 questions in the formal period.
4 MR. MAYO: You won't answer
5 them.
6 MS. WILKIN: We won't answer
7 them.
8 All right. So we've six comments,
9 so the first one is Kathy Zagzabski.
10 MS. ZAGZABSKI: This is what
11 I get for getting here first.
12 First of all, my name is Kathy
13 Zagzabski. It's spelled on the sheet.
14 But I'm the executive director of the
15 National Marine Life Center in Buzzards
16 Bay.
17 We are in a unique position to
18 comment because we're hoping to become a
19 formal part of the stranding network. So
20 this is a great opportunity to look at the
21 stranding network as a whole.
22 First of all, I want to say
23 formally that we do support the Marine
24 Mammal Health and Stranding Response

00046

1 Program's proposed actions to establish
2 policies and best practices, to issue
3 permits as stated and to continue issuing
4 and renewing new stranding agreements.
5 There are a few environmental
6 issues. Some of them of these
7 environmental issues that you have
8 identified, some of them are maybe not
9 environmental issues, but there are a few
10 that I would like the program to hopefully
11 consider through this process.
12 One is euthanasia and carcass
13 disposal, as stated. The second is
14 funding of network organizations and
15 stranding response. The third is public
16 display, what it means, what it doesn't
17 mean. The third -- fourth is different
18 standards of response among regions, what
19 makes sense and what doesn't. And the
20 fifth is enforcement.
21 We've got a lot of great comments
22 in these draft documents and how are we
Page 19

23 2044 response program 021306
24 going to enforce them. So as an
organization, we will submit more specific

00047

1 written comments by the deadline, but I
2 did want to go on record supporting
3 MMHSRP's proposed action at this time.
4 Thanks.
5 MS. WILKIN: Our second
6 commentor is Keith Matasa, and if you
7 could state your name and organization.
8 MR. MATASSA: The comments
9 have already been addressed.
10 MS. WILKIN: Katie Touhey.
11 MS. TOUHEY: Yeah, what she
12 said. We just want to go on record
13 saying the same thing. As an organization
14 and as an individual, we totally support
15 the effort to put the best practices and
16 policies into action and make guidelines
17 and/or regulations out of them. And I
18 think that we want to commend the program
19 for pursuing this all the way through. I
20 know it's been a long process. It's nice
21 to see it finally coming to fruition.
22 We do have the same kind of issues,
23 especially for euthanasia and disposal, and
24 I think it's important for the program at

00048

1 a national level to look into the
2 potential other options, non chemical. We
3 talk about it, but there's not a lot of
4 acceptable versions out there. So I think
5 that's going to be one of the toughest
6 things.
7 But we do support your proposed
8 action, and we will also be submitting
9 more specific comments to address some of
10 the details.
11 But one of our other concerns would
12 be the ability of the National Fisheries
13 Service to actually not enforce, but to
14 kind of administer the program as it is
15 proposed. I mean, you guys already seem
16 kind of stretched to the max in a lot of
17 different ways, and we're concerned about
18 your ability to kind of keep up with what
19 you're saying you're going to do. So
20 funding for that part of the program as
21 well as for the individual organizations
22 that are participating.
23 MS. WILKIN: Thanks, Katie.
24 Next is Kate Sardi.

00049

1 MS. SARDI: Yes. I'm Kate
2 Sardi with the Whale Center of New England
3 in Gloucester.
4 I'd like to start off by just
5 strongly supporting the John H. Prescott
6 Marine Mammal Rescue Assistance Grant
7 program. I think everybody who works in
Page 20

2044 response program 021306

8 stranding response in this room couldn't
9 be doing what we're doing now without that
10 program. And everything that we do takes
11 a lot of resources, and the National
12 Marine Fisheries Service wants all that
13 data collected and so we really appreciate
14 having, at least part of our expenses paid
15 for through the Prescott program. We do
16 strongly support that.

17 We do also support current Marine
18 Mammal Health and Stranding Response
19 program activities, including in the field
20 response, rehab and release, large mammal
21 disentanglement and the unusual mortality
22 event program.

23 Response to all marine mammals,
24 whether they're Pinnipeds or cetacean,

00050

1 whether they're in a thriving population
2 or a threatened population is of course
3 important for scientific reasons as well
4 as humanitarian reasons. Animals can be
5 evidence of problems in the ecosystem.
6 They definitely reflect ecosystem health,
7 levels of human interaction, and certainly
8 they have demonstrated the spread of
9 disease in various populations. So it's
10 important to study both live and dead
11 animals, and we can learn more about
12 animal themselves.

13 We do want to make sure that the
14 entire network is collecting as much data
15 as possible and that -- I know the
16 National Marine Fisheries Service referred
17 to the NMFS I think it was sponsored
18 training programs. I think that I would
19 encourage the National Marine Fisheries
20 Service to have more programs that are
21 perhaps not as abundant, things like
22 programs on unusual mortality events data
23 collection, for instance, so that everyone
24 is fully prepared to collect as much data

00051

1 as possible from unusual mortality events
2 and we're all collecting it in exactly the
3 same way.

4 I'd also like to comment on the
5 fact that although all stranding response
6 is important, as I mentioned, I think we
7 do have limited resources, and I do
8 believe that there should be some
9 prioritization in how many of those
10 resources are put towards certain animals.

11 I would support the alternative
12 that said that for response there are some
13 animals that are required to be responded
14 to and others are optional. The word
15 "optional" is a little worrisome for me.
16 I guess I would say encourage or expected
17 when feasible, something more like that.
18 But that it is required in animals that

Page 21

2044 response program 021306

19 are, I would say, probably below OSP or in
20 decline, versus animals that are -- have a
21 really healthy population or are increasing
22 sharply.

23 A perfect example of that is of
24 course all the resources that go into harp

00052

1 seal response and rehab, only to have some
2 of those animals hunted in Canada. Some
3 of those resources might be better spent
4 going towards animals that are in a more
5 threatened population.

6 We do support the proposal to issue
7 a policies and best practice manual for
8 our marine mammal stranding response. We
9 are a little worried, though, to make it
10 completely uniform nationwide and species
11 wide. So we would want to make sure that
12 everything has -- takes into account
13 regional differences.

14 There are definitely different
15 pressures on different regions, and perhaps
16 that would change the priorities for
17 different regions as well. And so I think
18 that it's important to really look at
19 those regional differences when looking at
20 policies and practices.

21 And we do also just want to throw
22 in that we strongly support the regional
23 structure of the stranding network, and
24 this is a plug, because I'm part of the

00053

1 northeast region, and this region works
2 really well together and we wouldn't
3 probably be able to as much as we could
4 without the region working as a team in a
5 regional network.

6 A good example of that's during
7 Mass. stranding response or during large
8 whale necropsy, especially right whales,
9 take a huge amount of resources and staff
10 and working cooperatively is so important.

11 And we are going to submit more
12 detailed comments as well. Thank you very
13 much.

14 MS. WILKIN: Next is Stormy
15 Mayo.

16 MR. MAYO: I'm Stormy Mayo
17 from the Center for Coastal Studies, and I
18 wanted just to comment on a couple of
19 things on the disentanglement side. I see
20 it heavily weighted, for pretty good
21 reasons, on the stranding side of the
22 issue, but we're generally very much
23 supportive of, I think -- certainly I am
24 -- of the concept that's embodied here,

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1 increasing the standards and in some ways
2 firming up both sides of the issues you've
3 brought.

Page 22

2044 response program 021306

4 On the disentanglement side, a
5 couple of points that may well be already
6 planned, but we would very much like to
7 see in place. One is the idea of
8 national guidelines. And my executive
9 director reminded me that the guidelines
10 that we use internally, because we are
11 very much -- though a network, we are very
12 much centered in Provincetown at the
13 present.

14 Those guidelines have resulted in
15 probably well over a hundred
16 disentanglements in the last 20 years, and
17 the safety record, both for marine mammals
18 and for the people, is virtually spotless.
19 I haven't lost or injured any people. And
20 though we've probably hurt a few animals,
21 we've generally been successful.

22 And that suggests to, particularly
23 my executive director, that some of the
24 things we've developed are effective. And

00055

1 we're in the process now as a group of at
2 last getting together on what will be
3 something that perhaps needs to be used in
4 those standards.

5 So one thing we want to do is to
6 support national guidelines, because some
7 things are happening you think on the West
8 Coast or may develop are probably not
9 going to benefit either whales or people.

10 Secondly, and very much hand in
11 hand with that, we support the concept
12 that's embodied in a national coordinator
13 who is very much hands on approach.

14 Whenever we who have to do the work --
15 and this may well be true of stranding,
16 too, but certainly I think in the case of
17 an entanglement, we have to deal in the
18 emergency situations that we do with lots
19 of overlapping jurisdictions without a top
20 coordinator. We run into what are
21 immediately threatening problems, both for
22 the animals and for ourselves.

23 We would very much like to see that
24 kind of coordination across the country.

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1 And in the case of entanglement, the
2 events are few enough so that one
3 coordinator probably can very much have
4 hands on.

5 We very much believe that about the
6 East Coast and hope it will expand across
7 the country, and I think that's an
8 appropriate approach and one that we will,
9 I think, very strongly fight for.

10 I had a couple of questions that go
11 back to my time when I used to do a lot
12 of the stranding work, and one that was
13 then an issue may not be anymore. But I
14 noticed that you talked about release

Page 23

2044 response program 021306

15 criteria scattered through the
16 presentation, but they are always, as best
17 I can tell, related to rehab.

18 And I feel and have felt -- some
19 of you know I have fought, sometimes
20 virtually fought, for criteria on the
21 beach for the release of animals. And I
22 would encourage, if it's not embodied -- I
23 didn't hear it in your presentation --
24 encourage criteria on the beach that

00057

1 optimize the potential for release of an
2 animal from the beach, something that I
3 have long felt was an important part of
4 the whole stranding program.

5 I have little to do to with it.
6 Some of you may already know that's off
7 base. I would like to see some standards
8 by which people, if you will, have narrow
9 boundaries that require them to release
10 animals if it's conceivable.

11 And I would last -- Well, I guess
12 I wanted to ask one more question, and
13 that was, you said that you were looking
14 at information on critical research and
15 management needs. And as we put together
16 our written comments, what exactly do you
17 call "critical"? There is a huge amount
18 that can be gathered from animals
19 entangled and on the beach that are not
20 critical to the ESA Marine Mammal
21 Protection Act or even conservation, but
22 might be, by some science view, critical
23 to general mammal research or marine
24 mammal research.

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1 I would like to see -- maybe I'd
2 like to hear from you if when you ask
3 that question, which kind of critical you
4 are talking about.

5 Can you -- are you prepared? I'll
6 wait until the informal. But I think it
7 should be important to know what kind of
8 -- what's called critical, because animal
9 welfare groups are prepared immediately to
10 respond if people are doing advanced
11 research that has something to do with
12 human health and not with the release of
13 animals or their well being.

14 I think that's -- I guess one last
15 comment is that in disentanglement, there
16 is a de facto taxonomic order that is
17 driven by particularly the criticality of
18 the right whale and the right whale's
19 population. So although we may say we're
20 going to be uniform, I think what you see,
21 though we won't admit it, is a ramped-up
22 effort when it comes to animals that are
23 on the brink of extinction. Thank you.

24 MS. WILKIN: Last commentor.

Page 24

2044 response. program 021306

00059

1 MS. MERIGO: I will be
 2 providing detailed comments in writing, but
 3 I just wanted to go on record here to say
 4 that I support NOAA, in general, your
 5 effort to move towards improvements and
 6 guidelines for the Marine Mammals Health
 7 and Stranding Response Program.
 8 In addition, I just want to say
 9 also thank you for supporting the John H.
 10 Prescott Stranding Grant program, because I
 11 think that has allowed a lot of people
 12 here to maintain their level of support.
 13 And judging from the numbers that you put
 14 up earlier, strandings are certainly not
 15 declining, and without the stranding
 16 network, the general public would certainly
 17 take matters into their own hands, which I
 18 think at that point, again, without the
 19 stranding network's participation in that,
 20 we would really have a health and safety
 21 nightmare on our hands. So I just wanted
 22 to say thank you for that, and again I'll
 23 be providing detailed comments in writing.
 24 MR. WILKIN: Do you want to

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1 say who you are with?
 2 MS. MERIGO: New England
 3 Aquarium. Thank you.
 4 MS. WILKIN: All right.
 5 Was anyone else inspired to make a
 6 statement? All right then. Thank you for
 7 your comments and this is going to
 8 conclude our presentation.

9 (On the record portion of
 10 the Marine Mammal Health and Stranding
 11 Response Program conference concluded at
 12 6:15 p.m.)
 13 .
 14 .
 15 .
 16 .
 17 .
 18 .
 19 .
 20 .
 21 .
 22 .
 23 .
 24 .

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COMMONWEALTH OF MASSACHUSETTS

1 I, AMANDA STEVENS, a Professional
 2 Shorthand Reporter and Notary Public in
 3 and for the Commonwealth of Massachusetts,
 4 do hereby certify that the witness whose
 5 deposition is hereinbefore set forth was
 6 duly sworn, and that such deposition is a
 7 true record of the testimony given by the
 8 witness.
 9
 10

2044 response. program 021306

11

12 I further certify that I am neither
 13 related to or employed by any of the
 14 parties in or counsel to this action, nor
 15 am I financially interested in the outcome
 16 of this action.
 17 In witness whereof, I have hereunto set
 18 my hand and seal this 6th day of
 19 March, 2006.

20
21
22
23
24

Amanda Stevens
 Notary Public
 My commission expires November 3, 2011

UNITED STATES OF AMERICA
DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
PUBLIC SCOPING MEETING for the ENVIRONMENTAL IMPACT
STATEMENT
NATIONAL MARINE FISHERIES SERVICE
ON THE ACTIVITIES OF THE NATIONAL MARINE MAMMAL
HEALTH AND STRANDING RESPONSE PROGRAM

Friday, February 17, 2006

The meeting came to order at 2:30 p.m. at
1301 East West Highway, Silver Spring, Maryland,
Sarah Howlett presiding.

Present:

Sarah Howlett	Marine Mammal and Sea Turtle Division
Sarah Wilkin	Marine Mammal and Sea Turtle Division
Dr. Janet Whaley	National Stranding Coordinator

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1 PROCEEDINGS
2 (2:30 p.m.)
3 MS. HOWLETTE: We're going to begin our
4 meeting today. I'd like to welcome everybody to our
5 scoping meeting on the Environmental Impact
6 Statements or Marine Mammal Health and Stranding
7 Response Program. My name is Sarah Howlette and I'm
8 with the Office of Protective Resources. Today with
9 me is Sarah Wilkin and also Janet Whaley, Dr. Janet
10 Whaley, the National Stranding Coordinator.

11 The purpose of our meeting today is to
12 allow for the early public notification of a
13 proposed federal action or actions, and this just
14 gives the National Marine Fishery Service, or NMFS,
15 the opportunity to present the action to the public
16 and to repeat feedback and some input for the scope
17 or the range of issues that we will be covering in
18 our EIS.

19 This is our eighth and final meeting.
20 We've had five meetings on the west coast, two in
21 California, one in Hawaii, Seattle, and in
22 Anchorage, and on the east coast, St. Petersburg and
23 Boston.

24 The agenda for our meeting today is just
25 to give you information on the scoping process, to
26 go over a little bit on the background of the

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1 National Environmental Policy Act process, an
2 overview of the Marine Mammal Health and Stranding
3 Response Program, a review of the proposed actions
4 and alternatives for our EIS, as well as a public
5 comment period.

6 We ask that if you didn't, to please
7 sign at the registration table, just to sign in or
8 to sign up for our mailing lists, or if you would
9 like to present an oral comment today. Written
10 comments may also be turned in today. If you
11 haven't prepared, we can take them. Also there is a
12 written comment form at the registration that you
13 may take as well, and today's meeting is being
14 transcribed by a court reporter for an accurate
15 public record. The National Environmental
16 Policy Act, the purpose of NEPA, this is straight
17 from the act itself is, "To encourage harmony
18 between man and the environment, to promote efforts
19 to prevent damage to the environment, and to enrich
20 man's understanding of man's ecological systems and
21 natural resources."

22 A NEPA requires a federal agency to
23 analyze potential environment impacts of a proposed
24 federal action, and this means just to consider
25 environment consequences during the decision-making
26 process to reduce, prevent, or eliminate environment

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1 damage and NEPA also requires public involvement
2 process and key phases of the EIS process.

3 It's important to note that NEPA does
4 not dictate the decision that is made by NMFS, but
5 it helps to inform the process.

6 So why are we conducting an EIS? There
7 is a list of factors that NOAA needs to look at to
8 determine if a federal action warrants and EIS and
9 this is just a list that we have picked out that we
10 feel is relevant to our federal action.

11 The action may be a subject of
12 significant public controversy based on potential
13 environment impact, it may have uncertain
14 environment impacts, it may establish a precedent
15 and principle about future proposals, it may result
16 in cumulatively significant impact and it may have
17 adverse effects upon threatened and endangered
18 species and their habitat.

19 The benefit of conducting this EIS, it
20 will allow for a programmatic analysis of the
21 MMHSRP, its current and future activities. It will
22 allow for an assessment of cumulative impact, and it
23 will eliminate the need to conduct individual and
24 NEPA analysis on the program activities.

25 Why are we conducting an EIS now? The
26 current Marine Mammal Protection Acts and Endangered

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1 Species Act permit that is issued to the MMHSRP will
2 expire on June 30th of 2007. In order for the
3 program to be issued a new permit, we must conduct a
4 NEPA analysis on the activities that are covered
5 under the permit.

6 We also have a policies and practices
7 manual, and in order for these to be finalized into
8 standards, we also must conduct a NEPA analysis.
9 And both the permit and the manual will be discussed
10 later by Sarah.

11 An EIS consists of the purpose and need,
12 which is just a brief statement about why the action
13 is being considered, the proposed action and
14 alternative, the effected environment, or the
15 resources that may be impacted by the federal agents
16 or actions, the potential environment consequences
17 and mitigations as well as consideration of public
18 input.

19 This is a list of resources that are
20 typically considered in an EIS. Those that we feel
21 are particularly important for our EIS are protected
22 species, including marine mammals, threatened and
23 endangered species, water quality, human health and
24 safety, and cumulative impacts.

25 The EIS process, we publish the notice
26 of intent, or the NOI, in the federal register on

1 December 28th, and this began our formal scoping
2 process. The scoping process will be concluded at
3 the end of February and the draft EIS, once it is
4 published, there will be a 45-day comment period and
5 another set of public hearings in order to gain
6 feedback. The final EIS will be published and 30
7 days after the final EIS the record of decision, or
8 ROD, will be issued and this just states the
9 decision of the agency and how they came to this
10 decision.

11 Public input activities, today you are
12 participating in a scoping meeting. We ask that you
13 identify any specific issues that you have and
14 submit your comments to us. You can sign up on our
15 mailing list to receive the draft EIS or any other
16 information that we may be sending out about the
17 EIS. We ask you to review and comment on the draft
18 and also participate in a public hearing and to
19 review the final EIS.

20 This is our tentative EIS schedule. As
21 I mentioned, scoping will be wrapped up at the end
22 of February. The draft EIS will be complete by
23 September of 2006. The public comment period and
24 public hearings will be between September of 2006 and
25 November of 2006, the final EIS to be completed in
26 May of 2007 and the record of decision will be

1 issued June of 2007.

2 Here is Sarah Wilkin to give an overview
3 of the MMHSRP as our proposed action and
4 alternative.

5 MS. WILKIN: All right. So Sarah gave
6 you kind of the general overview of what NEPA and
7 what it entails, and I'm here to tell you more
8 about, specifically, the EIS for our program.

9 So just a little bit of background about
10 the MMHSRP, or Marine Mammal Health and Stranding
11 Response Program, which I think most of you are
12 fairly familiar with, but it was established under
13 Title 4 of the Marine Mammal Protection Act which
14 was an amendment to the law that was passed to
15 establish the program and send out three mandated
16 goals.

17 The first is to facilitate collection
18 and dissemination of health data about wild marine
19 mammal populations and the second is to correlate
20 that health data with environment parameters,
21 including physical, chemical and biological. And
22 the third is to coordinate effective responses to
23 marine mammal unusual mortality events.

24 So given that charge, the National
25 Marine Fishery Service has organized the Stranding
26 Response Program -- Health and Stranding Response

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1 Program -- into several different components.

2 The first is the Marine Mammal Stranding
3 Network which is an organization of various groups
4 around the country covering most the U.S.'s
5 coastline that respond are the first line of
6 response to marine mammal stranding that are
7 authorized and coordinated by the National Marine
8 Fishery Service. Second, the Marine Mammal
9 Disentanglement Network, which is kind of a similar
10 network of different groups that respond to
11 entangled marine mammals. The third, the John H.
12 Prescott Marine Mammal Rescue Assistance Grant
13 Program gives financial assistance in the form of
14 grants to members of the stranding network for
15 improving stranding response, and also to scientists
16 who are doing research using tissues and samples
17 obtained from stranded marine mammals.

18 The Marine Mammal Unusual Mortality
19 Event and Emergency Response Programs uses many of
20 the same members of the stranding network, but can
21 also draw in outside experts including the working
22 group on Marine Mammal Unusual Mortality Events,
23 which is a panel of outside experts from both within
24 and outside the government of a variety of
25 disciplines that inform and help direct NMFS
26 activities when an unusual mortality event occurs.

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1 The Information Management Program which
2 is charged with the management of all of the data
3 collected by all of these various arms of the MMHSRP
4 including out National Level A Stranding database
5 and the finally the Health, Biomonitoring, Research,
6 Development and Tissue Banking programs which is
7 kind of the catchall for the research that's
8 conducted by the MMHSRP.

9 So as Sarah mentioned, we have interim
10 policies that are currently available that we would
11 like to finalize, so they are now available as
12 interim documents for comment and the regions can
13 choose to implement them at this time or wait for
14 them to be finalized. And the five documents that
15 you see here are part of these policies.

16 And the first is the Stranding Agreement
17 Template, which is a template of language on how we
18 propose the stranding agreements will be written
19 with organizations to be members of the stranding
20 network, and the second is the qualifications to
21 obtain the stranding agreement, or in other words,
22 what we are expecting organizations to have as
23 qualifications prior to obtaining the stranding
24 agreement.

25 The third is the minimum facility
26 Guidelines for a rehabilitation facility so there

1 would be minimum standards for a facility that's
2 going to conduct rehabilitation activities on marine
3 mammals, and this is a joint document with the U.S.
4 Fish and Wildlife Service, so it does cover all of
5 the species of marine mammals.

6 The fourth is the release criteria. The
7 release criteria is the joint document with the U.S.
8 Fish and Wildlife Service covering all the marine
9 mammals and it is the criteria for a rehab facility
10 to kind of -- for a marine mammal to comply with
11 prior to being released back into the wild.

12 And then the Disentanglement Network
13 Guideline which are currently in use in most of the
14 east coast and we're proposing to issue them as
15 final guidelines for the U.S.

16 So a little bit about the permit. It is
17 issued jointly under the Marine Mammal Protection
18 Act and the Endangered Species Act. It's issued to
19 the program, the Marine Mammal Health and Stranding
20 Response Program, with Dr. Teri Rowles, who is our
21 director as the principal investigator, and then all
22 of the regional coordinators are listed as co-
23 investigators along with many other scientists and
24 stranding network participants.

25 And perhaps the most important thing
26 that this permit does that you might or might not be

1 aware of, is that it actually provides for the
2 response for both stranding and disentanglement
3 response of animals that are listed under the
4 Endangered Species Act. So this kind of compliments
5 the authority that is given in the Marine Mammal
6 Protection Act for nets to enter and to straining
7 agreements, but it extends that same authority to
8 endangered species.

9 It also permits import and export of
10 diagnostic tissues for diagnostic sampling and also
11 analysis on those tissues, and then it provides for
12 health assessment captures in marine mammal
13 populations where there's a question relating to
14 their health or health trends.

15 So these are captures of animals that we
16 believe, at least in theory, are healthy animals but
17 they're in an area or part of a population that has
18 had some kind of health issue, such as an unusual
19 mortality event or a disease outbreak in the past.

20 Overview of the Stranding Network, these
21 are the total U.S. strandings, or those strandings
22 for which a Level A data sheet, which is our basic
23 information about strandings is filled out between
24 2001 and 2004 for the entire country.

25 So I have down at the bottom there
26 "Cumulative Impacts." And that's one thing that we

1 are trying to keep very much in mind as we're
2 writing this document, because it is a programmatic
3 look at the activities of the entire Health and
4 Stranding Response Network throughout the country.
5 So although the impacts from a single animal or a
6 single carcass or a couple of animals may be in your
7 local area, you might not think would be that much.

8 When you look at it nationwide, for
9 instance in one year, we had close to 5,000 stranded
10 pinnipeds. So we have to try and consider the
11 impacts of all of those animals.

12 And Silver Spring is part of the
13 northeast region, so these are the statistics for
14 strandings here in the northeast. These are
15 pinnipeds. All the way on the left are those
16 animals that stranded dead. In the middle are
17 animals that stranded alive, and then all the way on
18 the right are the animals that stranded alive, were
19 taken into rehabilitation, spent at least some time
20 in a rehab facility, and then were released back
21 into the wild population.

22 We have all the same information for
23 cetaceans strandings, again from 2001 to 2004. And
24 it is important to note the scale bar on the left
25 there is changing a little bit. But in 2004 still
26 there were about 400 dead cetaceans here in the

1 northeast region alone.

2 So as Sarah said, an EIS starts out with
3 a purpose and need statement, which is a plan
4 language, simple relative statement that describes
5 our purpose and need for doing this analysis. So
6 the purpose for our EIS is very similar to what we
7 envision is the purpose for the program, which is to
8 respond to marine mammals in distress, including
9 those that are stranded, entangled and out-of-
10 habitat, and to answer research and management
11 questions related to marine mammal health.

12 So therefore, these are our needs. The
13 first is to operate the Health and Stranding
14 Response Program effectively and efficiently by
15 making the best use of available and limited
16 resources. Everyone can always agree that there's
17 not enough money to go around, and there's usually
18 not enough people and not enough time, and therefore
19 our challenge is to figure out how we can operate
20 the program in the most efficient way possible to
21 make the best use of what resources we do have.

22 And then to operate the program so that
23 we're making sure that we're collecting the data we
24 need on marine mammal health and health trends in
25 order to meet the information needs of us, as an
26 agency, for appropriate conservation and management

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1 and finally to insure that human and animal health
2 and safety is always one of our highest priorities.

3 So this is our proposed action for the
4 ESI, or actions. The issuance of the Policies and
5 Best Practices Manual, which encompasses all of
6 those five interim documents into one consolidated
7 form, and issuing that as final guidance guidelines,
8 and the second would be an issuance of a new permit
9 under the ESA and MMPA to the health program.

10 Stranding agreements would continue to
11 be issued or renewed on a case-by-case basis but
12 this would be done implementing the new Stranding
13 Agreement Template and the minimum criteria for
14 Stranding Agreement holders. And then other day-to-
15 day operations, like response, rehabilitation,
16 release determination, disentanglement activities,
17 etc. would continue essentially as they are now,
18 although again, this would be implementing the
19 standards in the Policies and Practices Manual, so
20 rehabilitation facilities standards and release
21 criteria and the disentanglement network guidelines.

22 So in the FR notice that was published
23 in December, we listed a series of alternatives that
24 we are considering. And I'll tell you right now
25 that since December we've had more conversations and
26 discussion and thought, and we've kind of come up

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1 with a different way of framing those alternatives.
2 So first I'm going to present to you
3 what was listed in the FR notice, which hopefully
4 you're familiar with already, and then we'll do the
5 harder part which is presenting to you our new way
6 of thinking about alternatives.

7 So as listed in the FR are action
8 alternatives, or alternative one, the preferred
9 action, which is the issuance of the policies and
10 practices, the issuance of the permit, again
11 stranding agreements continue to be issued or
12 renewed, and the Disentanglement Network would
13 continue essentially as it does today.

14 NEPA requires that we consider a no-
15 action alternative which is to say, what if the
16 government didn't do this federal action or didn't
17 do anything. And under a no-action alternative,
18 therefore, we would not issue the Policies and
19 Practices Manual so that guidance would not be
20 available. We would also not renew or issue new
21 stranding agreements to members of the Stranding
22 Network. There would be no new permit issued to the
23 program and no extension of authorizations for our
24 partners in the Disentanglement Network, and with no
25 permit eventually no biomonitoring or research
26 activities.

1 So although it would take some time as
2 disentanglement agreements and contracts expired and
3 were not renewed, or no new ones were written, the
4 network would essentially cease to function, so
5 there would be no further response.

6 As I have down at the bottom, you might
7 notice that this could conflict with some of our
8 statutory mandates under the MMPA to collect health
9 data. However, MMPA guidance also indicates that we
10 should examine alternatives even if they conflict
11 with other federal laws. And although the MMPA
12 requires that we collect this data, it doesn't
13 exactly tell us how we should go about doing it. So
14 it is possible to consider a world where the MMHSRP
15 as we know it does not continue and yet somehow the
16 data is collected.

17 Status quo alternative is what happens
18 if we continue doing what we're doing right now. So
19 under this alternative, the Policies and Practices
20 would not be issued and final, current stranding
21 agreements would continue and they would be renewed
22 as however they're currently issued, and the permit
23 could be renewed or reissued as it's currently
24 written so we could continue the research activities
25 that are being done. Disentanglement partners will
26 continue and new applications for participation in

1 the network would be considered on a case-by-case
2 basis.

3 So what this allows us to do is to look
4 at what are the impacts of the program as it's
5 currently operating at its current level. The
6 network would continue and to function exactly at
7 that level. However, the worry with the status-quo
8 alternative is that it would preclude us from making
9 adaptive changes in the future by adding new
10 partners, for instance, or changing techniques or
11 our research projects.

12 And then we had a few alternatives that
13 were considered by may be eliminated from further
14 study, and most of these alternatives involve
15 modifying the activities of the program in some way
16 by reducing the activities or only doing certain
17 activities.

18 For instance, only conducting via
19 monitoring and research and not conducting stranding
20 response, or only conducting stranding response and
21 not doing rehabilitation and not doing the
22 biomonitoring research component, response to only
23 cetaceans, or in other words, dividing it up by
24 species somehow, or by only responding to those
25 animals listed under the ESA as threatened or
26 endangered. Again, those may be eliminated from

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1 further study.

2 So I said that we had kind of thought
3 about it a little bit more and come up with a
4 different way of taking most of those same
5 alternatives but framing them differently, and this
6 is what I'm going to present to you now. And that
7 is, dividing up the alternatives into each of the
8 different activities.

9 So we have determined -- we have
10 identified these six activities as being those kind
11 of broad categories of activities within the program
12 that we feel have the potential or actually have
13 environment impact associated with them.

14 The first is the stranding response, and
15 under that we include all the beach response, any
16 kind of beach necropsy or facility necropsy,
17 transportation of an animal, relocation of animals
18 and immediate release.

19 And all of these activities have
20 overwhelming concerns with human health and safety.
21 They also all have concerns for the potential
22 impacts to threaten an endangered species, or
23 protected species in general.

24 Response has some additional
25 considerations for the environment impacts of
26 activities on beaches in particular, or coastlines.

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1 2:42 38 is carcass disposal and euthanasia and our
2 concerns there are with what the activities of the
3 program are putting into the environment over the
4 course of carcass disposal activities when, for
5 instance, we know that we have marine mammals that
6 have levels of contaminants that already exceed EPA
7 regulations and have them defined as toxic waste.

8 And then associated with that is
9 euthanasia, and specifically carcass disposal issues
10 that occur when you have an animal that you have
11 injected chemicals into in order to humanely
12 euthanize it but then what happens to the
13 environment if those chemicals are released?

14 The third is rehabilitation and again,
15 this is a concern for health and human safety,
16 particularly for volunteers and employees in those
17 facilities. It can also -- there can also be
18 impacts to water quality because you have actual
19 facilities that have some kind of affluent
20 discharge.

21 The fourth is release of rehabilitated
22 animals back into wild populations. And the concern
23 there is mostly with the continued health of the
24 wild population and whether there's the potential
25 for disease transfer or pathogen pollution from the
26 animals after having been in rehab.

1 The fifth is disenfranchisement activities
2 and again, this is primarily a human health and
3 safety concern. And then finally, biomonitoring and
4 research activities.

5 So within each of these activities we
6 have a range of alternatives that are proposed, and
7 within each then, we can choose a preferred
8 alternative or a combination of alternatives to
9 become our preferred alternative, and we are going
10 to go into this now in extreme detail.

11 So for instance, the first activity as I
12 said, on stranding response. So under this activity
13 we have a no-action alternative which is, what if
14 we, the government do nothing and we allow stranding
15 agreements to expire, therefore which means that the
16 network as we know it would cease to function.

17 The second is the status-quo alternative
18 where we continue those stranding agreements that we
19 currently have and they continue to be renewed but
20 it can preclude adaptive changes by adding anyone
21 into the network.

22 The third is an immediate curtailment of
23 response, so this would be similar to the no-action
24 alternative but would happen on a much quicker time
25 line.

26 The next two are both in the same kind

1 of realm of thinking, and you're going to see them
2 over and over again, so I'll explain them now. And
3 that is to say that we're going to change our
4 activities based on what kind of animal or what kind
5 of species we're dealing with.

6 And there's two ways to think about
7 this, and they both go back to how stranding
8 agreements are written or entered into. And the
9 first is to say that response to some category of
10 animals would be required by a facility, so the
11 stranding agreement would be written to say that you
12 are required to some animals and the response to
13 other animals would be optional but may be expected,
14 assuming that you had the resources to do that kind
15 of response.

16 And the other way to think about it is
17 that your stranding agreement would authorize you to
18 do response activities to some animals but would not
19 authorize response to other animals which would
20 essentially mean the response to that second
21 category would be prohibited because you would not
22 be exempted from the take.

23 And then when we get to thinking about
24 how we're going to divide up these animals as far as
25 what we would respond to and what we would not
26 respond to, or what we would authorize response to

1 or not authorize response to.

2 We have three groupings here that are
3 kind of just ones we thought of. For instance,
4 cetaceans. Response could be required but response
5 to pinnipeds would be optional, although expected.

6 The second is that those animals that
7 are protected by listing under the ESA would be
8 required and those animals that are not listed would
9 optional.

10 And the third would be dealing with the
11 optimum sustainable population that animals that
12 were below their OSP or had an unknown population,
13 response would be required. Animals that were at
14 OSP or above it would have optional response, and
15 the same thing for authorized versus not authorized.

16 The last three alternatives have to do
17 with the stranding agreements and how they are going
18 to be issued. And the first is that stranding
19 agreements would be issued to any applicant after
20 review assuming that they met the review criteria.

21 The second, that the stranding agreement
22 criteria would be implemented as proposed and
23 therefore only applicants that meet those minimum
24 criteria will be issued a stranding agreement, and
25 this would be the basis of the review. We have to
26 determine if their facility met the minimum

1 criteria.

2 And the last is that the stranding
3 agreement criteria would be revised in some way from
4 how they were given to you and then implemented and
5 utilized.

6 Under carcass disposal and euthanasia,
7 again a no-action alternative wherein stranding
8 agreements would expire and therefore there's no
9 more stranding networks so animals aren't responded
10 to and all animals would be left on the beach.

11 The status-quo alternative, we would
12 continue with current training agreements and
13 therefore current methods of carcass disposal would
14 continue, whatever those may be. It varies a great
15 deal by facility and area -- locality.

16 Another alternative would be that all
17 animals would be buried onsite and analyzing the
18 impacts of that or conversely, that all animals
19 would be transported offsite and disposed of in some
20 other way than burial. For instance, via landfill
21 or incinerator, towed out to sea, etc.

22 And then to deal with the euthanasia
23 idea that animals would either no longer be
24 chemically euthanized to prevent the release of
25 chemicals or that chemically euthanized animals
26 would be transported offsite for carcass disposal

1 and animals that were not euthanized chemically
2 could be buried, left on the beach, or transported
3 to an alternate disposal site as feasible depending
4 on the facility.

5 Our third activity, rehabilitation.
6 Again, a no-action alternative. Stranding
7 agreements would expire and therefore, animals would
8 no longer be rehabilitated. The status-quo
9 alternative would continue our current stranding
10 agreements and our current rehabilitation
11 activities.

12 Another option is the immediate
13 cessation of rehabilitation so that all stranded,
14 live stranded animals would either be left on the
15 beach, euthanized on the beach, or trans-located and
16 then released.

17 Again, we focus on splitting up
18 activities based on the different categories of
19 animals and whether that's a required response
20 versus an optional or expected response, or an
21 authorized response versus and non-authorized
22 rehabilitation, and splitting them by cetaceans and
23 pinnipeds in two different categories by ESA listed
24 and non-listed, or based on some other definition of
25 their population whether OSP.

26 And the last two are that the

1 rehabilitation facility guidelines would either be
2 implemented as proposed or they would be modified
3 and then implemented.

4 Under release, again, a no-action
5 alternative. As stranding agreements expire there
6 is no more rehab and therefore no more release of
7 animals. Status-quo alternative, we continue with
8 the current network and the current rehabilitation
9 and release activities.

10 All animals released is one alternative
11 that therefore if an animal is not a release
12 candidate it would not be taken into rehab in the
13 first place or would be euthanized. And then again,
14 this idea of dividing our response between some
15 groups of animals and either optional groups or not
16 doing other groups. So this would be that cetaceans
17 would be released after rehabilitation and pinnipeds
18 release could be optional.

19 And the last two deal with the release
20 criteria, so whether they're implemented exactly as
21 proposed or whether they're modified in some way and
22 then implemented.

23 Disentanglement -- this should be
24 looking familiar by now. We have a no-action
25 alternative which is that contracts and agreements
26 would be allowed to expire and there would be no

1 further disentanglement response. Status quo, again
2 we continue our current agreement, the current
3 disentanglement network, however it could preclude
4 changes as technology improves or as other members
5 wish to be a part of this disentanglement network.

6 The disentanglement of some animals
7 could be authorized and other animals would not be
8 authorized. For instance, cetaceans and pinnipeds,
9 ESA listed and non-listed and at OSP versus not at
10 OSP.

11 And then the last two are to deal with
12 the guidelines whether they're implemented, and this
13 would be implementing these guidelines nationwide,
14 which would then have training prerequisites
15 required before a group could become, or a person
16 could become a part of the disentanglement network,
17 or the modification of the guidelines and then
18 implementations.

19 This activity via monitoring. No action
20 would be allowing the permit to expire and by
21 biomonitoring projects would therefore end. The
22 status quo would be the renewal of the permit which
23 would allow the continuation of current
24 biomonitoring projects but no new ones.

25 Another way to limit our activities in
26 some way, either by having no health assessment

1 captures which would then allow biomonitoring to
2 continue but only from those animals that were
3 stranded, by caught in fishing, or cetaceans hunted,
4 or by eliminating the tissue bank, which would mean
5 that tissues could still be collected and used for
6 immediate analysis, but it would preclude us from
7 doing retrospective studies many years into the
8 future on banked tissues.

9 And the last alternative is the issuance
10 of the new permit with current and new foreseeable
11 biomonitoring and research projects.

12 All right. That covers the alternatives
13 as we're thinking about them, and as part of our
14 scoping process we are asking some very specific
15 questions for input from you, the public.

16 The first question involves identifying
17 environment concerns, so we had those six activities
18 up and I told you what we feel that the environment
19 impacts of those might be. However, we realize we
20 might not have addressed or identified all of the
21 potential activities that could result in
22 environment impact, so therefore we are asking you
23 if you can identify others to identify them to us
24 and to be thinking, too, about not just the direct
25 impacts of the activities, but also the indirect and
26 cumulative impacts.

1 The second is to help us define
2 alternatives and potential mitigation measures.
3 There are a whole lot of alternatives that were just
4 proposed and we recognize that not all of them are
5 feasible or even necessarily a good idea. So we're
6 asking for your help.

7 We have not, from that second group of
8 alternatives under each activity, we have not yet
9 identified any that we are going to eliminate from
10 further consideration. So that is one area in which
11 we could use feedback on, helping us define
12 alternatives by defining those alternatives that are
13 not feasible and should be eliminated from future
14 consideration.

15 And then also potential mitigation
16 measures where we have alternatives that would
17 result in impacts to the environment, ways to
18 minimize or mitigate those impacts.

19 And then the third area of specific
20 information is necessary modifications to the
21 interim policies. So we have those documents up as
22 they're currently proposed and we are asking for
23 your feedback on them, whether that be editorial or
24 logistical or more general in kind of input and
25 scope.

26 So here are some examples of some of the

1 questions that we are posing to you as the public
2 and requesting input on. And the first is the very
3 basic what sort of activities should we be
4 conducting? And when you think about this, "we" is
5 the Marine Mammal Health and Stranding Response
6 Program, and we're talking about what sort of
7 activities on the local or regional and the national
8 level in response to stranded animals, entangled
9 animals, sick, injured, and other marine mammals in
10 distress.

11 And the second question is, are there
12 critical research or management needs that we may
13 meet by information obtained from stranding
14 investigations, from rehabilitation, from
15 disentanglement activities or health-related
16 research by monitoring.

17 And if you have identified research and
18 management needs, are we currently meeting them and
19 if not, what are those needs and what should we be
20 doing in order to meet them?

21 The next group of questions involves
22 level of response effort and each of those
23 alternatives we have some idea of ways to partition
24 or differentiate our response activities, or level
25 of activity based on species. And again, this comes
26 back to the idea of making the best use of our

1 resources.

2 So the first question is, should -- in
3 your opinion, should there be different standards or
4 levels of effort for different species or groups of
5 species and if so, how should we go about setting
6 standards or setting limits on those efforts?

7 And the last question, how should we
8 divide the species into different categories? And
9 the three ways that we proposed are cetaceans and
10 pinnipeds, ESA listed and non-listed, and then some
11 division based on their population status. But we
12 recognize that there are many other ways to divide
13 species.

14 The next group of questions centers
15 around organizations and qualifications which is to
16 say the network members and the current networks.

17 First question, is the current
18 organization of the National Stranding and Health
19 Assessments Networks adequate? And this also
20 involves the disentanglement network at the local,
21 state, regional, ecosystem, and national levels, and
22 what changes could we make that would help us make
23 the organization more effective?

24 The next question revolves around the
25 minimum criteria document and essentially whether
26 that document as proposed is adequate. What should

1 the minimum qualifications of an individual
2 organization be prior to becoming a stranding
3 agreement holder or a participant in the
4 disentanglement network?

5 And the fourth question goes beyond
6 that, because that is to say once you have obtained
7 your stranding agreement, what about requirements
8 for a continued participation in the stranding
9 network? Should there be, for instance, a
10 certification or licensing process or what kind of
11 training should be required so that you're not just
12 obtaining a stranding agreement, but you're actually
13 doing something to maintain that agreement and
14 maintain your involvement.

15 And finally the effects of the
16 activities. And the first question, are public and
17 animal health and safety needs adequately addressed
18 by the current program? Are the current release
19 criteria as proposed adequate to protect wild
20 populations from introduced diseases from animals
21 that have been in rehab? Are there potential
22 environment impacts that you can see we have not
23 identified? And are there any other relevant or
24 issues or data that NMFS should consider in our
25 analysis? And we ask that if you have other issues
26 or data if you could provide it or give us at least

1 a reference to obtain it.

2 That concludes the presentation and now
3 we're going to move into the oral comment time, so
4 the oral comments is the period of time for you, as
5 members of the public, to give your feedback on the
6 scope of our EIS to us. We will not be responding
7 to these comments today. They will be incorporated
8 into the EIS and responded to that way.

9 If you are interested in giving an oral
10 comment. If you already signed in at the
11 registration table we have that. If you did not
12 sign in and you would like to comment, we'll give
13 you a chance to do so. I don't think we'll need to
14 do a time limit and just a reminder that we are
15 recording the meeting to insure an accurate and
16 complete record of your comments.

17 If you don't feel like standing up and
18 giving an oral comment, there are many other ways to
19 still be involved by commenting. So for written
20 comments, if you have prepared comments, you can
21 hand them in to us today. We have comment sheets up
22 at the registration table that you can also use to
23 write comments on. Or you can make comments in any
24 form by mail, email, or faxed before our deadline of
25 February 28th.

26 Additional information on our document

1 and especially on all the interim policies that
2 we're proposing is available for review at public
3 libraries. There's a copy here at the library, NOAA
4 building 3. It's also available on our web page
5 listed at the bottom there. And then if you're
6 interested in receiving copies of the draft EIS or
7 any other information that might come out, if you
8 register here, or you can check and we will be
9 uploading them to our website as they're available.

10 So we would like to thank you for coming
11 and your participation in the scoping meeting and
12 now will turn it over for oral comments, which we
13 have one. So if you can please come up to the
14 microphone and give your -- all right -- up to the
15 podium and give your name and affiliation.

16 MS. MENARD: Good afternoon. I am
17 Marilee Menard, the executive director of the
18 Alliance Parks and Aquariums. The Alliance is an
19 international association of marine life parks,
20 aquariums, zoos, research facilities and
21 professional organizations dedicated to the highest
22 standard of care for marine mammals and to their
23 conservation in the wild through public education,
24 scientific study, and wildlife presentation.

25 Alliance members are also integral parts
26 of the Marine Mammal Stranding Network.

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1 Collectively, Alliance members represent the
2 greatest body of experience and knowledge with
3 respect to marine mammal husbandry. Marine life
4 parks are leaders in the effort to medically treat,
5 rehabilitate, and return to the ocean the sick and
6 injured dolphins and other marine mammals that
7 strand each year on our beaches and shorelines.

8 For decades Alliance members have
9 voluntarily dedicated time, resources, staff and
10 equipment to these efforts and have spent millions
11 of dollars doing so. We have gleaned extensive
12 knowledge and experience from working with stranded
13 marine mammals as well as animals in our parks.
14 This knowledge and experience assures that stranded
15 marine mammals get the very best care and have the
16 best chance of being returned as healthy individuals
17 to the wild.

18 The NOAA Fisheries, Marine Mammal Health
19 and Stranding Response Program, which oversees the
20 National Marine Mammal Stranding Network and efforts
21 to rescue, research, rehabilitate, and release
22 stranding marine mammals if vitally important.

23 The public supports this essential
24 program in a Harris Interactive Poll conducted for
25 the Alliance and released last year. Ninety-four
26 percent of respondents supported efforts to rescue,

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1 medically treat, and rehabilitate injured wild
2 animals and marine mammals so they can be returned
3 to the wild. This is not a red/blue issue. This is
4 a phenomenal percentage that clearly indicates that
5 the public backs the activities of the Stranding
6 Network.

7 The importance and relevance of research
8 with stranded animals has never been more striking
9 as experts warn today about the perils of our
10 oceans, marine mammals in our oceans, now and into
11 the future.

12 The collection of biological data from
13 both stranded marine mammals that have died on
14 beaches or those that have been rescued and
15 rehabilitated give researchers a glimpse into the
16 state of our oceans and rivers by studying pollution
17 levels and diseases effecting wild animal
18 populations.

19 As strandings and public awareness of
20 ocean health issues increase, the pressure on the
21 Stranding Network and its authorized partners also
22 escalates. That pressure should not result in
23 substandard response and care for these unique and
24 wonderful animals.

25 Good intentions do not save a sick or
26 injured stranded animal, nor is it able to identify

1 or monitor new threats to marine mammals health.
2 Years of experience, research, and expertise are the
3 ingredients that have led to the success of today.
4 All Stranding Network partners should be evaluated,
5 trained, and meet basic quality standards for
6 facilities and operations. This will assure that
7 the animals get quality care and that basic
8 information can be collected to support the
9 Stranding Response Program's mission to monitor the
10 health of marine animals and their ocean habitats.

11 (Applause)

12 MS. WILKIN: All right. We have one,
13 maybe, to come with us.

14 MS. BARCO: I'll take the podium, too.
15 I don't have specifically written comments, so
16 mine's going to be a little bit less professional
17 than Marilee's. I'm Sue Barco with the Virginia
18 Aquarium and Stranding Response Program, and I want
19 to start off by applauding you-all for all the hard
20 work you've done and I think the documents that you
21 put together are incredible. And for the most part,
22 I agree with a lot of what has been written, so I
23 think that needs to be on the record.

24 Personally I support a lot of what you-
25 all have recommended. I have to rethink your
26 alternatives a little bit but as far as answering

1 some of the questions that you've asked as far as
2 what sort of activities should be conducted, I think
3 we ought to consider continuing to authorize all
4 activities that have been conducted thus far under
5 the Marine Mammal Health and Stranding Response
6 Program.

7 I think it would be dangerous to not
8 authorize some of those activities. Whether you
9 prioritize them or not, I think, is largely a
10 decision that you-all have to make knowing the
11 limits that you have on resources, but non-
12 authorized some activities I think could be
13 dangerous.

14 As far as the current organization of
15 the National Stranding and Health Assessment
16 Networks, we have gotten the -- some of us have
17 gotten the feeling that there is somewhat of a
18 disconnect between headquarters and the various
19 regions and among the various regions as far as how
20 things are conducted and in some cases funded, and
21 we certainly would support any efforts NMFS to
22 mitigate those types of differences where it's
23 feasible. Certainly in some areas, just coming back
24 from Alaska, some of those differences are required.

25 As far as public health and animal
26 safety needs, I think that one issue that we need to

1 really work on in the future, and I didn't see this
2 alternative recommended, is the euthanasia issue.
3 And I think one alternative we should explore is an
4 alternative of a less toxic chemical euthanasia than
5 the currently accepted euthanasia solution that is
6 used.

7 On the beach, in some cases, it can be
8 dangerous both to the stranding response personnel
9 as well as to the environment and there are some
10 less-toxic options that have been considered not
11 humane by the veterinary associations but perhaps
12 other combinations of that medication with something
13 like potassium chloride with other medications that
14 are less toxic and potentially not controlled or
15 less controlled might give us more freedom and more
16 safety for both the animals and the stranding
17 responders when dealing with euthanasia.

18 Also, as far as stranding agreements and
19 minimum qualifications, I applaud your efforts to
20 try to raise the standards, and I think most
21 organizations are willing to do the best they can.
22 I do think that you should be aware that by
23 requiring certain actions that you may be putting
24 some people out of business and you have to be ready
25 for that possibility, that by requiring us to do a
26 certain level of things, yet not providing regular

1 funding for that that here are some places and some
2 people that may not be able to continue their
3 activities. That may be okay, it may not be okay,
4 but it is something you should be aware of. There
5 will be a lot more interim comments from our
6 organization.

7 (Applause)

8 MS. WILKIN: Anyone else suitable
9 inspired? All right then we -- thanks for your
10 participation and the formal commentary.

11 (Whereupon, at 3:08 p.m. the
12 foregoing matter was
13 adjourned.)

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APPENDIX D

COMMENTS RECEIVED DURING SCOPING PROCESS



Alaska SeaLife Center

1315 East-West Highway, Room 13635
Silver Spring, MD 20910

February 28, 2006

Mr. P. Michael Payne
Office of Protected Resources
Marine Mammal and Sea Turtle Division (F/PR2)
National Marine Fisheries Service
1315 East-West Highway, Room 13635
Silver Spring, MD 20910

Public comments for Environmental Impact Statement (EIS) on the Marine Mammal Health and Stranding Response Program (MMHSRP)

Dear Mr. Payne,

It is a pleasure to have the opportunity to comment on the Environmental Impact Statement (EIS) on the Marine Mammal Health and Stranding Response Program (MMHSRP). The Alaska SeaLife Center fully supports the need for stranding response and for rehabilitation of stranded Marine Mammals. We believe that this is in the best interest of the animals served the humans who share the environment and the people who use marine mammals as food items. This is a belief held by a vast majority of Americans (94%) who believe that it is important to rescue, medically treat, and rehabilitate sick or injured marine mammals. Our major concern is the management of the Prescott funding program that has been used to facilitate NMFS agendas of data gathering, and has fostered "better dead than in captivity" agendas in some organizations. In our opinion the funding has been diluted by a NMFS decision to not grant more than two awards to each organization. While that decision might have been made originally to spread the funding over a larger area, the effect has been deleterious for the very marine mammals the program is designed to protect. We believe that the Prescott funding in some regions is being used to fund salaries of competing stranding coordinators and would be better spent on building consortiums or building networks around one or two major organizations in a region (Alaska model) that could manage and coordinate the stranding activities in a region.

The Comments in the attached document are compiled from comments from and represent the comments from the Alaska SeaLife Center.

Dr. Carrie Goertz
Dr. Pam Tuomi
R. Lee Kellar
Tim Lebling
Dennis Christen

R. Lee Kellar
Director of Husbandry

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Phone (907) 224-6300 • Fax (907) 224-6320
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EIS COMMENTS

Specific Questions:

• What sort of activities should be conducted on a local, regional and national level in response to stranded, entangled, sick, injured, and other marine mammals in distress?

Our institution feels that the current level of effort should continue. Responding to both dead and live stranded marine mammals offers unique opportunities to gain insight into processes, both anthropogenic and naturally occurring, which affect individual marine mammals, their greater population, other species, and the marine environment. Dead and live animals offer different opportunities; some conditions are best detected in live animals while post-mortem testing will pick up other conditions, and so both should therefore continue. Stranded animals are not typically representative of populations but examining these animals offer advantages over examining wild caught animal; namely, the stranders are more easily 'caught' and make it easier to detect debilitating processes that may only affect a small portion of the population at present. Furthermore, in the case of responding to live animals, if there are not facilities and professional staff available to care for live animals, 'lay' people will take matters into their own hands which is not safe for the animals or the inexperienced people trying to care for them.

• Are there critical research or management needs that may be met by stranding investigations, rehabilitation, disentanglement or health-related research and biomonitoring -activities? Are these needs currently being met? If not. What are they, how are they likely to benefit the marine mammal species, and what should be done to meet them?

Management definitely needs to be improved, however, the government may not be in the best position to make this happen. Our institution is very intrigued by the efforts in the northeast to form a consortium. We believe that this is critical for the northeast to form a consortium in order to streamline their functions. It is our belief that one or several large stranding responders in a region is better than lots of relatively under funded response groups. The proliferation of these under funded, unqualified and understaffed organizations can be partially blamed on the Prescott funding strategy of NMFS. By awarding no more than 2 awards to an institution NMFS has ensured that there is little or no effective stranding response and that live animal response is nearly impossible to fund. This has relegated the Prescott program into a federally funded beach clean up program. The better scenario would be a centralized regional organization with one coordinator (Alaska model) and the rest of the regional funds being spent on response and rehabilitation expenses instead of paying salaries for multiple coordinators in small ineffective organizations.

• Should there be different standards or levels of MMHSRP effort for different species or groups of species (i.e. pinnipeds vs. cetaceans; threatened or endangered species vs. increasing populations, etc.)? If so, how should NMFS set these standards or priorities?

Standards and levels of responses should be the same regardless of species with the exception that endangered, threatened should receive priority in the face of conflicts of space or commitment. With few exceptions, there do not appear to be official priorities within NMFS. However, at times it seems that NMFS has unofficial priorities and individuals within NMFS have their own individual priorities that they try to impose on institutions. Institutions should be allowed to set their own priorities which NMFS should respect and not expect institutions to change just to suit NMFS.

• Is the current organization of the national stranding and health assessment networks at the local, state, regional, ecosystem, and national levels adequate to meet the necessary management and research needs for conservation? If not, what changes should be implemented to make the organization more effective.

The better scenario would be a centralized regional organization with one coordinator (Alaska model) and the rest of the regional funds being spent on response and rehabilitation expenses instead of paying salaries for multiple coordinators in small ineffective organizations.

• What should be the minimum qualifications of an individual or organization prior to becoming a Stranding Agreement holder to ensure that animals are treated appropriately, humanely, and with the minimum of adverse impacts?

This institution is well aware of various organizations that lack staff with appropriate maturity and depth of experience to properly assess, transport, and care for marine mammals and we are in favor of establishing minimum qualifications. In that regard, there is no substitute for continuous, full-time, hands-on experience. There are ample opportunities to intern or volunteer with established rehab institutions or zoologically institutions with captive marine mammals that are not involved with stranding or rehab. However, there needs to be a balance so that participating in the stranding program is not overly burdensome to truly quality institutions. In general the guidelines and policies that are being reviewed as part of the EIS process fail to achieve a good balance.

• Are public and animal health and safety needs adequately addressed in the current organization and operations of the MMHSRP?

The current process of distributing funds severely dilutes the impact that these limited funds could have. Furthermore, it should be said that 4 M per year is truly inadequate to properly fund this initiative and NMFS is getting a bargain for this price. Stranding organization have for years relied on resorting to all sorts of tricks to hide the true cost of responding to and analyzing or caring for marine mammals.

• Are there any other relevant issues or data NMFS should consider in its analysis of activities conducted by, for, and under the authorization of the MMHSRP? If so, please provide if or a reference for it.

NMFS should seriously consider actively soliciting input from establish organizations that are involved in the self-regulation of organizations and facilities that care for marine mammals, namely AZA and AMMPA. Institutions that are certified by these or other respected zoological groups should be rewarded by agreeing to standards that exceed those put forth in the AWA.

General Comments on the Documents

It is unclear how the various documents up for review work together and there remain are disconnects and potential disagreements between them. Furthermore, the legal status of each is also unclear. While the Stranding Agreement appears to be a legal document, the rest appear advisory in nature but this institution has already been 'request' to comply to items in these 'draft guidelines.'

The documents are in general overly detailed and lacking in flexibility which is required to address unanticipated situations. Furthermore, it may preclude the development of innovative novel techniques or facilities because options are not provided for in these documents.

While we recognize the need to establish standards to be able to prevent substandard facilities, some of the requirements (physical/monitoring/reporting) are overly burdensome, especially to a quality, experienced, established institution. There is little incentive for such institutions (such as one that is AZA or AMMPA accredited) to continue to participate in response and rehab.

There are a number of pre-release events, reports that are mentioned in the various documents with potentially conflicting dates which should be clarified.

The documents fail to hold NMFS accountable for prompt responses. Furthermore, it in no way limits the extent to which it can require an institution to pay additional testing.

The various documents place a lot of responsibility on the veterinarian who typically is not a fulltime employee and in fact frequently are volunteers themselves. Veterinarians frequently do not have the authority to enforce compliance. Furthermore, it is the hope that the lead husbandry staff would have sufficient experience and wherewithal to deal with many of the decisions that these documents call upon the veterinarian to deal with and know when vet staff needs to be called in. Furthermore, it is the expectation that the lead husbandry staff member have the most onsite interaction with individual animals and should have sufficient experience with the species being cared for and an understanding of normal behaviors such that they, and not the veterinarian, is the most appropriate person to sign off on behavioral clearance. In general, the roles and responsibility of the veterinarian and the lead husbandry staff member should be better balanced, for example instead of being the veterinarians decision some of these things might more appropriately be the decision of the lead husbandry staff member in consultation with veterinary staff. Nevertheless, it is interesting that there is no requirement to have veterinary involvement with animals that are immediately released or picked up and transferred to another location for release.

Will NMFS have adequate funding to perform the inspections necessary to evaluate organizations prior to authorizing stranding organizations and for follow-up inspections to ensure compliance?

Strict interpretation of USC 50 CFR prohibiting the public display of marine mammals undergoing rehabilitation should be revisited especially in light of the lack of federal funding to support these efforts and the ability of institutions to manage such viewing with no impact to the

individual animal undergoing rehab.

National Template Comments:

- Pg 6, Paragraph 11, third sentence is awkward, may have an extra 'should'
- Page 11, Article IV: A general comment, as part of this section authorizing response organizations should be authorized to pick up of animals without obtaining authorization for each specific event and since this is currently unequally applied across regions and even unequally applied within regions by different NMFS personnel it should be specified that organizations granted authority under this section do not need to obtain additional authorizations.
- Page 11, Section A, number 1, paragraph b: tagging methods do not include hot branding procedures. This suggests that "location only" satellite tags are the only approved tags. Does this include other monitoring tags? Does not address satellite tags used for immediate release. Page 18, paragraph f. should read "public display which affects the animals behavior or negatively impacts progress of rehabilitation".
- Page 17, paragraph c: 'Maximum holding capacity' is a nebulous and imprecise figure, not a hard/fixed number as implied by this paragraph, even when taken in context with the associated Interim Standards.
- Page 18, paragraph d: The 'contingency' plans mentioned in this paragraph are not well defined in terms of what is required in the plan.
- Page 18, number 2, paragraph a: a veterinarian is not necessary the only one that can verify an animal is behaviorally suitable for release. Husbandry coordinator or stranding coordinator should be added.
- Page 20, Paragraph 1.e: A 'facility operation plan' is required for designees but is not required for primary facilities. It is mentioned in the associated facilities document.
- Page 21, number 2: Emergency designee for remote or unusual locations should be able to be authorized.
- Page 23, Section B, number 1: Some type of reward or acknowledgement for facilities that meet high standards, such as AZA certification or AMMPA, could take the form of longer permit periods (or waiver from certain requirements set forth in the associated documentations)
- Page 24, Section B: The option of a non-punitive self closure should be added.

Standards for Rehabilitation Facilities:

- Comments: Standards are standards, the minimal should be removed. What are the plans for timelines to meet standards, inspections, and consequences for not meeting requirements? Overall, the regulations parallel APHIS, AWA requirements. It has been our experience dealing with neonate animals that USDA APHIS standards as written for Adult sized animals is not efficient use of space and is often counter productive to the active process used in rehab of young animals. Again recommend that leeway be given to institutions that already adhere to the higher standards established by AZA or AMMPA. Re-examine the role of the veterinarian, who is usually only part-time and sometimes a volunteer. Some areas could be combined with the role of curator or stranding coordinator. Some standards are too specific and not applicable for some species or regions and do not allow for novel approaches. Many standards are merely re-statements of APHIS or AWA requirements (such as sanitation, food prep, water quality, etc) which could lead to confusion if those regulations change. If NMFS wants those standards adopted then this document should say so and then deal just discuss variances.

- NOTE: These reviewers concentrated on the sections dealing with Pinniped facilities, many of the same concerns are present in the cetacean section
- General comment on 'quarantine,' individual true quarantine of all animals is usually not possible nor required. In most cases physical separation is sufficient, namely preventing nose to nose contact, contact with other animal's bodily fluids, and disinfection or changing gear between animals. Reading through the paragraphs this is probably the intent, however 'quarantine' is used and so implies a very high level of separation of animals and staff. Suggest substitution of physical separation where-ever possible. For example, suggest changing structurally separate facility to individual enclosures providing physical separation.
- Page 29, section 1.6: Water temperature 50-80 degrees too specific. Outdoor vs indoor areas need to be specified.
- Page 31, section 1.10: add curator and stranding coordinator as well as veterinarian.
- Page 34, section 2.2: paragraph structure should be reorganized.
- Page 36, section 3.8: change "no medical history" to "an unknown medical history"
- Page 39, section 3.7: what is meant by 'contingency plan,' does this mean that animals that are sero-positive but free of clinical signs for the listed diseases are non-releasable and that the government expects those animals euthanized
- Page 41, section 5.2: change "fish" to food for animals, formula, clams, medicine, etc.
- Page 43, section 6.1 on Veterinary Experience: the comment on contingency plan, the organization should be assigned the responsibility of having a primary veterinarian plus a contingency plan for veterinary backup which is how the AWA is structured.
- Page 45, section 7.0: In general this section requires far more than is required to do basic health assessments of animals. Namely, complete necropsy on every animal within 24 hours is not always possible. Perform histopathology on each animal is not always possible or financially reasonable. Requiring serologic assays only be done by labs approved by NMFS precludes using new tests. Perhaps a two tiered approach can be used in which basics are required and anything above that will be paid for by NMFS.
- Page 46, section 8.1 on Record Keeping: requiring holding records for 15 years is excessive.
- Page 47, section 9.0: Include "consistent with state practice act"
- Page 48: comments on public display....remote, no impact permitted

Standards for Release:

- Comments: There needs to be some better clarification how all the documents work together. Re-examine the role of the veterinarian. Some areas could be combined with the role of curator or stranding coordinator. Some standards are too specific and not applicable for some species or regions.
- Page 13, Section B: What will be the NMFS response time?
- Page 19, Section D, second paragraph- second to last sentence should read "determine non-releasability..."
- Page 52, Section I, Identification Prior to Release. include hot branding.
- Page 41, Guidelines for Release of Rehabilitated Pinnipeds
- Comments: Screening test should be paid for by NMFS or USFWS.
- Page 50, Number 17: within 10 days, other areas list 15 days, and others list 72 hours. This time commitment is unrealistic and should be unified. Number 13: 3mL refers to each

admission and release or total? Number 27: Earlier text refers to just antibiotics, need more specification. Number 28: "health statement can be referred to in different ways.

- Page 53; What is NMFS commitment to prompt response regarding a recapture situation? Expect 24 hour on call response.
- Appendix D is empty
- The release of ice seals in Alaska can be supported with release data covering 6 years of releases. Ice seals have traveled from the northwest coast, Nome, beyond the Aleutian chain well into the arctic ocean to the northern coast of Russia. These live animals are a very important part of the overall assessment of marine mammal health. The animals admitted to ASLC, have been classified as orphaned or abandoned. Although there is no indications as to the reasons other than human kindness, the ALSC has received 4 animals that are either known cesarean born pups or is a known fact that mom was harvested.

Disentanglement Network Guidelines:

- There needs to be a process in place for organizational growth, classes or training opportunities need to be offered on a regular basis.
- If there are no trained responders, NMFS needs to publicly take responsibility explaining why there is no response.
- More explanation needs to clarify as to why government is liable for injuries or fatalities during a large animal stranding event.
- CCS gear and techniques is not necessary applicable in all regions. Gear types, geography, and sea conditions are different in other regions.

Minimum Standard Qualifications for a Marine Mammal Stranding Program Agreement: (New applicants and renewals)

- General Comment: How does this fit in with the other documents, there is some duplication and some disagreement with the facility standards.
- Comments: Classifications for LOAs should clearly reflect whether it is an Article III, Article IV or both.
- Page 3, paragraph 5: timeline for sending new CVs
- Page 6, paragraph 3: Staff rations are different in other documents and are situationally dependent. For example, it should be a 3:1 ratio for staff when caring for up to 25 pinnipeds.
- Page 7, section 4 should read trained "staff" and "volunteers."
- Page 7 section 4: euthanasia "protocol"

OVERALL COMMENTS

Rehab Timeline for Periods

Day	Event
0	Admit
1	Hands-on Physical Examine by Veterinarian CBC, Chem, Banked Serum Periodic assessments, hands-on physical exams by veterinarian recommended every 1-2 weeks
R-(>15)	Hands-on physical exam by veterinarian for release determination Pg 47, top
R-15	Release Request to NMFS
R-14	Start of drug withdrawal period (pg 50 Standards for Release) Not pg 47 only specifies a withdrawal period for antibiotics
R w/i 10	Veterinarian exam (pg 50 Standards for Release)
R w/i 7	Measure weight, girth, and length
R-3	Hands on physical exam by veterinarian within 72 hours of release (Pg 47)
R	Release

Required holding period following branding or application of external tags?

ALLIANCE OF MARINE MAMMAL PARKS AND AQUARIUMS

Dedicated to Conservation through Public Display, Education and Research

June 1, 2006

Dr. Teri Rowles
Office of Protected Resources (F/PR2)
National Marine Fisheries Service
United States Department of Commerce
1315 East-West Highway
Silver Spring, Maryland 20910

VIA E-MAIL

Dear Dr. Rowles:

This letter, submitted on behalf of the Alliance of Marine Mammal Parks and Aquariums (the "Alliance"), addresses proposed actions by the National Marine Fisheries Service (NMFS) relative to the National Marine Mammal Health and Stranding Response Program (MMHSRP). The Alliance is an international association of marine life parks, aquariums, zoos, research facilities, and professional organizations dedicated to the highest standards of care for marine mammals and to their conservation in the wild through public education, scientific study, and wildlife presentations. Collectively, the Alliance and its membership represent the greatest body of experience and knowledge with respect to marine mammal husbandry. Many of our members are long-time participants in the MMHSRP and active in first response as well as the rescue, rehabilitation, and release of stranded marine mammals.

The Alliance compliments the agency on the thoroughness and thoughtfulness of the draft documents – the stranding agreement, as well as the guidelines for release of the animals, for rehabilitation facilities, and for the disentanglement network. We are most appreciative of efforts to improve coordination and consistency between the regions and national office, and to use limited resources efficiently and effectively.

While we understand that NEPA rules call for the agency to put all options on the table in any review of a pending permit, it is clear that "Action Alternative 1" is the only viable choice as it addresses ways to improve the current system and creates a framework through which the MMHSRP can prosper in the years to come.

A Harris Interactive poll conducted for the Alliance last year shows strong public support (94%) for decades-long efforts by zoological parks and aquariums to rescue, medically treat, rehabilitate, and return marine mammals to the wild. This suggests that there is also strong public support for NMFS' MMHSRP.

Stranding Response Alternatives

In reviewing the Stranding Response Alternatives, the Alliance recommends that, for all dead and live stranded animals, the agency establish a first response requirement stipulating the collection of minimal data such as date, location, and species. Regardless of the varying conditions of any stranding event, this information is essential. Rescue or further investigation of stranded animals would continue to be based upon the stranding circumstances, the capabilities and resources of the organization responding, and regional/national priorities. Secondly, threats to marine mammals in the wild are always changing, be they from disease, fisheries or vessels, pollution, or paucity of prey. The agency should put in place a mechanism that will assure needed flexibility to react quickly to these factors so resources can be refocused effectively. Lastly, stranding response authorizations should be used for the issuance of any new stranding agreement, and for the renewal and review of existing stranding network members.

Carcass Disposal/Euthanasia Alternatives

Regarding carcass disposal/euthanasia alternatives, the issue of making funding available to insure proper disposal of carcasses has been a continuing problem for letterholders – especially in the face of a mass stranding or unusual mortality event. Network participants should not be responsible for the costs of disposing of carcasses. This issue deserves more scrutiny by the agency. We agree that chemically euthanized animals may need to be transported off-site to, among other concerns, assure that the chemicals are not ingested by other wildlife. Also, we recommend that the agency develop euthanasia guidelines for stranded marine mammals that consider the safety of the responders as well as carcass disposal issues in the field.

Rehabilitation Alternatives

The Alliance understands that early decisions concerning rehabilitation must, logically, take into consideration the ability to place an animal if it appears that the stranded animal will be deemed non-releasable by the agency. To help NMFS with placement availability, the Alliance recently completed a survey of its membership, which, among other questions, asked our members to indicate space available for rehabilitation as well as long-term holding capacity for non-releasable marine mammals. The Alliance will provide this data to NMFS once it is finalized. However, preliminary review of the survey indicates that Alliance members have space for some species that are currently being euthanized. The draft section on rehabilitation alternatives should take into consideration the capabilities and resources of zoos and aquariums to provide long-term homes when making decisions regarding the disposition of live, stranded marine mammals. The public was clear on this issue in the Alliance's Harris poll. Ninety-five percent of respondents said that it is better to place a non-releasable, stranded marine mammal in a marine life park than euthanize it. Such forethought will require oversight and coordination by headquarters in helping regions to look beyond their boundaries for animal placement.

Release Alternatives

The above comments have relevance to the agency's draft release alternatives, which state that "animals that are not release candidates are not taken into rehabilitation or are euthanized." This assumes there are no options for these animals. Certainly, Alliance members who have numerous species in their collections can, indeed, provide caring homes for many animals. Again, the Alliance survey will provide the agency with information about availability of space.

Importantly, no stranded marine mammal should be released unless agency release criteria are met. The Alliance expressed its concerns about the release of a pilot whale calf in 2003. A number of experts from Alliance member facilities were among those from whom NMFS sought advice on the releasability of five animals that had stranded. These experts told various agency officials that one of the whales, a calf whose mother was not among the stranded group, should not be considered a candidate for release under any circumstances and that other juveniles may not be able to survive a return to the wild based on their age or behavior observations. We are all aware of the unfortunate ending to this episode. Such a catastrophe should never have happened and the release guidelines should be written in a manner that will assure it will not occur again.

The Alliance strongly advocates that releasability/non-releasability decisions should be made by NMFS' headquarters staff, with emphasis given to the recommendation of the attending veterinarian. Explicit in the agency's historical review of releasability determinations has been the fundamental consideration of the extraordinarily important contributions of the attending veterinarian. Although the existing agency regulations reference the attending veterinarian's initial role in a releasability determination, they place the entire burden of demonstrating non-releasability on the veterinarian while affording the agency discretion to make the final determination without reference to any objective criteria. It is clear that the attending veterinarian is the one most familiar with an animal's condition. Establishing a more equitable framework for releasability/non-releasability determinations can be accomplished by putting headquarters staff in charge and according proper deference to the attending veterinarian (who is presumed sufficiently competent to be empowered to act to restore and preserve the animal's health).

Also, the agency should strongly emphasize and financially support post-release monitoring of rehabilitated animals. Not only is it important to understand whether the animal survived, the scientific data made available from such tracking is essential to the science accumulated to date about various marine mammal species.

Disentanglement Guidelines

The Alliance supports the adoption of the disentanglement guidelines and advocates requisite training for small cetacean and pinniped disentanglement.

Facility Guidelines

It is essential that rehabilitation facilities meet minimum facility, husbandry, and veterinary standards to assure the animals are well cared for and provided the optimum opportunity to be released back to the wild. And, the Alliance fully supports NMFS' effort to establish such standards. However, to be meaningful, a regimen to assure that the standards are being met must be adopted. This is not addressed in the document. While Animal and Plant Health Inspection Service – Animal Care is responsible for the inspection of marine mammals cared for in marine life parks, aquariums, and zoos, stranded animals being rehabilitated at licensed facilities are outside that agency's purview. We recommend that the agency indicate in this document how it will assure that these guidelines are being met by network participants.

Public Viewing of Stranded Animals

As noted previously, the public is extremely supportive of efforts to rehabilitate stranded marine mammals. Children and adults should have the opportunity to view rehabilitation activities at government-authorized facilities if the attending veterinarian determines that there would be no negative effect on the animal and if done in a manner that minimizes acclimation to humans so successful release is not jeopardized. Welcoming the public to view these marine mammals provides another venue for educating the public about the need to conserve these species in the wild as well as conserve their habitats. It is also an excellent environment to teach the public about viewing marine mammals from a safe distance in our oceans and rivers, especially when an animal strands because of injuries from human activities such as boat strikes. The Alliance recommends that NMFS review the prohibition on viewing stranded marine mammals. Congress is currently looking into amendments to reauthorize the Marine Mammal Protection Act, which prohibits such activities. The MMPA requires that any public display of marine mammals be accompanied by education programming. The Alliance Education Committee would be happy to work with facilities that do not currently provide education programs and share the Alliance education standards and guidelines with facilities unfamiliar with them.

Summary

The Alliance supports without reservation the current activities of the MMHSRP. Member facilities spend millions of dollars on their stranded marine mammals programs – and maintaining non-releasable animals that often need constant veterinary care, medications, and frequent husbandry attention from staff.

While the Alliance was integral in the establishment of the Prescott grant program, in truth, the monies available do not begin to cover the costs of stranding response, or rescuing, rehabilitating, and releasing stranded marine mammals. The Alliance has and will continue to strongly advocate for increased funding in the Prescott program. We recommend that NMFS survey participants and document the actual financial contributions of network members, including volunteer efforts and staff time.

This document could be very useful to continued Congressional support of the Prescott program.

Should the amendments to the Marine Mammal Protection Act include increased funding for the Prescott program - as the House bill reported out of the Resources Committee currently does - the Alliance recommends that NMFS rethink its current restrictions on allotting Prescott funding per facility and use any increases in Prescott funding to help facilities off-set the costs of response, rescue, rehabilitate, and release as well as support research relevant to those activities.

Lastly, the Alliance recommends that the agency review the current organizational structure of the MMHSRP. NMFS headquarters staff should be given more authority and direct management of network operations. This oversight would assure that there is consistency in decision-making; in the allotment of the limited funds available to the MMHSRP, apart from Prescott grants; appropriate training; and consistency in the issuance and renewal of stranding agreements. Potential letterholders should have the resources needed to participate in the program and be required to employ qualified individuals who have experience with marine mammals.


Alliance members bring substantial financial resources to the network, make available highly skilled marine mammal professionals, offer access to superb medical technology and state-of-the-art veterinary care, and provide homes to non-releasable animals that otherwise would have to be euthanized.

Sincerely,

[signed]

Marilee Menard
Executive Director

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From "[Bauer, Gordon](mailto:Bauer_Gordon@ncf.edu)" <bauer@ncf.edu> 

Sent Tuesday, February 7, 2006 11:57 am

To mmhsrpeis.comments@noaa.gov

Cc

Bcc

Subject

Attachments [\[1779-1789\].cbi_246.pdf](#) 1.7MB

Re: EIS on the MMHSRP

To Whom It May Concern:

I had several observations on the proposed policies for training and extinction of behaviors. I think these policies present good opportunities for flexibility, potentially beneficial to the releasable animals. However, I do have several suggestions.

1) For environments in which the animals will be hand fed, which I expect will be most, I think the default policy should be that the animals be trained. The reason is that the strongest associations between humans and animals will be developed with non-contingent feeding (i.e., feeding in which the animal is required to do nothing). Weaker associations with humans will be developed when performance is contingent upon a behavior cued by specific signals or equipment, as occurs in training situations.

2) Extinction procedures should target extinction to humans, not to specific signals or equipment used during training. The reason for this is that for trained animals learning about signals and equipment will overshadow learning about humans. If the learning about signals and equipment is extinguished, the previously overshadowed learning about humans will be enhanced. Also, extinction will probably not be necessary under most release circumstances since it transfers poorly between contexts. If it is necessary, it should be done in the release environment, not the training environment in order to enhance extinction.

3) There is conflicting support for the statement from the EIS text: "Behavioral conditioning of cetaceans must be done for the shortest time necessary to achieve rehabilitation goals..." This statement is supported by the desirability of returning animals to the wild as soon as possible. However, within a training context, more time may allow for a clearer discrimination of the training contingencies, and reduce associations with people.

The scientific support for these arguments is presented in the attached document, Bauer, G.B. (2005). Research training for releasable animals. *Conservation Biology*, 19, 1779-1789. Of course, the training should be rigorously pursued and should not present an opportunity for gratuitous play interactions with the animals.

I would like an electronic copy of the final EIS. If hard copies of the attached document are needed, please let me know and I will mail them.

Sincerely,

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Research Training for Releasable Animals

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Abstract: Restrictions on training potentially releasable animals such as those undergoing rehabilitation care or wild-caught captives have limited our understanding of sensory processes, cognition, and physiology important for conservation of species. It is common practice among several U.S. federal agencies to limit training of animals available for release. The behavioral argument justifying this practice is that training habituates subjects to people and conditions them to associate people with rewards such as food; habituation to and positive associations with people will lead animals into dangerous situations after their release. If under special circumstances research training is permitted, all trained behaviors must be extinguished before release because behaviors will transfer to the natural setting. Research on animal learning and memory indicates that these may not be accurate scenarios. A review of the literature on habituation, classical and instrumental conditioning, and compound conditioning suggests that learning within a research setting does not add to learning that already occurs in procedures associated with basic feeding and care. In fact, animals probably learn less about people in a training setting. Furthermore, context-specific effects on memory limit behavior transfer from captive to natural settings. Extinction is strongly susceptible to context effects, which suggests that extinction does not effectively transfer to the postrelease setting. Counterintuitively, extinction of responses to experimental stimuli under some circumstances may enhance undesirable learning about humans. Under those circumstances in which isolation from human contact is difficult or undesirable, behavioral research can present an ideal format for minimizing learning about humans and provide biological information important for conservation.

Key Words: animal learning, animal memory, animal release, policy

Investigación para el Entrenamiento de Animales Liberables

Resumen: Las restricciones para el entrenamiento de animales potencialmente liberables, como los que están en cuidado de rehabilitación o criados en cautiverio, han limitado nuestro entendimiento de procesos sensoriales, cognición y fisiología importantes para la conservación de especies. La limitación del entrenamiento de animales disponible para liberación es una práctica común en varias agencias federales de E.U.A. El argumento conductual que justifica a esta práctica es que el entrenamiento habitúa a los sujetos a personas y los condiciona a asociar personas con recompensas, como alimento; la habituación a y las asociaciones con personas conducirá a los animales a situaciones de peligro después de su liberación. Si se permite el entrenamiento bajo circunstancias especiales, todas las conductas entrenadas deberán extinguirse antes de la liberación porque las conductas serán transferidas al medio natural. La investigación sobre el aprendizaje y memoria animal indica que estos pueden ser escenarios incorrectos. La revisión de literatura sobre habituación, condicionamiento clásico e instrumental y condicionamiento compuesto sugiere que el aprendizaje en un ambiente de investigación no se agrega al aprendizaje que ocurre en procedimientos asociados con alimentación y cuidado básicos. De hecho, los animales probablemente aprenden menos sobre personas en un ambiente de entrenamiento. Más aun, la transferencia de conducta de ambientes de cautiverio a naturales está limitada por efectos de contexto específico sobre la memoria. La extinción es altamente susceptible a los efectos de contexto, lo que sugiere que la extinción no se transfiere efectivamente al ambiente posterior a la liberación. Contraintuitivamente, la extinción de respuestas a estímulos experimentales bajo algunas circunstancias puede reforzar el aprendizaje sobre humanos no deseado. Bajo esas circunstancias en las que

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1779

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el aislamiento del contacto humano es difícil o indeseable, la investigación sobre conducta puede presentar un formato ideal para minimizar el aprendizaje sobre humanos y proporcionar información biológica importante para la conservación.

Palabras Clave: aprendizaje animal, liberación de animales, memoria animal, política

Introduction

Animal regulatory agencies in the United States restrict behavioral research on many captive, releasable species. Although pre- and postrelease training for purposes of reintroduction (Kleiman 1989) or veterinary care may be permitted, training for basic biological research is frequently not. For example, National Oceanic and Atmospheric Administration (NOAA) regulations (2003) and guidelines for release of stranded marine mammals including cetaceans, pinnipeds, otters, and manatees (U.S. National Marine Fisheries Service [NMFS] and U.S. Fish and Wildlife Service [USFWS] 1997) discourage human interactions, including the training necessary for many types of research with captive, releasable animals. A NOAA regulation (50 CFR 216.27) states that “marine mammals undergoing rehabilitation or pending disposition... shall not be trained for performance...” The NMFS and USFWS guidelines for release (1997: 38) state, “In order to prevent the acquisition of unnatural behaviors, interactions with humans should be kept to a minimum, and limited to such activities as force-feedings, treatments, etc.”

The behavioral justifications for minimizing contact and training may be summarized as follows: Humans constitute a major threat to animals in their natural habitat, for example, through provisioning with inappropriate foods, death and injuries from boat strikes, death in fishing nets, and willful killing. If animals are habituated to humans in captive settings and associate humans with rewards, they will be likely to approach or at least not actively avoid humans in natural settings. Attraction to humans or failure to avoid them in the wild is ultimately a threat to animal health and survival. Because experimental, behavioral research in captive settings involves close contact between humans and animals, it should be discouraged.

Restrictions on behavioral experimentation have serious consequences because they minimize opportunities for studies on animal sensory processes, cognition, behavior, and physiology which in turn limit development of important knowledge necessary for protecting animals in the wild. For example, the Florida Manatee Recovery Plan (U.S. Fish and Wildlife Service 2001) identifies objectives that require laboratory studies for thorough explication. Objectives such as minimizing deaths due to boat strikes and water control structures require the careful analysis of sensory processes such as hearing and touch that only controlled study in a laboratory can provide. Studies demanding frequent measurement from captive manatees

trained to provide blood and urine several times a week allowed Manire and colleagues (2003) to model some of the physiological effects of release, another recovery-plan objective. More such studies are needed.

Several recent reports suggest an absence of transfer of trained behavior from captivity to natural settings, a finding inconsistent with the need for restrictions on animal training. Gales and Waples (1993) and Wells et al. (1998) both report that released bottlenose dolphins (*Tursiops truncatus*) did not demonstrate behavioral transfer despite extensive training in captivity. In the former example, behaviors explicitly trained in captivity for use in the wild were not expressed after release. Similarly, Fellner et al. (2005) report that manatees failed to exhibit behaviors trained in captivity after they had been released.

The justification for minimizing behavioral experimentation with releasable animals is based on hypotheses that have not been tested empirically. They would be difficult to test because of the problem of implementing the appropriate factorial experimental design and establishing baseline levels of relevant behavior of appropriate control groups in natural settings. The hypotheses can, however, be evaluated through consideration of the laboratory-based experimental literature that addresses how animals learn and remember. Although studies of rats, pigeons, and to a lesser extent rabbits are most frequently reported in this literature, the rules of learning show considerable generality across both invertebrates and vertebrates (reviews in Macphail 1982; Pearce 1997; Papini 2002; Domjan 2003). The diverse aspects of learning have not been comprehensively studied comparatively across all species, but the similarities of learning phenotypes that have been studied are striking (Macphail 1982; Papini 2002).

I review only a small part of the relevant, but enormous, literature on animal learning. The argument I make is that the training necessary for conducting research on captive animals would not meaningfully affect behavior compared with the contact they normally have in the captive environment. In fact, the impact would probably be less than that resulting from nonresearch interactions with humans. Moreover, the transfer of associations to humans from captive to natural settings is likely to be weak for many behaviors because of contextual influences on memory.

To give this argument proper perspective it is important to describe the types of human contact that exist with releasable animals in captivity outside of any behavioral

research context. I have selected two marine mammals, bottlenose dolphins, a predatory species, and West Indian manatees (*Trichechus manatus*), an herbivorous grazing species, as examples, and because of similarities in learning processes across species, the arguments should apply to other animals. Bottlenose dolphins demonstrate similar associative learning characteristics to other animals (Schusterman 1980). Manatees have been studied less, but initial reports suggest learning consistent with that of other animals (Gerstein et al. 1999; Colbert et al. 2001).

Capture of marine mammals in the United States is restricted by the Marine Mammal Protection Act and Amendments (review in Baur et al. 1999), so dolphins and manatees likely to be released are brought into captivity because of illness, injury, or stranding through rescue programs (Wilkinson & Worthy 1999; U.S. Fish and Wildlife Service 2001). Those animals that survive are rehabilitated and frequently returned to the wild. While in captivity animals have frequent interactions or associations with people during feeding, habitat maintenance, veterinary care, and in some cases public display. They are typically fed by people and/or eat food in the presence of people. What are marine mammals likely to learn in such environments? The answer to this question involves a basic understanding of the core processes of learning (habituation, classical conditioning, and instrumental conditioning, including the concept of stimulus control) and the more complex processes of context-specific memory and its experimental model, compound conditioning. The general principles of learning are briefly reviewed in Griffin et al. (2000) and more extensively described in a variety of texts (e.g., Mackintosh 1974; Dickinson 1980; Pearce 1997; Domjan 2003).

Although not every manatee or dolphin facility follows exactly the same procedures, most share two critical features for learning. The first feature is a frequent exposure of animals to humans (in the absence of explicit research training), which supports habituation. The second is a high correlation of human presence and reinforcement (i.e., food is present and eaten when humans are present, and food is absent and therefore not eaten when humans are absent). If people are present when food is available and not present when food is absent, then the probability increases that people and food will become associated. (Dickinson [1980] and Pearce and Bouton [2001] provide thorough discussions on the development of associations.)

To appreciate more fully the relevance of learning processes to human interactions with captive marine mammals, it is important to understand that in habituation and conditioning, contiguity and covariation among various stimuli and behaviors are important for learning. Correlations between stimuli and behaviors (e.g., people and eating-related behaviors, environments and eating-related behaviors) as well as stimuli and stimuli (e.g., environments and food, people and food, people and pain) strongly influence what is learned.

Habituation

In a captive situation an animal might initially make various orientation responses toward people or suppress ongoing behaviors in their presence. With repeated exposure to people these behaviors will habituate. Habituation can be defined as a reduced response to repeated stimulation not attributable to fatigue or sensory adaptation (Domjan 2003). It has been studied in a variety of response systems, behavioral and physiological, but the phenomena most relevant to released animals are orientation and suppression responses. No specific behavioral training such as might occur during research procedures is necessary to generate habituation. The regular presence of humans through animal care procedures and viewing by the public and staff will produce it. Exposure to humans in the natural environment apparently leads to habituation in wild dolphins (Lockyer 1990).

Of substantial importance to the release issue is the fact that habituation of orientation and suppression is context dependent (Evans & Hammond 1983; Lovibond et al. 1984; Jordan et al. 2000). When a response habituates in one context, it dishabituates (i.e., returns toward prehabituation levels) in a new context. For example, Peeke and Veno (1973) conducted an experiment in which three-spined sticklebacks (*Gasterosteus acleatus*) displayed aggressively toward intruding conspecifics. Repeated exposure to the same individual resulted in habituation of display when subjects were tested with the same individual in the same location or exposed to the same individual in a new location dishabituated, although not completely (i.e., they resumed aggressive displays, but at a lower rate than the initial level). When exposed to a new fish in a new location, which increased the differences in context, the level of aggressive display returned to or exceeded the original level of response.

In general, whatever habituation of orientation and suppression responses do occur in the captive setting can be expected to dishabituate in the wild because of the substantial differences in context. Furthermore, the phenomenon of spontaneous recovery—the return of a response toward prehabituated levels following the simple passage of time (review in Fantino & Logan 1979)—should further contribute to the attenuation of habituation between a captive and natural environment.

Classical Conditioning

In classical conditioning a neutral stimulus, the conditioned stimulus (CS), becomes associated with a primary stimulus, the unconditioned stimulus (US), through repeated pairings. For example, in the classic Pavlovian model illustrated in most introductory texts, a biologically significant stimulus, food (US), elicits an unconditioned

response (UR) such as salivation. When an initially neutral stimulus, a bell (CS), is paired with the US, it comes to elicit salivation, the conditioned response (CR). Psychologists have tended to focus on the CS-US relationship in this model. Over the last 30 years some of the most powerful models of learning have been derived from these stimulus-stimulus relationships.

One can use the classical conditioning model to understand what marine mammals learn in the standard free feeding format typically used in captivity. For example, food can be considered a US, and to the degree that a human presence predicts food, it becomes a CS. Hand feeding of foods presents a close temporal-spatial association (contiguity) and correlation between human presence and food consumption. In the case of captive dolphins all feeding is correlated with human presence—this is a particularly strong presence because the food is delivered by humans. Manatees present a slightly less-correlated pattern because they are grazers and large amounts of food are placed in their tanks and are available for eating throughout the day, when humans are not always present. Initial delivery by people is paired with food reward, however, and to the extent that during the day oceanarium viewers and staff are present most of the time, eating is done primarily in the presence of humans. Critically, because food is not made available at night in many facilities, there is an extended period when a “no food, no humans” association is developed. For both dolphins and manatees these feeding patterns mean food and eating occur almost completely in the presence of humans and rarely in their absence. Under such circumstances human presence is predictive of food, a rewarding situation, which learning theory suggests would lead to a strong, excitatory association between humans and food reward (cf. Rescorla 1968).

Training situations present a different pattern of relationships between conditioned stimuli and unconditioned stimuli. In the training situation specific stimuli such as the trainer's whistle or a correctly selected experimental stimulus become associated with food. By pairing the whistle (CS) with food (US), it becomes an effective predictor or substitute for food. Similarly, a rewarded stimulus in a detection or discrimination task becomes associated with food. For example, in a light detection task, the presence of a light becomes associated with food because food is delivered after presentation of a light and is correlated with it. The human trainer is not the predictor of food in these cases; experimental stimuli are. Hence, associations should not develop between humans and food.

Instrumental Conditioning

Associations are developed between behaviors and stimuli in instrumental conditioning procedures. Animals learn which behaviors are followed by rewards or pun-

ishments and which are not. When rewards (reinforcers) or punishments are only available under specific stimulus conditions, the behavior will be differentially exhibited when these conditions are present. Another way of saying this is that specific, antecedent stimuli called discriminative stimuli (S^D) come to determine the performance of a behavior (R, for response). When a behavior is determined by these discriminative stimuli it is said to be under stimulus control. A variety of associations may develop within the instrumental conditioning model, but one that has special importance for understanding my arguments on the effects of training is the stimulus-stimulus association, the association between the discriminative stimulus (S^D) and a reinforcing stimulus (S^R) such as food. These stimulus-stimulus relationships are essentially classically conditioned associations embedded in the instrumental conditioning framework (Hull 1931; Spence 1956; Rescorla & Solomon 1967).

The delivery of food (S^R) in most nontraining interactions at oceanaria is strongly contingent on the presence of humans (i.e., humans are the discriminative stimuli), although depending on reward contingencies items such as food pails or sounds of opening gates may also attain stimulus control. In the research training situations behaviors are brought under the control of specific, experimental discriminative stimuli such as lights, sounds, and trainers' hand signals. Therefore, in the experimental research setting food is not contingent on the mere presence of a person; it results only when a specific behavior is performed in response to a specific discriminative stimulus.

The basic processes influencing an animal's behavior in training circumstances relate to discrimination learning. Subjects have to learn over many trials to discriminate between the specific training stimuli (i.e., experimental stimuli and signals) and the many other irrelevant stimuli, including human-related stimuli. Basically, they come to learn which stimuli predict reward and which do not. This is reflected in increasing numbers of correct responses in the presence of discriminative stimuli that predict reward and decreasing responses to stimuli that do not predict reward. In the behavioral research setting, humans predict reward most frequently when they are signaling and/or when they are accompanied by the paraphernalia associated with experimental research (e.g., targets, manipulanda, audio speakers, and stationing platforms). Unlike the standard, free feeding maintenance condition, humans alone (not signaling or accompanied by research paraphernalia) do not predict reward.

Simple instrumental or classical conditioning, however, is not a fully adequate model to predict the results of more complex human interactions in animal training. Under many research regimens humans are clearly present in conjunction with trainer signals and experimental stimuli. These cases are best considered within the framework of compound conditioning, occasion setting, or contextual effects.

Compound Conditioning: Elemental and Configural Approaches

Complex context effects can be investigated using a simplified classical conditioning model with a compound CS. For example, humans plus signals or experimental stimuli can be considered compound stimuli, a fact that brings an additional learning process—overshadowing—into play (Rescorla & Wagner 1972; Pearce & Bouton 2001). Overshadowing occurs when one stimulus (CS₁) interferes with learning about a simultaneously presented stimulus (CS₂). In general, a more salient stimulus will overshadow a less salient one. For example, within a training procedure humans predict reward at a lower probability level than signals do because when humans are present in the training situation they provide rewards infrequently (or never) when signals are not being given, whereas rewards are provided at a high frequency when a signal (e.g., hand signal, target) is given followed by a correct behavior. Hence signals are more salient than nonsignaling humans. Under a training regimen the subjects learn that the mere presence of humans does not predict reward reliably; only signaling humans predict reward (i.e., learning about humans alone as a predictor of food is overshadowed by learning about signals). The human-food association would be substantially attenuated within this scenario.

Furthermore, under some circumstances overshadowing results in a phenomenon called conditioned inhibition in which the associability of the overshadowed stimulus is actually inhibitory. For example, if humans are out of sensory range during a testing procedure when food reinforcements are provided, then the association between experimental equipment and food will be strong. If humans are then present to remove equipment after completion of a training session when no food is available (i.e., equipment + humans = no food), then humans are likely to form an inhibitory association with food. An inhibitory association is characterized by difficulty in learning a human-food association in the future. Analyzing humans and their signals as separate components of a compound is based on the Rescorla-Wagner model of associative learning (1972), perhaps the most influential theory in learning over the last 30 years. It treats compound stimuli as separable elements, some of which will form excitatory associations with the US, in this case food, and some of which will form inhibitory associations.

Herman et al. (1990) presented an example of the ability of animals to separate manual gestures from the actual human signaler. Two bottlenose dolphins had previously been trained to perform specific behaviors in response to discrete hand signals. The experimenters presented the dolphins with video images of successive degradations of the human hand signals, first by eliminating the head and torso, then the arms, ultimately leaving only images of two flat spots of light moving in black space. Even when

provided with only the spots of light on a video screen, the dolphins were able to interpret the signals correctly.

Testing with successive degradations may have allowed the dolphins to practice separating human gestures from the humans themselves. In a situation that did not entail intentional training, D. Kleiman (personal communication) reports that field assistants carried backpacks containing food, which they distributed throughout the postrelease habitat of golden lion tamarins, and tamarins associated the sound of the backpack zippers with food but did not associate the humans with food. This observation may be explained by the fact that zippers were more reliable predictors of food than humans (i.e., the sound of zippers overshadowed learning about humans).

An influential alternative to the elemental interpretation of learning such as the Rescorla-Wagner approach is the configural model (Pearce 1987). According to this model animals learn about the overall configuration of a compound stimulus rather than the separate elements. Over trials the animal learns the association between a compound CS and a US such as food. If the stimulus compound is altered in some way the associations between CS and US are weakened as reflected in a weaker response. For example, if an animal learns to associate a signaling human with food, then a nonsignaling human will manifest a weaker association because the learned configuration has been altered. In the configural model we predict some initial generalization from signaling human to nonsignaling human based on the similarity of the predictor stimuli. Over time generalization becomes more limited, and the subject clearly discriminates the two different types of stimuli. The implication for training animals is that discrimination between nonsignaling and signaling humans would increase with longer training and generalization would decrease.

Although there is still active discussion among researchers about how learning about stimulus compounds occurs, it is not necessary to analyze that debate here. Sometimes compounds are treated as configural wholes and at others as separable elements (Fanselow 2000; Pearce & Bouton 2001). In either case, the evidence itself and the implications for animal training are clear. Explicit research training of animals should lead to weaker associations between humans and food rewards than that which develops in free-feeding situations in the captive environment. Moreover, under some circumstances associations between nonsignaling humans (the state in which we normally find them) and food are actually inhibited by previous training.

Compound Conditioning: Modulation

Sometimes an element of a stimulus pair may not form an association with a US, but it does play a role in modulating associations (Holland 1985). In classical conditioning,

modulators are called occasion setters, and they inform the organism that when stimulus A is present stimulus B will be followed by a US. For example, a sound (CS) will predict food (US) when an overhead light is on but not when it is off. In the animal training context, experimental stimuli (CS) predict food (US) when humans are present (occasion setter). If humans are not present, the equipment does not predict food. Within the occasion-setting model a human does not become associated with food but only predicts the CS-US contingency.

The modulator itself does not predict food. It predicts that a stimulus-food or response-food contingency is in effect. This is in sharp contrast to the free feeding situation typically encountered in captive settings where humans become directly associated with food. Or still worse, if human feeders are not careful, they may reinforce a direct approach by providing food when the animal moves toward them. This is a strong learning paradigm in which the human acts as a discriminative stimulus signaling the subject that it will be fed if it approaches the trainer.

Context-Specific Memory

There is a broader issue than training versus nontraining that affects how one should think about learning in all captive circumstances: the influence of the environment in which a behavior is learned on performance of that behavior in a new environment. Habituation is attenuated in new environments. Why? The answer lies in combining two theories, opponent process theory (Solomon & Corbit 1974; Solomon 1980) and Rescorla-Wagner theory (Rescorla & Wagner 1972).

There is a substantial body of research demonstrating that conditioned responses are not exactly the same as unconditioned responses; in fact, under some circumstances they are the opposite. For example, drug tolerances are frequently mediated by classical conditioned processes in which the physiological response of the organism to a drug is the opposite of that to cues (CSs) predicting the drug (e.g., Siegel 1999). In other words, the CSs set up an opponent process that dampens the effect of the drug. A similar situation occurs in the case of habituation. A response is generated by a CS that is opposite to that generated by the US and eventually cancels the response. For example, the orienting response (UR) to a novel object (US) may quickly habituate over multiple exposures because of an opponent CR. But what is the CS?

Rescorla and Wagner (1972) provide an answer to this question by drawing attention to the important role of context in CS-US learning. The Rescorla-Wagner model explains habituation by positing that the environmental context could function as a CS and become associated with the US. In the absence of a specific CS, a US such as a novel object becomes associated with the context. This model provides an explanation for dishabituation in

new contexts. For example, if an animal were to become habituated to a stimulus such as a human presence in a captive context, it would reflect the development of a CS (captive context)-US (human) association. The opponent process CR would damp the orienting response. However, if the CS were not present in opposition to the US, such as would occur in a new environment, then the initial UR, the orienting response, would occur. Occasion setting and other learning processes probably contribute to the role of context as well, but the general conclusion of context specificity remains the same.

Substantial deficits in other types of learning result when animals are tested in environments different from where learning occurred (review in Gordon & Klein 1994). The greater the dissimilarity of environments, the less retention there will be. Interestingly, removing contextual elements reduces transfer but adding elements does not (González et al. 2003).

Context effects are most consistently apparent for inhibitory responses such as extinction (Bouton 1993) in which a previously existing behavior is reduced in frequency. Substantial evidence indicates that changes in context attenuate appetitive (e.g., food rewarded) conditioning (Riccio et al. 1966; Steinman 1967; Chizar & Spear 1969; Rescorla et al. 1985; Hall & Honey 1989; Peck & Bouton 1990). The picture is not, however, entirely consistent on the transfer of appetitive learning between environments. Several researchers have reported no effect of context changes (e.g., Bouton & Peck 1989; Kaye & Mackintosh 1990; Peck & Bouton 1990).

Given some inconsistent data on the effect of context on appetitive conditioning, it is helpful to return to the case studies of appetitive responses of released marine mammals to see what actually occurred under conditions of release. Although most studies of released dolphins and manatees have been insufficiently documented to allow for evaluation of the transfer of learning, these three exceptions provide informative examples of context effects.

Gales and Waples (1993) trained a group of 10 captive and wild-born Indian Ocean bottlenose dolphins, including a calf and three juveniles, for release from a public display facility where they had lived for up to 10 years. The animals had been trained in both exhibition and husbandry behaviors throughout their captivity, including recall to an underwater signal. Before release they were transferred to a large open-water pen for 3 months, where they were trained to ride the bow and wake of a boat and to approach the underwater recall signal. Despite excellent performance in the pen environment, they did not respond to the underwater signal in the open sea. A few approached the observation boat but not consistently. The lack of response to the underwater signal in the open sea and sporadic approach to an observation boat despite previous food-reinforced training suggest the effects of context change on performance.

In a carefully designed study Wells et al. (1998) provide another example of the lack of transfer between contexts.

They observed and recorded the behavior of two male Atlantic bottlenose dolphins before capture, during 2 years of captivity, and after release. In captivity the subjects were trained using appetitive conditioning for husbandry, behavioral enrichment, and cognitive studies of echolocation. Three to 5.6 years after release, they exhibited no interactions with humans not typically found among wild dolphins and they did not adversely influence social patterns of the host population. The evidence from these two case studies of dolphins supports the argument that dolphins can be trained in captivity without transferring nonadaptive captive learning to the wild.

In another controlled release study, Felner et al. (2005) used appetitive conditioning procedures to train two Florida manatees in a captive setting to perform a variety of behaviors for food rewards, including approaching a trainer in response to a signal, over a 5-month period. Extinction procedures in the captive setting were then applied to the behaviors (i.e., behaviors that previously had been followed by food reward were no longer rewarded). For administrative reasons the animals were released before extinction was complete. Subsequently, trainers visited the manatees in the field and signaled them to perform the previously trained behaviors. Neither manatee demonstrated any of the captive behaviors in response to signals. Although the extinction procedures cannot be ruled out as contributing to the failure of signals to elicit a response in the field, the strong context dependence of extinction suggests alternative causes. A more likely explanation is that the original training was under tight context control, and the dramatic change in environment from captivity to the wild prevented performance transfer.

Extinction

There is another important implication of research on compound conditioning and context for public policy. When permits are extended by U.S. agencies for training, extinction of trained behaviors at the end of a study is frequently required before release. This means CSs are presented alone rather than in CS-US pairings. For example, a training whistle, typically preceding food, would be presented without the food US. In instrumental conditioning paradigms, previously rewarded behaviors such as paddle presses are no longer rewarded. As I noted in the discussion of context effects, extinction is strongly context dependent (Bouton 1993). This means that whatever extinction training is done in a captive setting before release is likely to be attenuated by the change to the natural environment.

Of greater concern is the implication of a study by Matzel et al. (1985) that shows that extinguishing the response to an overshadowing stimulus can attenuate overshadowing. If associations with humans are overshadowed in a training situation by experimental stimuli, then

extinguishing the response to those stimuli post-training and, consequently, extinguishing the S^P - S^R association, will increase the association with humans.

Under those circumstances where positive associations with humans might be expected to persist after release (e.g., open-water training of a dolphin, where the captive and wild environments are similar), aversive conditioning might be a more effective method for discouraging undesirable behavior such as approach to boats after release. Unlike behaviors generated by inhibitory or appetitive processes, fear-related behaviors are resilient to changes in environment (e.g., Bouton & King 1983; Lovibond et al. 1984; Kaye et al. 1987; Hall & Honey 1989). Aversive conditioning, in which undesirable behaviors are followed by a punishing stimulus, would be more likely to discourage orientation toward humans than extinction. The difficulty of appropriate application and collateral effects of punishment such as stress and emotional responding, however, suggest caution in the utilization of aversive techniques.

Discussion

The clearest way to ensure that animals learn nothing about humans while in captivity is to isolate them completely from any sensory cues of human existence. Such complete isolation, however, is likely to be rare. Captive animals are typically exposed to humans through medical and husbandry procedures, facilities maintenance, and in some cases public display. It would be difficult to totally isolate many species from humans, and not necessarily desirable. Mellen and colleagues (Mellen 1991; Mellen et al. 1998) observed that felids derive notable benefits from interactions with caretakers, including enhanced reproductive success and reduced stress-related behaviors (e.g., pacing). Dierauf (1990) identifies social isolation as a potential risk factor in herd-oriented animals such as many marine mammal species. Providing a stimulating environment also suggests the desirability of research training. Goldblatt (1993), in a review of literature on captive animal stress, concluded that understimulating environments were associated with stress responses in a wide range of animals, including marine mammals. He also concluded that training was the best way to attenuate that stress.

For reasons of practicality and animal welfare, interactions in captivity between many species and humans are likely to remain the norm. As long as animals are going to be in captivity, interacting with humans, it is beneficial to find out something useful for protecting them and their habitats. Many of the characteristics of animals relevant to their conservation, such as what they sense, how they process information, and how they respond physiologically, require behavioral training.

Various researchers have contributed modifications or alternatives to the elemental, configural, and occasion-setting theories I have described (review in Pearce &

Bouton 2001), but they lead essentially to the same conclusion concerning training releasable animals: Associations between humans and pleasurable consequences are less likely to occur in a research-training setting, where animals are brought under stimulus control, compared with other captive interactions such as those associated with free feeding, care, and general viewing. Research on context effects predicts that many of those associations that do develop between humans and pleasurable consequences undergo attenuation when the marine mammals' environments are changed from oceanaria enclosures to natural settings. The notable difference between environments suggests that the attenuation would be substantial. This prediction is supported by the three case studies with marine mammals that have been documented carefully.

It is important to be clear about what is and is not being suggested in my argument. I do not claim that animals learn nothing about humans in behavioral research settings. I suggest that they probably learn no more nonadaptive information about humans than they learn in other circumstances in the captive setting. In some cases research training may attenuate potentially dangerous associations between humans and reward, although it will not always reduce undesirable learning from outside the experimental setting. For example, if people free feed animals, the biological significance of humans as a CS is enhanced considerably. Under such circumstances other CSs such as experimental stimuli may not overshadow humans, even if they are more predictive of reward within the experimental setting. (See Miller and Matute [1996] for a discussion of the effects of biological significance on learning.) This is not a problem of research training; it is a problem of the associations developed outside of research.

It is also important to recognize areas in which the arguments I present may not apply or would at least have to be modified substantially. Training animals in natural settings (e.g., training marine mammals in open water) increases the similarity between training and natural contexts and therefore is more likely to be generalized unless efforts are clearly made to define the research context precisely (i.e., establish tight stimulus control). Lockyer (1990) reviews the case of Dolly, an open-water-trained bottlenose dolphin that was released because of her unpredictable behavior. After release she played with people and allowed them to touch her, behavior ostensibly inconsistent with the arguments for dishabituation and limited transfer of behaviors learned in captivity. Training, however, occurred in the same environment in which they were displayed. In addition, unpredictable behavior by definition indicates a lack of good stimulus control. Therefore it was not surprising that habituation was maintained and behaviors were transferred.

I have not addressed the issue of learning during sensitive periods such as infancy. Animals born and/or reared

in captivity may form abnormal attachments to people because of the strong learning that sometimes occurs during sensitive, early periods in development. These attachments in conjunction with a lack of normal learning experiences about the natural environment may adversely affect release. This would not, however, be exacerbated by behavioral research.

Within the laboratory setting investigations need to be made on the effects of humans as conditioned or discriminative stimuli. In addition we should conduct carefully controlled experiments to examine the extent to which training of releasable animals in captivity affects their behavior after release. The complex interactions and continuous flow among stimuli and responses in natural environments might generate relationships unpredictable from carefully controlled laboratory studies in which experimental stimuli are frequently discrete and limited in number. Perceptual, motor, motivational, and perhaps higher cognitive factors might interact with basic learning to generate unexpected outcomes. Species and individual characteristics might differ in ways that would affect the salience of key variables. For example, the biological significance of humans may differ among species and certainly will vary depending on individual learning history. The principles of learning are quite stable, although not without some variability (reviews in Shettleworth 1972; Domjan 1983).

Until field experiments can provide direct evidence of training effects, policy concerning human interactions with releasable animals should be based on available empirical evidence. The experimental laboratory evidence suggests that the following practices should be used: (1) Feeding should always be contingent on the presence of distinctive stimuli and animal responses uncorrelated with a human presence. Positive reinforcement uncorrelated with humans minimizes associations between humans and reward. Feeding contingent on human presence alone should be avoided because it conditions animals to associate people with food (Fig. 1). (2) The number of humans interacting with the animals on a noncontingent basis should be limited because it enhances generalization to all humans. (3) Feeding contexts should be made as different from natural contexts as possible. Because removing objects from the learning environment reduces transfer (González et al. 2003), the context should include many different stimuli that will not be present in the natural environment. (4) Extinction may be superfluous because of the behavioral attenuation that would be expected to occur between captive and natural environments, but if it does prove necessary, it should be done in the natural environment. Extinction should also target responses to humans, not to experimental stimuli, because the latter practice might remove overshadowing effects and enhance responses to humans.

Ironically, current practices that limit behavioral research may inadvertently facilitate association of humans

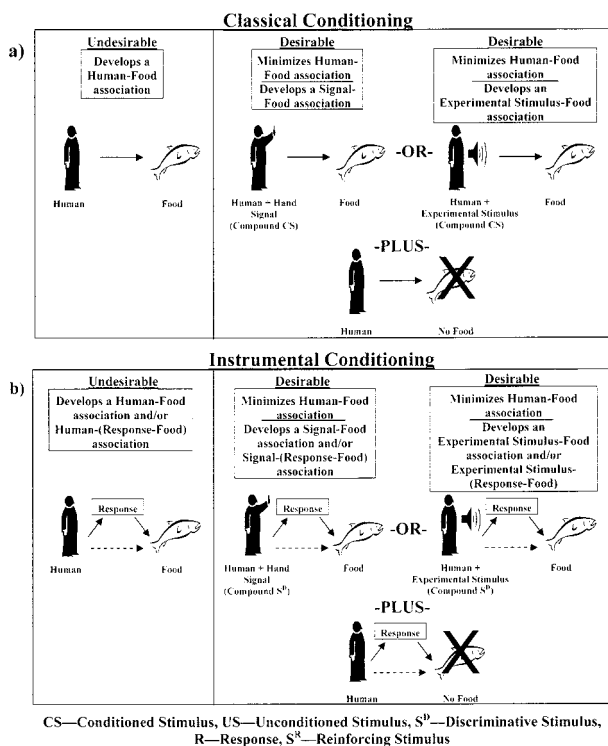


Figure 1. Training methods for minimizing associations between humans and food. Presenting humans in compounds with other stimuli reduces the association between humans and food. If in addition humans are present when no food is given, the association will be further minimized and under some circumstances may be inhibitory.

with food, the very characteristic that federal policy is meant to discourage. Animals learn about their environments, including people, with or without explicit training. A critical objective in caring for animals in captivity is that they not learn responses that will transfer to the wild and endanger them. Behavioral training of releasable animals, such as that associated with assessment of sensory processes, cognition, and many types of physiological research, provides an excellent solution to the problem of minimizing undesirable associations with people, providing environmental enrichment, and adding knowledge of species important for their conservation.

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A. Mann, S. Partan, R. Reep, J. E. Reynolds III, H. L. Roitblat, R. S. Wells, J. Mellen, Assigning Editor D. Kleiman, and three anonymous reviewers. Joseph C. Gaspard III prepared the figure. N. Adimey and J. Whaley were very helpful in providing sources that clarified the policy of U.S. Fish and Wildlife Service and National Marine Fisheries Service concerning marine mammal training and research. Grants from the Florida Fish and Wildlife Commission contributed to the preparation of this manuscript.

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Subject: Written Comment (EIS)

Date: Tue, 28 Feb 2006 06:50:25 +0000

From: bart bottoms <bartholomule@hotmail.com>


To: mmhsrpeis.comments@noaa.gov


Dear Mr. Payne,

Please see one of the attached articles for my written comment. I know that whale entanglement is such a small part of what you do, but this experience has been branded in my mind. I feel that the California coast needs more trained responders and that at a minimum, they should have the proper gear for disentanglement.

Thank you,

Bartholomew B. Bottoms, DVM
231 Evergreen St.
Santa Cruz, Ca 95060
C: (831) 227-6030

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 Bartholomew B. Bottoms Entangled whales need ready rescuers---January 29, 2006.htm	Name: Bartholomew Type: Hypertext M Encoding: quoted-print
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 Monterey County Herald 01-29-2006 ENDANGERED GIANTS.htm	Name: MontereyCountyHerald01-29- Type: Hypertext Markup Language Encoding: quoted-printable
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January 29, 2006

Bartholomew B. Bottoms: Entangled whales need ready rescuers

I was recently involved in a marine turtle research effort as the veterinarian on board a boat in Monterey Bay. Along our way, we unexpectedly came upon a humpback whale entangled in heavy polypropylene fishing line. The whale was a juvenile about 40 feet long and was caught by the tail with spotted prawn fishing gear a couple of miles off Moss Landing.

Exhaustive efforts were made to contact help by phone. No one in the National Marine Mammal Stranding Unit was able or close enough to respond in time, not even the Marine Mammal Center in Sausalito approximately 2 to 3 hours drive.

Our research team did not have the proper equipment, training or support. Furthermore, the humpback was very feisty, constantly diving and thrashing and uncooperative to say the least. We were ultimately unsuccessful in untangling the whale in the six hours before dark.

The next morning, there was no sign of the whale or the fishing gear buoys, line and has been none since. The assumed outcome was that the animal drowned struggling.

This was one of the most depressing events I have witnessed in my life. Why did I experience this? How can I help prevent it from happening again? These are the questions going through my mind. Create awareness. Educate people. Make it known where the deficiency lies. Ask for help.

Humpback whales are listed as an endangered species and "protected" by the U.S. government under the Endangered Species Act. Before commercial whaling, the global population was thought to be in excess of 125,000 animals. Between 1805-1907, an estimated 28,000 humpbacks were killed in the North Pacific alone. There has been a prohibition on taking humpback whales since 1966. Sadly enough, the 2004 minimum population estimate of the Eastern North Pacific Stock California, Oregon and Washington was 681 animals.

Whales and other marine mammals will become entangled in fishing gear as long as current fishing practices continue. These animals may need our assistance from time to time, but not always according to our schedules or availability. Whale entanglement is challenging to deal with. It takes specific training, equipment and most importantly, people. Even to the seasoned veteran, the work can prove to be most dangerous at times. People have died trying to untangle whales.

What we really need, aside from smarter whale-friendly fishing tackle, are more marine mammal emergency response teams that are trained and equipped along the central and northern California coast. There are simply not enough dedicated individuals with boats, training and equipment who can respond at any given moment. There are teams in San Diego, Los Angeles and Santa Barbara, but the Marine Mammal Center in Sausalito is the only group between San Luis Obispo and Crescent City, near the Oregon border. They are a great team, but that is a huge stretch of coast to cover for one team.

As a local veterinarian, waterman and global citizen, I am deeply concerned. I can only tell the story and hope that some will understand. It is all of our responsibility to improve the health of our oceans. The whales continue to show us that their health and welfare is endangered. If there was ever an opportunity to push for recognition of the need for more official disentanglement teams on the California coast, it seems that now is the time.

If you have any questions, comments or contributions regarding this issue, please contact me or Joe

Cordaro, California regional stranding coordinator for the National Oceanic and Atmospheric Association — National Marine Fisheries Service at: National Marine Fisheries, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213. He alone has an amazing potential and will be instrumental in solving this staffing problem.

I was sparked to write this because of the recent success story in San Francisco. My hat goes off to all those at the Marine Mammal Center and to the military divers who risked their lives to untangle the adult female humpback wrapped in 30 to 60 crab traps 6 miles east of the Farallon Islands. Thank you for continuing to lead the way in marine mammal health and stranding response.

Bartholomew B. Bottoms is a Santa Cruz veterinarian.

 Print Article

You can find this story online at:

<http://www.santacruzsentinel.com/archive/2006/January/29/edit/stories/05edit.htm>

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Posted on Sun, Jan. 29, 2006



ENDANGERED GIANTS

Awareness, resources needed to save ocean's humpback whales

By BARTHOLOMEW B. BOTTOMS
Guest commentary

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The whale, a juvenile about 40 feet long, was caught by the tail with spotted prawn fishing gear a couple of miles off Moss Landing.

Exhaustive efforts were made to contact help by phone. No one in the National Marine Mammal Stranding Unit was able or close enough to respond in time. The Marine Mammal Center in Sausalito, approximately two to three hours away, also couldn't help.

Our research team didn't have the proper whale disentanglement equipment, training or support, and the humpback was feisty, constantly diving and thrashing. It was uncooperative, to say the least.

We were ultimately unsuccessful in freeing the whale in the six hours before dark. The next morning there was no sign of it or the fishing gear, and there has been none since.

The assumed outcome was that the animal drowned, struggling.

This was one of the most depressing events I have ever witnessed. Why did it happen? How can it be prevented from happening again? These are the questions going through my mind.

The apparent answers are to create awareness, educate people. Make it known where the deficiency lies. Ask for help.

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Prior to commercial whaling, the global population was thought to be in excess of 125,000 animals. Between 1805 and 1907, an estimated 28,000 humpbacks were killed in the North Pacific. There has been a prohibition on taking humpback whales since 1966. Sadly, though, the 2004 minimum population estimate of the Eastern North Pacific Stock (California, Oregon and Washington) was 681 animals.

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What we really need, aside from smarter, whale-friendly fishing tackle, are more marine mammal emergency response teams trained and equipped along the Central and Northern California coasts. There are simply not enough dedicated individuals with boats, training and equipment to respond at any given moment.

There are teams in San Diego, Los Angeles and Santa Barbara, but the Marine Mammal Center in Sausalito is the only group between San Luis Obispo and Crescent City. The Marine Mammal Center and military divers recently risked their lives in a successful effort to disentangle an adult female humpback that was wrapped in 30 to 60 crab traps east of the Farallon Islands. It's a great team, but has a huge stretch of coast to cover.

As a local veterinarian, waterman and global citizen, I am deeply concerned. I can only tell the story and hope that some will understand. It is all of our responsibilities to improve the health of our oceans. The whales continue to show

us that their health and welfare is endangered. If there was ever an opportunity to push for recognition of the need for more official disentanglement teams on the California coast, it seems that now is the time.

If you have questions, comments or contributions regarding this issue, please contact me at bartholomule@hotmail.com, or Joe Cordaro, the California regional stranding coordinator for the National Marine Fisheries Service, at 501 W. Ocean Blvd. Suite 4200, Long Beach, CA 90802-4213.

Bartholomew B. Bottoms of Santa Cruz is a traveling veterinarian specializing in horses with a part-time focus on wildlife, including condors, otters, mountain lions and leatherback sea turtles. He grew up in Santa Barbara and the Big Sur back country and holds degrees from Cal Poly and the University of Prince Edward Island.

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**The Cape Cod Stranding Network, Inc.
P.O. Box 287
Buzzards Bay, MA 02532**

27 February 2006

P. Michael Payne, Chief
Marine Mammal and Sea Turtle Division
NMFS 1315 East-West Highway
Silver Spring, MD 20910-3226

Dear Mr. Payne,

I am writing in response to the proposed actions of NMFS to continue to coordinate and operate the National Marine Mammal Health and Stranding Response Program (MMHSRP) for response to stranded marine mammals and research into questions related to mammal health, including causes and trends in marine mammal health and the causes of strandings, of the Marine Mammal Protection Act. I support NOAA Fisheries' efforts to standardize the program through the implementation of Policies and Best Practices. Specifically, I support the MMHSRP's proposal to (1) issue policies and best practices for marine mammal stranding response, rehabilitation, and release, and establish required minimum standards for the national marine mammal stranding and disentanglement networks; (2) issue MMHSRP permits allowing response activities for endangered species, entanglement activities, biomonitoring projects, and import and export of marine mammal tissue samples; and (3) continue to issue and renew stranding agreements (formerly LOAs) on a case-by-case basis as necessary. The MMHSRP provides a critical public service by facilitating response to stranded marine mammals and by promoting research into questions related to ocean health, including causes and trends in marine mammal health and causes of strandings. I believe that NMFS has not only a need, but also an obligation, to develop standards for the national marine mammal stranding and disentanglement networks, in order to operate the MMHSRP effectively and efficiently while making the best use of the limited resources available.

Generally speaking, the documents put forth as the Policies and Best Practices as a part of the EIS/NEPA process are impressive. It is obvious that the National Stranding Coordinator and the MMHSRP staff have put a great deal of effort into these final drafts. With the exception of some minor comments, the Stranding Agreement (SA) template, the SA minimum criteria, Rehabilitation Facility Guidelines, Release Criteria and Disentanglement Guidelines are well written and will serve both the MMHSRP program and the network members well as guidelines for proper response to and care for stranded marine mammals.

While I agree with the overall need to strive for the establishment of at least minimum standards for the work that we do, some of the proposed actions/alternatives presented at the scoping meeting are troubling. Breaking the MMHSRP work into program activities for the purposes of the EIS process will help us to be more precise in shaping the program, but requires some real analyses of the options. Below are comments regarding the general proposal of the EIS, the proposed options for each programmatic activity, answers to the specific questions posed in the scoping documents, and comments on the Policies and Best Practices documents.

General Comments:

- I support the proposed action to issue Policies and Best Practices for Marine Mammal Stranding response, Rehabilitation, and Release. I also support the issuance of MMHSRP

ESA/MMPA permit; the issuance and renewal of SA's on a case by case basis and the continuation of other day-to-day operations of the stranding network.

- I do not support the No Action alternative or the Status Quo alternative. It is essential that we establish at least minimum standards for stranding response, rehabilitation, release and disentanglement. These Policies and Best Practices have been a long time coming and are in the best interest of the animals, both from an individual animal strand point as well as at the population level. The documents will help all network members advance their work and will help NOAA Fisheries and NMFS to gradually raise the bar on performance. Eventually, we need to consider making more of these regulations in order to make them enforceable and give the program some real teeth when absolutely necessary.
- I agree that the "Alternatives that may be Eliminated" should not be considered. They are too limiting and will not allow the MMHSRP to achieve its goals or fulfill its MMPA mandates.

Alternatives by Activity

Obviously, the Status Quo, No Action, and Response Curtailed Immediately options are not reasonable alternatives for any of the activities of the program. In order to fulfill MMPA and ESA mandates, NOAA Fisheries/NMFS must implement the MMHSRP. Furthermore, the baseline data collected from stranded and rehabilitated animals has already proven invaluable in understanding and protecting these species. In addition, the potential to utilize marine mammal as sentinels of the marine environment could play a vital role in human health issues as well. Bearing that in mind, I have addressed each individual program activity and its proposed alternatives:

Stranding Response

I would agree with a combination of the last two proposed alternatives. I would implement the SA Criteria with very minimal revisions (see below), issuing SAs only to those institutions meeting minimum criteria. I am wary of the alternatives that "require" or "authorize" response only to some groups of animals. The reality is that Level A data are the only legally required data that must be collected. It is not too much to ask to have Level A data collected from every animal. It may, however, be useful to prioritize Level B and C data collection based on the national, regional and local needs and questions that must be answered. These priorities should be established annually (or more frequently as needed) by the National Stranding Coordinator in conjunction with the head of the MMHSRP and in consultation with the regional coordinators and stranding responders.

Carcass Disposal/Euthanasia

These need to be treated as separate activities. Although related, disposal of non-euthanized carcasses is also a major issue. NOAA cannot require that all animals be buried on site. There are too many other environmental and legal issues that must be considered (e.g. private property, erosion issues, other protected species, etc.) Nor is it reasonable to require the removal all carcasses. The stranding networks are not salvage operations or garbage collectors. Strandings are a natural event and some responsibility for clean up must be placed on the land owners or local/state municipalities and agencies.

The idea of prohibiting all chemical euthanasia hardly seems possible at this time. Until a legal, humane, and logistically feasible alternative is identified, chemical euthanasia is our only option. So much of our work is in response to animal welfare concerns of the public. Humane euthanasia must remain an option. None of the proposed alternatives are optimal. The final alternative to remove chemically euthanized animals is the best; however, we need to have some accommodation for large whales and mass strandings. The volume of euthanized animals in these cases can be great and the costs for removal prohibitive. Currently, we

attempt to remove or otherwise secure euthanized carcasses from scavenging. I think this is a reasonable goal.

Rehabilitation

I support the alternative to implement the Rehabilitation Guidelines with minimal modifications. I believe that NOAA/NMFS should develop spatial and temporal rehab/release priorities based on species, population or group, age class, health status, etc. Requirements/guidelines/priorities for live animal response, rehab and release (species, population or group, age class, condition) and data collection (diagnostic tests, behavioral and physical assessment, etc.) should be dynamic and directed by NOAA/NMFS HQ with input from the regional coordinators and SA holders. Requirements and guidelines could be issued annually and more specific protocols, based on regional disease threats, UMEs, and other events, could be issued on an as-needed basis. Whenever possible, active, post-release monitoring of rehabilitated animals should be strongly recommended or required.

Release

The proposed Release Criteria should be implemented with minimal modifications if any. Also, there needs to be clarification of criteria for immediate release, relocation and release, and post-rehabilitation release. For example, mass stranded animals may be deemed appropriate for release after health assessment and blood work. The criteria for release at the stranding site or for relocation to a more appropriate site for release would obviously be quite different than the criteria after rehabilitation. This distinction should be articulated in the SAs as well as in the Rehabilitation and Release Guidelines. I fundamentally agree with the 'All animals released' alternative if the release guidelines are adopted as is or with minimal changes and the recognition that there may be times and places where release of a successfully rehabilitated animal is not authorized to ensure protection of the environment and/or human safety.

Disentanglement

I agree with the "Implementation of Disentanglement Guidelines, training prerequisites for Disentanglement Network Participants" alternative. From what I have read, the Disentanglement Guidelines/roles and training levels do not state that they refer only to large whales. I think there needs to be a distinction between disentanglement efforts involving large whales, small cetaceans and pinnipeds. A similar, but less restrictive certification/training process should be established for stranding network members that often respond to entangled dolphins, porpoises and seals.

Biomonitoring

I support the Issuance of New Permit with current and new (foreseeable) projects alternative.

Specific Questions put forth in the Scoping Documents

What sort of activities should be conducted on a local, regional and national level in response to stranded, entangled, sick, injured, and other marine mammals in distress?

- We support all current activities of the MMHSRP including prevention, response, rehabilitation, release and research of marine mammals that are stranded, entangled, sick, injured, or otherwise in distress, and public education about strandings.

Are there critical research or management needs that may be met by stranding investigations, rehabilitation, disentanglement, or health-related research and biomonitoring activities? Are these needs currently being met? If not, what are they, how are they likely to benefit the marine mammal species or the ecosystems in which they live and what should be done to meet them?

- Headquarters and Regional staff should work with SA holders to identify these needs on a regular basis. To address these needs, as well as many of the other aspects of the Policies and Best Practices, such as identifying key species for rehabilitation, a working group should be established. A group similar to an SRG, comprised of SA holders, MMHSRP staff, veterinarians, etc could serve the MMHSRP by shaping the portions of these guidelines that really need to be dynamic in order to be effective. Obviously, the most pressing issues identified today, may not be the same ones we identify next year. In order to be effective, we must be flexible and a group such as this with a balanced representation of members of network members, NOAA, NGOs etc would serve this purpose well.

Should there be different standards or levels of MMHSRP effort for different species or groups of species (i.e. pinnipeds vs. cetaceans; threatened or endangered species vs. increasing populations, etc.)? If so, how should NMFS set these standards or priorities? How should the species be divided?

- To the extent that it is practical and legal, I do not believe that there should be different standards of stranding response for different species or regions, regardless of status. Valuable information may be gathered from both pinnipeds and cetaceans, and from endangered and non-endangered species. There needs to be a minimum set of standards that all network members are required to meet. However, given the differences in species and other regional issues, Headquarters should work with each region to prioritize their response based on regional conservation and research priorities and network resources. I also understand that stranding response levels or standards must be fluid documents, able to incorporate new information as we gather it in order to continue to provide the best stranding response and investigation possible. Again, I reference the SRG-like group detailed above.

Is the current organization of the national stranding and health assessment networks at the local, state, regional, ecosystem, and national levels adequate to meet the necessary management and research needs for conservation? If not, what changes should be implemented to make the organization more effective?

- I believe that the current disconnect among the NMFS regions and between the regions and NMFS headquarters is hindering the development of consistent, standardized policies and procedures nationally. There are two fundamental elements that seem to be inhibiting this process. The first is that regional stranding programs operate independently, without direct supervision/connection to headquarters. This prohibits consistency in both program and policy. The second element is that the regional structure of the marine mammal programs varies greatly among the regions. Aside from the Regional Coordinator, there are no parallel positions. In some regions, NMFS employees are paid to respond to strandings, while in others and in other areas within the same regions, NMFS does not contribute to stranding response. Other inconsistencies also contribute to the problem:
 - Stranding response is governed by the regional office control in NER, but under the control of science centers in other regions.
 - Funding for NMFS appears to vary significantly regionally and annually. We would like to see regional NMFS allocation of stranding response funds divided more equally among regions, if possible, from Headquarters.
 - We are aware that MMHSRP funding has been (unfairly, in our opinion) earmarked for specific organizations and states. Anything that can be done to protect and increase the small amount of funding allocated to the MMHSRP is vital. We believe all MMHSRP funding should go towards program goals, and that funds available for dispersal should be equitably divided among stranding network participants through competitive awards and fair direct allocations.

- The NMFS Regional and local stranding staff should have an equal or higher level of experience than is expected from the network members. If this experience is not present, representatives from NMFS should be required to train with each facility under their charge. This training would help to alleviate the lack of understanding of differences within our regions and facilitate an understanding of how each organization functions.
- I believe that Regional Coordinators should be experienced in all aspects of marine mammal stranding response in order to better serve the network members. Regional Coordinators should be directly answerable to the National Stranding Coordinator.
- The role of the Regional Administrators is puzzling (as noted in the SA). It places great responsibility on individuals who, in most cases, have little to no marine mammal experience of any kind. It would seem both prudent and logical to utilize the appropriately trained individuals within the NMFS system to make decisions regarding these policies.

What should the minimum qualifications of an individual or organization be prior to becoming an SA holder or disentanglement participant?

- Staff of any potential SA holder are required to have hands-on experience and/or comparable training from a facility or organization currently holding a NOAA/NMFS SA or similar international agreement. Written documentation from previous supervisor(s) should be required to ensure that appropriate experience was obtained. The minimum qualifications proposed should be implemented as written.

What should the requirements be for continued participation in the networks? Should there be a certification or licensing process? What training should be required?

- Facilities or organizations should be required to maintain 'good standing' status by following guidelines established in the minimum standards/qualifications and SA template. We agree with the conditions described in the SA National Template. In the future, as the network continues to develop and as resources within NMFS allow, a training and/or certification process should be implemented to help SA holders better achieve their goals. Training in human interaction evaluation, large whale stranding response, euthanasia, mass stranding response and UME coordination should be required in order to achieve a certification.

Are public and animal health and safety needs adequately addressed in the current organization and operations of the MMHSRP?

- No, we continue to be concerned about issues surrounding euthanasia. Specifically, we would like to pursue a solution that is both humane and less toxic. The toxicity of euthanasia solution presents a disposal problem and makes it unwise to leave carcasses on uninhabited beaches where they may be consumed by scavengers. Additionally, use of the commonly-prescribed euthanasia solution can be dangerous to personnel when dealing with a struggling animal. It would also allow a broader range of disposal options for euthanized carcasses.

Are there any other relevant issues or data NMFS should consider in its analysis of activities conducted by, for, and under the authorization of the MMHSRP? If so, please provide it or a reference for it.

- I strongly support the continuation and advancement of the John H. Prescott Stranding Grant Program. The support provided by the program is vital to our efforts. However, it must be noted that the activities we are both allowed and required to perform under the current and proposed stranding agreements are in no way fully funded by the Prescott Program. NMFS must recognize the true costs of the Marine Mammal Stranding Network and be prepared for the possibility that without appropriate, annual, non-competitive funding,

organizations may not be able to fulfill the goals of the MMHSRP. This is especially true as NMFS moves toward standardizing its marine mammal programs. Additional or more detailed requirements in response, rehabilitation and research may lead to additional costs which must be taken into account.

Proposed Policies and Best Practices

Below are more detailed comments regarding the Policies and Best Practices documents. SA minimum criteria, Standards for Release, and Disentanglement Guidelines are acceptable as written.

Stranding Agreement:

Article I, 3. The inclusion of geographic boundaries within the SA is a great addition to the LOA model.

Article II

B.6. Training for network members needs to be made a priority and additional resources must be allocated within the MMHSRP to accomplish this goal.

B.8. It is inappropriate for NMFS to presume to assign an Incident Commander for all mass stranding events. While I realize that this would be useful and may even be necessary in certain regions, it would be counter productive in the NER. In Massachusetts we have an established and experienced ICS team (more experienced than most/all NMFS representatives in the region). It would actually be disruptive to change the system already in place. If the headquarters staff / national stranding coordinator feel that this is a necessary step in certain regions, then it should be articulated regionally or within individual SAs. This is a perfect example of where a certification and training program would serve the MMHSRP well. In this way, I have no doubt that the Cape Cod Stranding Network and New England Aquarium, already experienced in a coordinated ICS mass stranding response for over four years, would be certified and NER Coordinator would have no need to assign an Incident Commander as one would already be in place.

C. 3. I would add to this statement:..." shall be subject to the direction of a QUALIFIED designated employee representing the NMFS. For all of the training and certification proposed for the SA holders, the same or greater level of experience, and training should be REQUIRED of NMFS staff. Too many times experienced network members are forced to take direction from less experienced federal employees.

C.10. NMFS needs to supply the list of diseases.

Article III

B.1.a. See above (Article II, B.8.) regarding Incident Command issues.

B.1.b. Need to make sure this works in conjunction with the final guidelines/alternative for euthanasia/disposal activity.

B.2.d. Level B and C data are proprietary. Submission to NMFS makes them FOIA material and provides an opportunity for inappropriate use of data. It would be better to specify that summary data, not raw data would be requested, thus providing a built in safe guard.

B.3.a. This is an unrealistic requirement. The National Database should be altered to allow the entry of multiple samples on one page. The current system required new data entry screens for each type of sample, requiring much more time and effort in data entry. Furthermore, the transfer of archived samples would be hard if not impossible to enter on OLD records, no longer available for editing. The SA holder must be able to locate and document and transfer of parts at any time when requested by NMFS. This is reasonable, as most of us have internal sample tracking databases.

Article IV

A.1. line 2 should read " for the protection OR welfare of the marine mammal".

A.1.b. It is unclear whether the more invasive tagging procedures require regional approval on a case by case basis. This seems like overkill. These more invasive (satellite tags, etc) already require a research permit. So long as that permit is in place, the SA holder and responders should be the ones determining the appropriate candidates for such tags. It would be inappropriate and too time consuming to require approval on a case by case basis.

A.1.c. Euthanasia of stranded marine mammals is a difficult subject. The wording here seems well articulated to suit the needs of stranding response. Thank you for addressing this critical need.

A.1.d. There is a significant omission here. I think the need for relocation and immediate release should be addressed here: "Transporting live stranded marine mammals for relocation and immediate release (e.g. removing pinnipeds from busy beaches, or relocating mass stranded animals to appropriate release sites) or for rescue and rehabilitation"

B.1.a. See previous comments regarding the assignment of an Incident Commander.

B.1.c line one: should read: shall tag any animals that are immediately released to their..."

B.2.b. Is there a time limit for what is considered temporary holding? It seems unnecessary for an institution holding an animal for fewer than 48hrs to submit the Rehab Disposition Report.

B.2.f. See comments above regarding level B and C data. These are proprietary.

B.3.a. See previous comments.

Article V

A.1. This is unclear. Does anyone who intends to transfer an animal to rehab need a rehab permit? I'm guessing not, but that needs to be more clearly articulated.

Article IX

B. Excellent. These ramifications are exactly what the program needs to encourage/enforce adherence to the new standards.

Standards for Rehabilitation Facilities:

Chapter 1

pg 5, section 1.3 - Minimum standards should take temporary holding into consideration (e.g. triage for 24-48 hours); dark/light periods should be considered

pg 24, section 8.2 - Address carcass disposal if euthanized or not

A great deal of effort has clearly been put forth in the development of these documents and in the preparation for the EIS and NEPA review. The implementation of the Policies and Best practices, with modifications as noted, will help to make the MMHSRP and all stranding response organizations more efficient and effective in our work. However, many of the comments and suggestions made here will require additional support from NOAA OPR and Headquarters. Additional resources, personnel and funding must be allocated to the MMHSRP in order to accomplish these goals. I fully support all efforts to expand the program at a national level and to support each region in its efforts.

In addition, for the National Marine Mammal Stranding Network to function effectively and efficiently, many decisions about levels of response, rehab, release and disentanglement would be best made with the input of experts in stranding response. We suggest the formation of a National Stranding Advisory Group, similar to an SRG as described above, to provide input to HQ for important decisions and policies. Members should include senior biologists and/or veterinarians from stranding response organizations in each region as well as experts on pinniped and cetacean rehab, large whale necropsy and disentanglement.

All considered, we are impressed with the effort and detail that has been presented with the EIS, and we are pleased to be a part of this important process.

Sincerely,

Kathleen Touhey
Director
Cape Cod Stranding Network, Inc.



COMMONWEALTH of VIRGINIA

W. Taylor Murphy, Jr.
Secretary of Natural Resources

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January 10, 2006

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Mr. P. Michael Payne
Chief, Marine Mammal and Sea Turtle Division
Attn: MMHSRP EIS
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway, Room 13635
Silver Spring, Maryland 20910

RE: National Marine Mammal Health and Stranding Response Program

Dear Mr. Payne:

This is in response to your recent notice of intent to prepare an Environmental Impact Statement, which appeared in the Federal Register on December 28, 2005 (Volume 70, Number 248, pages 76777-76780, hereinafter cited as "the Notice"). The Environmental Impact Statement (EIS) would evaluate cumulative impacts of the activities of the National Marine Fisheries Service's (NMFS) Marine Mammal Health and Stranding Response Program as contemplated after June 30, 2007, which is when an existing permit, issued by the Permits, Conservation, and Education Division of NMFS, expires (Notice, pages 76778-76779). The Notice indicates that NMFS is considering the following alternatives (page 76779, right):

- *Alternative 1, Proposed:* Publish a Practices and Protocols Handbook, showing minimum standards for stranding and disentanglement networks, response activities, bio-monitoring, and other research projects; get a renewed permit (for after the June 2007 of the existing permit) from the other piece of NMFS;
- *Alternative 2, No Action:* Continue current activities without a handbook publication; let the Stranding Agreements expire (these get the partner entities out from under Endangered Species prohibitions; see page 76778, center); and let the permit lapse;

Mr. P. Michael Payne

Page 2

- *Alternative 3, Status Quo:* keeping up the Stranding Agreements but not having new ones for entities that are not part of the existing network. In this case, the permit could be reissued.

The roles of the Virginia Department of Environmental Quality (DEQ) in relation to the project under consideration are as follows. First, DEQ's Office of Environmental Impact Review (this Office) will coordinate Virginia's review of any environmental documents prepared pursuant to the National Environmental Policy Act (NEPA) and comment to NMFS on behalf of the Commonwealth. A similar review process will pertain to the federal consistency determination that must be provided pursuant to the Coastal Zone Management Act (CZMA).

Environmental Review and Scoping

While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments pertaining to resources under their jurisdiction to assist in the preparation of the NEPA documents for the proposed project. Therefore, we are sharing the Notice with selected Virginia agencies, which are likely to include the following (note: starred (*) agencies administer one or more of the Enforceable Policies of the Virginia Coastal Resources Management Program; see "Federal Consistency....," below):

Department of Environmental Quality:
Office of Environmental Impact Review
Tidewater Regional Office*
Department of Game and Inland Fisheries*
Department of Conservation and Recreation:
Division of Natural Heritage
Division of Planning and Recreation Resources
Marine Resources Commission*
Virginia Institute of Marine Science (marine science advisor to the Commission, above).

Federal Consistency under the Coastal Zone Management Act

Pursuant to the Coastal Zone Management Act of 1972, as amended, federal activities affecting Virginia's coastal resources or coastal uses must be consistent, to the maximum extent practicable, with the Virginia Coastal Resources Management Program (VCP) (see section 307(c)(1) of the Act and the Federal Consistency Regulations, 15 CFR Part 930, sub-part C, sections 930.30 through 930.46). NMFS must provide a consistency determination which involves an analysis of the activities in light of the Enforceable Policies of the

Mr. P. Michael Payne
Page 3

VCP (first enclosure), and a commitment to comply with the Enforceable Policies. In addition, we invite your attention to the Advisory Policies of the VCP (second enclosure). The federal consistency determination may be provided as part of the NEPA documentation. If the federal consistency determination is included as part of the NEPA document, there can be a single review taking 60 days as allowed by the Federal Consistency Regulations (15 CFR Part 930, section 930.41(a)). We recommend this approach to save time and extra effort for NMFS as well as for the Commonwealth. Section 930.39 of the Federal Consistency Regulations and Virginia's Federal Consistency Information Package (see below) give content requirements for the consistency determination.

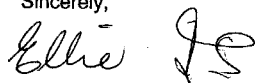
The Federal Consistency Information Package is available on DEQ's web site, <http://www.deq.virginia.gov>. Select "Programs" on the left, then scroll to "Environmental Impact Review/Federal consistency" and select this heading. Select "federal consistency reviews" on the left. This gives you access to the document.

In order to ensure an effective coordinated review of the EIS and the consistency determination, we will require 9 copies of the document when it is published.

If you have questions, please feel free to call me (telephone (804) 698-4325) or Charles Ellis of this Office (telephone (804) 698-4488).

I hope this information is helpful to you.

Sincerely,



Ellie L. Irons
Program Manager
Office of Environmental Impact Review

enclosures

cc: Harold J. Winer, DEQ-TRO
Andrew K. Zadnik, DGIF
Scott Bedwell, DCR
Tony Watkinson, MRC
David O'Brien, VIMS



COMMONWEALTH of VIRGINIA

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Attachment 1

Enforceable Regulatory Programs comprising Virginia's Coastal Resources Management Program (VCP)

- a. Fisheries Management - The program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities. This program is administered by the Marine Resources Commission (VMRC); Virginia Code §28.2-200 to §28.2-713 and the Department of Game and Inland Fisheries (DGIF); Virginia Code §29.1-100 to §29.1-570.

The State Tributyltin (TBT) Regulatory Program has been added to the Fisheries Management program. The General Assembly amended the Virginia Pesticide Use and Application Act as it related to the possession, sale, or use of marine antifoulant paints containing TBT. The use of TBT in boat paint constitutes a serious threat to important marine animal species. The TBT program monitors boating activities and boat painting activities to ensure compliance with TBT regulations promulgated pursuant to the amendment. The VMRC, DGIF, and Virginia Department of Agriculture Consumer Services (VDACS) share enforcement responsibilities; Virginia Code §3.1-249.59 to §3.1-249.62.

- b. Subaqueous Lands Management - The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, tidal wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Department of Environmental Quality (DEQ). The program is administered by the Marine Resources Commission; Virginia Code §28.2-1200 to §28.2-1213.
- c. Wetlands Management - The purpose of the wetlands management program is to preserve wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation.

(1) The tidal wetlands program is administered by the Marine Resources Commission; Virginia Code §28.2-1301 through §28.2-1320.

(2) The Virginia Water Protection Permit program administered by DEQ includes protection of wetlands --both tidal and non-tidal; Virginia Code §62.1-44.15:5 and Water Quality Certification pursuant to Section 401 of the Clean Water Act.

Attachment 1 continued

Page 2

- d. Dunes Management - Dune protection is carried out pursuant to The Coastal Primary Sand Dune Protection Act and is intended to prevent destruction or alteration of primary dunes. This program is administered by the Marine Resources Commission; Virginia Code §28.2-1400 through §28.2-1420.
- e. Non-point Source Pollution Control – (1) Virginia's Erosion and Sediment Control Law requires soil-disturbing projects to be designed to reduce soil erosion and to decrease inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the Commonwealth. This program is administered by the Department of Conservation and Recreation; Virginia Code §10.1-560 *et seq.*
- (2) Coastal Lands Management is a state-local cooperative program administered by the DCR's Division of Chesapeake Bay Local Assistance and 84 localities in Tidewater (see i) Virginia; Virginia Code §10.1-2100 –10.1-2114 and 9 VAC10-20 *et seq.*
- f. Point Source Pollution Control - The point source program is administered by the State Water Control Board (DEQ) pursuant to Virginia Code §62.1-44.15. Point source pollution control is accomplished through the implementation of:
- (1) the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to Section 402 of the federal Clean Water Act and administered in Virginia as the Virginia Pollutant Discharge Elimination System (VPDES) permit program.
- (2) The Virginia Water Protection Permit (VWPP) program administered by DEQ; Virginia Code §62.1-44.15:5 and Water Quality Certification pursuant to Section 401 of the Clean Water Act.
- g. Shoreline Sanitation - The purpose of this program is to regulate the installation of septic tanks, set standards concerning soil types suitable for septic tanks, and specify minimum distances that tanks must be placed away from streams, rivers, and other waters of the Commonwealth. This program is administered by the Department of Health (Virginia Code §32.1-164 through §32.1-165).
- h. Air Pollution Control - The program implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (Virginia Code §10-1.1300 through §10.1-1320).
- (i) Coastal Lands Management is a state-local cooperative program administered by the DCR's Division of Chesapeake Bay Local Assistance and 84 localities in Tidewater, Virginia established pursuant to the Chesapeake Bay Preservation Act; Virginia Code §10.1-2100 – 10.1-2114 and Chesapeake Bay Preservation Area Designation and Management Regulations; Virginia Administrative Code 9 VAC10-20 *et seq.*

Attachment 2

Advisory Policies for Geographic Areas of Particular Concern

- a. Coastal Natural Resource Areas - These areas are vital to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline. Such areas receive special attention from the Commonwealth because of their conservation, recreational, ecological, and aesthetic values. These areas are worthy of special consideration in any planning or resources management process and include the following resources:
- a) Wetlands
 - b) Aquatic Spawning, Nursery, and Feeding Grounds
 - c) Coastal Primary Sand Dunes
 - d) Barrier Islands
 - e) Significant Wildlife Habitat Areas
 - f) Public Recreation Areas
 - g) Sand and Gravel Resources
 - h) Underwater Historic Sites.
- b. Coastal Natural Hazard Areas - This policy covers areas vulnerable to continuing and severe erosion and areas susceptible to potential damage from wind, tidal, and storm related events including flooding. New buildings and other structures should be designed and sited to minimize the potential for property damage due to storms or shoreline erosion. The areas of concern are as follows:
- i) Highly Erodible Areas
 - ii) Coastal High Hazard Areas, including flood plains.
- c. Waterfront Development Areas - These areas are vital to the Commonwealth because of the limited number of areas suitable for waterfront activities. The areas of concern are as follows:
- i) Commercial Ports
 - ii) Commercial Fishing Piers
 - iii) Community Waterfronts
- Although the management of such areas is the responsibility of local government and some regional authorities, designation of these areas as Waterfront Development Areas of Particular Concern (APC) under the VCRMP is encouraged. Designation will allow the use of federal CZMA funds to be used to assist planning for such areas and the implementation of such plans. The VCRMP recognizes two broad classes of priority uses for waterfront development APC:
- i) water access dependent activities;
 - ii) activities significantly enhanced by the waterfront location and complementary to other existing and/or planned activities in a given waterfront area.

Advisory Policies for Shorefront Access Planning and Protection

- a. Virginia Public Beaches - Approximately 25 miles of public beaches are located in the cities, counties, and towns of Virginia exclusive of public beaches on state and federal land. These public shoreline areas will be maintained to allow public access to recreational resources.
- b. Virginia Outdoors Plan - Planning for coastal access is provided by the Department of Conservation and Recreation in cooperation with other state and local government agencies. The Virginia Outdoors Plan (VOP), which is published by the Department, identifies recreational facilities in the Commonwealth that provide recreational access. The VOP also serves to identify future needs of the Commonwealth in relation to the provision of recreational opportunities and shoreline access. Prior to initiating any project, consideration should be given to the proximity of the project site to recreational resources identified in the VOP.
- c. Parks, Natural Areas, and Wildlife Management Areas - Parks, Wildlife Management Areas, and Natural Areas are provided for the recreational pleasure of the citizens of the Commonwealth and the nation by local, state, and federal agencies. The recreational values of these areas should be protected and maintained.
- d. Waterfront Recreational Land Acquisition - It is the policy of the Commonwealth to protect areas, properties, lands, or any estate or interest therein, of scenic beauty, recreational utility, historical interest, or unusual features which may be acquired, preserved, and maintained for the citizens of the Commonwealth.
- e. Waterfront Recreational Facilities - This policy applies to the provision of boat ramps, public landings, and bridges which provide water access to the citizens of the Commonwealth. These facilities shall be designed, constructed, and maintained to provide points of water access when and where practicable.
- f. Waterfront Historic Properties - The Commonwealth has a long history of settlement and development, and much of that history has involved both shorelines and near-shore areas. The protection and preservation of historic shorefront properties is primarily the responsibility of the Department of Historic Resources. Buildings, structures, and sites of historical, architectural, and/or archaeological interest are significant resources for the citizens of the Commonwealth. It is the policy of the Commonwealth and the VCRMP to enhance the protection of buildings, structures, and sites of historical, architectural, and archaeological significance from damage or destruction when practicable.

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MMHSRP EIS Scoping Process Comments, 24 February 2006

Subject: Photo documentation of strandings
(Collection and dissemination of data, MMHSRP Information Management Program)

From: Pieter A. Folkens (member, AK Marine Mammal Stranding Network)

MMHSRP would benefit from encouraging photo documentation of all strandings and by establishing guidelines for photo and video documentation to best facilitate subsequent analysis. Written reports cannot garner all details of a stranded animal. Photographs preserve information that can be overlooked in written reports. The information acquired in photos may be of interest to disciplines other than that of the responder. Guidelines need not be complicated or technical. Simple guidelines regarding the most important images and how to capture them are all that is needed.

The vast majority of images captured at strandings that I have seen are simply "snap shots" with little or no regard for the utility of the photos. Flat-field images (as opposed to wide angle shots) taken along the body axis of the specimen are important to provide the best opportunities for subsequent analysis. Unusual mortality events in particular need good photo documentation. The analysis of such events will benefit immensely from comprehensive and well-thought-out images—especially if involving NOAA Enforcement is contemplated.

Real-world examples of the importance of good photo documentation: 1) A stranding near Sitka last year was attributed to a ship strike, but the photo taken of the animal did not support (even contradicted) the conclusion. The animal was lost to a tide before a complete analysis could be made. 2) A whale struck by a ship near Admiralty Island in Frederick Sound was photographed across the bow. The mechanics of injury (MOI) was initially described as the whale being struck on the top of the head. Subsequent analysis of the photo concluded that the whale was struck on the side of the head and then rode up on the bow bubble. 3) I know of two other strandings attributed to a ship strike where inadequate images confounded efforts to precisely establish the MOI.

The guidelines could include what images are most important to many researchers. For example:

- Lateral full body perpendicular to the axis (both sides if possible).
- Dorsal full body perpendicular to the axis (if possible).
- Venter (if exposed); detail of genital/mammary slits.
- Lateral detail of the head (both sides).
- Dorsal fin detail (at least left lateral, both sides if possible).
- Ventral fluke pattern (if possible, or dorsal view of trailing edge).
- Context (several wide views of the entire animal and the surrounding area).

Additional recommended shots might include:

- Details of scars, injuries, and potential trauma sites suspected of being caused by human activities, wide views (for context) as well as close ups.
- Parasites, Eye and Baleen detail shots.
- Detail of the necropsy, paying attention to the orientation of parts to the axis.
- Flipper (perpendicular to the broad surface).
- Anterior and posterior views.

The guidelines could include guidance on how to take the photos:

- Use mid-range focal lengths instead of wide angle if possible (wide angle lenses distort proportions); 70mm to 105mm lenses are ideal in 35mm photography; pocket digital camera equivalent is typically about 105mm at the maximum end of its telephoto range (cameras with 3x zoom).
- Use a flash if the image desired is shadowed.
- In digital photography, save important images in tiff file format rather than jpeg.
- When in doubt, take photos at different camera settings.

Advanced images might also be suggested:

- During the necropsy take photos of anterior, posterior, inferior, superior views of parts removed (especially if important evidence in a UME); be mindful of the orientation of the point of view when photographing the carcass at least to right angles off the body axis, i.e., the sagittal, transverse, and coronal planes (example: sagittal dissection of the crania, caudal is right, dorsal is up).
- Take multiple photos of the physical context of the stranding.
- In mass strandings, dispersion of the pod may be important information.

It is also important to instruct stranding network members to archive the images on non-magnetic media such as CDs, DVDs, and Magneto-Optical drives. Hard drives, flash drives, and tape media are magnetic media and degrade over time (usually as short as seven years). The marine mammal curators at the Smithsonian also encourage the creation and archiving of hard copies of key stranding documents.

MMHSRP could poll National Marine Mammal Stranding Network members regarding types of shots that are important to them and include the ideas in a list of advanced images to take. A statement regarding limits regarding the use of images should be included in a photo guidelines document. This includes copyright and academic rights issues as well as evidentiary concerns where NOAA Enforcement in a UME might occur.

The digital image revolution is perfectly suited to the MMHSRP and network members. Inexpensive cameras and storage media coupled with proper guidance could produce an incredible wealth of additional scientific information about marine mammals and strandings.

MMHSRP EIS Scoping Process Comments, 24 February 2006

Subject: Species-based response criteria in disentanglements
(Alternate standards, Marine Mammal Disentanglement Program)

From: Pieter A. Folkens
Alaska Whale Foundation (member, AK Marine Mammal Stranding Network)

Efforts to disentangle whales in the Atlantic and Pacific Oceans during the past three decades suggest there may be species-specific differences in the way whales react to and tolerate such efforts. Colleagues in the Atlantic possess a healthy respect for entangled right whales, citing an aggressive streak in these whales and their propensity to become agitated and take swats at the disentanglers. Notable and successful disentanglements of humpback and gray whales suggest these animals are more passive towards disentanglers, including divers in the water.

This behavioral difference between right whales and other whales prone to entanglements supports the notion that different standards of response are warranted to affect the highest degree of successful disentanglements while ensuring overall safety off the endeavor. This idea is bolstered by a history of successful disentanglements utilizing persons in the water to cut gear from gray and humpback whales.

Although divers in the water is contrary to the present protocol for disentangling efforts, the record contains several successes that relied on gear cutters in the water with no incidents of injury to the divers. For example: The unusual thirty-year history of essentially benign close contact between humans and gray whales includes a successful disentanglement near the Channel Islands (southern California) that involved a diver in the water to cut away gear badly wrapped around the peduncle and flukes. Early stories of disentangling humpback whales off eastern Canada included remarkable accounts of disentanglers in the water with small knives working from within the mouth of a humpback whale. As recently as last December, a humpback whale was successfully disentangled by a small team of volunteer divers under the direction of a stranding network veterinarian off the central California coast.

I recommend that the National Marine Mammal Disentanglement Network seriously consider including divers in the official protocols for disentangling gray and humpback whales. This protocol should limit “diving on” an entangled whale to only trained and certified divers. The diving community has an official “rescue diver” certification. This should be required along with specific training in evaluating an entanglement, planning an approach, species and age-class identification, and understanding behaviors of large cetaceans prone to entanglement. As with protocols for other types of search and rescue teams, MMDP protocols should also include robust requirements towards the absolute safety of the disentanglers including the size and hierarchy of the team based on the nature and requirements of a particular situation. Recommendations for such protocols might best come from those with experience working closest to the species designated, particularly those with Level IV disentangling experience.

As an aside . . . There are four levels of response or “types” designated in Urban Search and Rescue protocols (SAR) with Type 1 being the highest requiring the most training and certification. The Department of Homeland Security is standardizing this typing of responses across the country. At present, the typing of a response in the marine mammal disentanglement protocols is inverted with Type IV being the highest. Since SAR responders will always be more numerous than marine mammal responders, NMFS may want to consider following the DHS national standard for typing rescues with Type 1 being the most demanding of the four.

MMHSRP EIS Scoping Process Comments, 24 February 2006

Subject: Documentation of strandings and effective response to unusual mortality events
(Alternatives, MMHSRP Information Management Program)

From: Pieter A. Folkens
Alaska Whale Foundation (member, AK Marine Mammal Stranding Network)

Marine mammalogists would benefit from a MMHSRP Marine Mammal Stranding Report–Level A Data Form that incorporated meaningful morphological data. If government reporting needs for the MMSR–Level A form cannot accommodate morphological data, the form should at least link to another official form for the measurements. Also, considering the convenience of downloadable PDF forms, it may be appropriate for different Level A forms for cetaceans, pinnipeds, and sirenians considering the different nature, issues, and challenges of strandings involving these groups.

In the past, data acquired from marine mammal strandings were largely the purview of comparative anatomists, taxonomists, morphologists, and others interested in life history data. The straight forward Cetacean Data Record (CDR) developed at the Smithsonian was widely used for decades. The concept was adapted and refined by Leatherwood, Stewart, and Folkens in 1987 for the Channel Islands National Marine Sanctuary (NOAA/NMFS). In the later quarter of the last century, interest in soft tissue analysis, genetics, and population health issues grew as an important part of the data set. The Smithsonian CDR (SI-2367) was revised to include more soft tissue specimen collection and sampling. However, the recent official Marine Mammal Stranding Report – Level A Data (NOAA Form 89-864 (rev. 2004)) limited morphological data to one length measurement in a small box. (Charley Potter of the Smithsonian and I lamented this fact to the attendees at the National Marine Mammal Stranding Network Conference in early 2005.) Other requested data on that form ask for precise conclusions in areas many stranding responders would not be able to determine with certainty (for example: four levels of decomposition; determination of human interaction and type; and disposition information that becomes known well after the initial data is taken).

A fundamental purpose of a primary stranding report form should be to guide responders in acquiring as much information as is practical so that qualified reviewers are able to make confirmations of the original conclusions and precise determinations after the event. Also, life history and morphological data (in the classical sense) are lost to history if not acquired early after the discovery of a stranding. Responders are not likely to record this data if not guided to do so from the primary report form.

In my opinion, it is possible to devise a Level A data reporting form that covers the necessary data found in the present form as well as morphological data important to comparative anatomists, morphologists, and other disciplines. Such a revised form could direct responders to a subsequent form for documenting additional information where appropriate for particular concerns such as unusual mortality events and the rare stranding such as beaked whales and extra-limital events.

The MMHSRP may want to consider a different standard of data recording on its primary data form — one that focuses on more empirical morphological data. With this comment I am providing a two-sided working data sheet for large cetaceans that incorporates most of the Level A data (large cetacean relevant) from NOAA Form 89-864 and adds most classical morphological data points. (However, it is lacking in soft tissue data.) This form is designed to guide the responder in recording good anatomical measurements. This form is not presented as the end-all perfect data form, rather it is an idea that may integrate the interests of nongovernmental research disciplines with official reporting requirements.

Cetacean Data Record—large cetacean

Cat. # _____

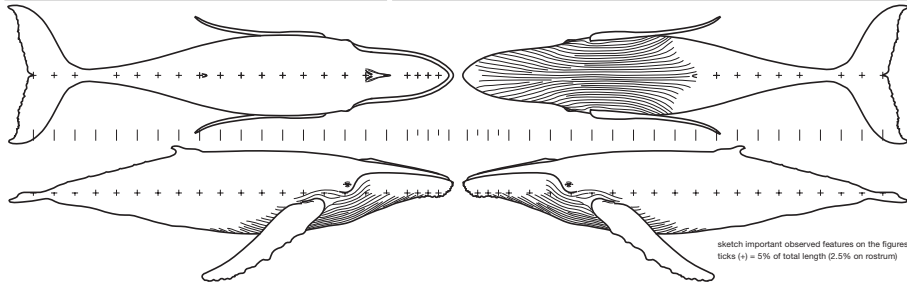
field #: _____ ID: _____ alt. ID: _____ NMFS regional #: _____ NMFS use _____ MMHSRP #: _____ NMFS use _____
 species: _____ date found (yy-mm-dd): _____ date of data: _____
 examiner(s), affiliation(s): _____ authorization: _____
 address(es): _____ phone(s): _____

LOCATION or UTM Coordinates

latitude: _____ N _____ W
 longitude: _____ W _____ N
 actual estimated source: GPS Map
 body of water: _____
 general location: _____
 state: _____ county: _____
 details: _____

INITIAL OBSERVATION

first observed: beached floating swimming or "grounded"
 condition: live fresh dead moderate decomposition
 advanced decomposition mummified/bones unknown
CONDITION AT EXAMINATION
 unable to examine alive fresh dead moderate decomp.
 advanced decomp. mummified/bones unknown
 details: _____



Morphological Data sex: ♂ ♀ ? age class: adult subadult yearling calf/YOY unknown
 straight length (tip of rostrum to median notch): _____ flipper length: _____ fluke span: _____ meters | actual
 photos or video taken: yes no disposition of images: _____ feet | estimated

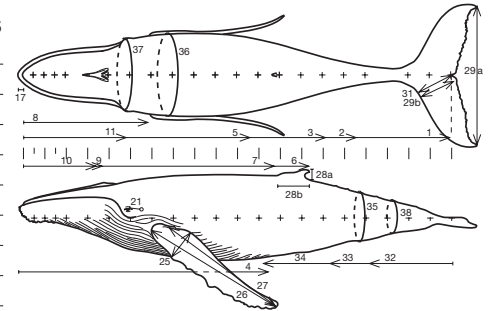
Evidence of unusually mortality event (UME), unusual marks including net marks and contact injuries (blunt force trauma), and/or pigmentation/scars (sketch on images above and describe here): _____

Condition/Determination: sick injured out of habitat deemed healthy orphaned inaccessible
 hazardous location to animal to public unknown/cbd other/comments: _____

Necropsied? no yes date _____ by: _____ filed: _____

LEVEL B MORPHOLOGICAL MEASUREMENTS

1. tip of rostrum to median notch _____
2. tip of rostrum to center of anus _____
3. tip of rostrum to center of genital slit _____
4. tip of lower jaw to end of ventral grooves _____
5. tip of rostrum to center of umbilicus _____
6. tip of rostrum to top of dorsal fin _____
7. tip of rostrum to anterior dorsal fin limit _____
- 8.a. tip of rostrum to anterior flipper insertion (rt) _____
- b. tip of rostrum to anterior flipper insertion (lft) _____
9. tip of rostrum to center of bowholes _____
10. tip of rostrum to anterior edge of blowholes _____
- 11.a. tip of rostrum to center of eye (right) _____
- b. tip of rostrum to center of eye (left) _____
- 12.a. tip of rostrum to auditory meatus (right) _____
- b. tip of rostrum to auditory meatus (left) _____
13. tip of rostrum to angle of gape _____
14. rostrum maximum width _____
15. maximum length of ventral grooves _____
16. number of ventral grooves across at flipper _____
17. projection of lower jaw beyond rostrum _____
18. center of right eye to center of left eye _____
- 19.a. length of eye opening _____
- b. length of eye slit _____
- 20.a. center of eye to angle of gape (right) _____
- b. center of eye to angle of gape (left) _____
- 21.a. center of eye to auditory meatus (right) _____
- b. center of eye to auditory meatus (left) _____
- 22.a. center of eye to center of blowhole (right) _____
- b. center of eye to center of blowhole (left) _____
23. blowhole slit length _____
24. blowholes width anterior/posterior _____
- 25.a. flipper maximum width (right) _____
- b. flipper maximum width (left) _____
- 26.a. flipper length, tip to anterior insertion (right) _____
- b. flipper length, tip to anterior insertion (left) _____
- 27.a. flipper length, tip to axilla (right) _____
- b. flipper length, tip to axilla (left) _____
- 28.a. dorsal fin: maximum height _____
- b. dorsal fin: length of base _____



- 29.a. fluke: span _____ b. maximum width _____
30. depth of fluke (median) notch _____
31. fluke notch to nearest point on leading edge _____
32. fluke notch to center of anus _____
33. fluke notch to center of genital aperture _____
34. fluke notch to umbilicus _____
35. girth at anus _____
36. girth at axilla _____
37. girth at eye _____
38. girth _____ cm in front of fluke notch
- 39.a. blubber thickness a. —middorsal _____
- b. —lateral _____ c. —mid ventral _____
40. head width at post-orbital process of frontals _____
41. baleen rack counts (right) _____ (left) _____
42. longest baleen plate _____
43. mammary slit length (right) _____ (left) _____
44. genital slit length _____
45. anal slit length _____

note: not all measurements are possible or necessary. Take and record what time and circumstances allow. Straight line (parallel to body axis) is assumed for most torso measurements. Indicate if measurements are taken on the arc or an angle. Measurements are arranged for convenience starting from the head.

additional remarks: _____

CARCAS STATUS: abandoned buried rendered
 sunk or towed to: lat. _____ lon. _____
 transferred to: landfill other facility _____
SPECIMEN DISPOSITION: scientific collection
 education collection split/other _____
 where: _____

Comments on the Scoping for the Environmental Impact Statement for the Marine Mammal Health and Stranding Response Program (MMHSRP)

James R. Gilbert, Ph.D.
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I appreciate the opportunity to comment on the EIS for the Stranding Response Program. I have examined materials available on the Protected Species Website in addition to other information and publications. I am a pinniped biologist; I have studied harbor seal populations in New England for 25 years and gray seal populations in the same area for 12 years.

Your solicitation proposes an action and two alternative actions, as well as several alternatives that may be eliminated from further study. You ask seven questions. I would like to comment on some of these actions and questions.

- A. The questions are about the stranding program, and not about the purposes of the MMHSRP. Section 401 of the Marine Mammal Protection Act states that the purposes of the MMHSRP are to: 1) facilitate collection and dissemination of reference data on the health of marine mammals and health trends of marine mammal populations in the wild, 2) correlate the health of marine mammals and marine mammal populations, in the wild, with available data on physical, chemical, and biological environmental parameters, and 3) coordinate effective responses to unusual mortality events by establishing a process in the Department of Commerce in accordance with Section 404.

Because wild marine mammals are emphasized in Section 401, it would be logical to make collection of information from populations in the wild first, with information from strandings being a backup for those species and populations where information is not readily available. I propose that the efforts of the MMHSRP under the first two purposes of Section 401 be

integrated with other marine mammal research efforts that are working with wild populations. There are many field efforts that involve tissue collection for stock identification, etc. Coordinating health assessments with these efforts would be more scientifically valid than relying on information from stranded animals. (I recognize that for some species, stranded animals are our only source of information.).

In Appendix E of the Marine Mammal Commission's Report on Future Directions in Marine Mammal Research (2004), Dr. Teri Rowles outlines a marine mammal health research program that integrates studies of 1) marine mammal ecology, 2) field based health studies, 3) development of methods and tools, and 4) risk assessment and monitoring. If this alliance were to include the Protected Species Programs in the Regions and Science Centers of the National Marine Fisheries Service, as well as a wide array of other agencies, universities and organizations, it would come closer to achieving the first two purposes of the MMHSRP as stated in Section 401 of the Marine Mammal Protection Act. Additionally, this integration would come closer to assisting NMFS to achieve "ecosystem-based management" objectives of NOAA.

- B. One of the questions asked is if there should be any priority for levels of effort for particular groups of Marine Mammals. Because of limited funding for response, there has to be some prioritizing process. Species and populations that are increasing and are not endangered, threatened, or depleted should receive higher priorities. Of the other species and populations, I additionally recommend that strandings of neonate and weaned pinniped pups that offer little information on health be given much lower priority for rehabilitation. Even the distribution of strandings of neonate and weaned pups is not indicative of either pupping distribution or numbers. I present the following as an example.

The harbor seal population in Maine has increased since at least 1981 to a population size of 99,740 individuals in 2001, including an estimated 23,722 pups (Gilbert, *et al.* 2005, Marine Mammal Science). In field work during the pupping season, we regularly observe underweight, starving pups that either were weaned early or were separated from their mothers by storms and other causes. If, as is common in most phocids, mortality due to these causes was on the order of 20 percent, there would be each year some 4,600 harbor seal pups that could be rescued. Past rescue efforts for harbor seal pups have been concentrated in Southern Maine (Figure 1), while some 75% of the pupping occurs in greater Penobscot Bay (Figure 2). Most of the abandoned and underweight pups never reach the mainland, and therefore are not reported.

C. The Interim Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release address only release. For pinnipeds, best practices for assessing whether an individual would need stronger guidelines. Harbor seal pups that are found on shores of Maine exhibit a variety of body conditions. Some are completely emaciated, others are only small. The decision of whether or not to rescue an individual is subjective. We have observed normally weaned pups that weigh less than normal that do survive in spite of their low weaning weights.

D. The guidelines for the MMHSRP should be coordinated with the efforts to design a protocol for non-lethal deterrence of pinnipeds being developed elsewhere in Protected Species.

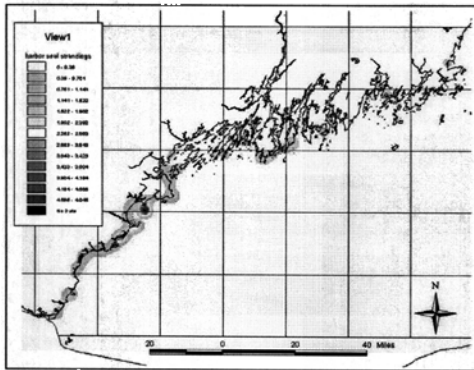


Figure 1. Distribution of harbor seal strandings reported in 2004 (from Greg Early)

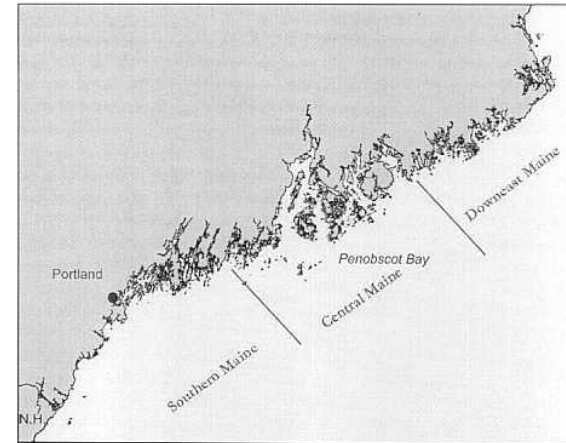


Figure 2. Distribution of harbor seal pupping sites in Maine (from Gilbert *et al.* 2005).

From [Peter Hamilton <liforcesociety@hotmail.com>](mailto:liforcesociety@hotmail.com)
Sent Friday, January 20, 2006 12:31 pm
To mmhsrpeis.comments@noaa.gov
Cc
Bcc
Subject Stranding Response Program

Attachments [Oil and Chemical Resistant Whales Final.pdf](#) 146K [Liforce Orca Conservation Program Final.pdf](#) 314K [ARE WE PREPARED FOR EMERGENCIES.doc](#) 24K

Re: The National Marine Fisheries Service (NMFS) Environmental Impact Statement (EIS) on the activities of the Marine Mammal Health and Stranding Response Program (MMHSRP).
The recommendations by Liforce are included in the attachments Oil and Chemical Resistant Whales, Liforce Orca Conservation Programs and article "Are We Prepared for emergencies?"
In summary:

1. Need for conservation of marine mammals:
There is an increasing need for more actions to conserve endangered marine mammals. For example, the Southern Community orcas could be subjected to an oil spill or other pollution at any time while there are no organized response methods. I have developed methods that can attract orcas away from such hazards.
2. Types and Levels
There must be Wildlife Emergency Response Teams (WERT) funded to be on permanent standby.
3. WERT Locations
He teams must be strategically placed in both Canada and the US since there are many transboundary species.
Liforce has volunteered to cover an US/Canada area that includes Pt. Roberts that has not been covered in the stranding network. We should be hired.
There are too many levels, too little money, and too many changing policies. The system must be streamlined because by the time I can contact the "right" person animals have died.
4. The cumulative harmful impacts of MMHSRP activities on marine mammals and the environment can be mitigated with further education work in problem areas.
Education can reduce any unnecessary pick up of animals. The myth that if mom touches the baby she won't take it back still has to be clarified to the public.

Please info this email and the attachments as part of the comments for the Environmental Impact Statement (EIS) on the activities of the Marine Mammal Health and Stranding Response Program (MMHSRP).

"Oil and Chemical Resistant Whales, Otters and Birds?"



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**Liforce Foundation
March 2005**

“Oil and Chemical Resistant Whales, Otters and Birds?”

Peter Hamilton, Lifeforce Foundation

Introduction

Can endangered marine wildlife, such as whales, otters and birds, evolve to a biological state of being resistant to the harmful effects of oil and chemical contamination? No magic bullets on the horizon but essential methodologies can be developed to help wildlife “resist” travelling in polluted waters.

While some deterrents have been developed to scare birds out of polluted areas there is no consistent, permanent approach to protect these and other species because species-specific considerations must be explored further and volunteer availability must be permanent. Decisions to employ such methods should be based on species’ behaviour and designated to knowledgeable persons/organizations who have permanent standby status.

Employing sounds as “attractors” and “deterrents” can be implemented to protect all species that could be exposed. This would include endangered orcas. Populations of orcas in the Pacific Northwest are facing extinction as a result of human impacts.

First, methods must be developed and/or refined to be species specific. Secondly, there should be training and task designation. A WERT (Wildlife Emergency Response Team) should be part of the chemical/oil response efforts to prevent wildlife exposure. A committee of related organizations could organize the development of these programs. They must be contracted in order to be able to provide ongoing services. Funding may be stipulated under Federal legislation such as the Canada Shipping Act. Other funding sources could include company sponsorships.

Lifeforce Foundation Background

I founded the Vancouver-based Lifeforce Foundation in 1981 to raise public awareness of the interrelationship of human, animal and environment problems. I have studied the behaviour of numerous species and have published papers on enriching the environments of captive animals.

For over two decades Lifeforce has been campaigning to protect orcas such as the endangered Southern Orca Community. In 1982 we helped stop the last capture attempt at Peddar Bay, BC. An estimated 48 orcas were taken from the Southern Community in the late 60s and 70s. These captures not only have resulted in the loss of the 48 orcas but has also created a very low birth rate. The abnormal age and sex ratio will take decades to return to normal.

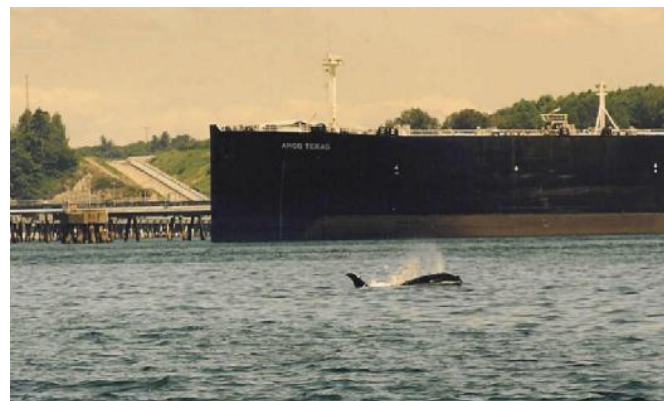
For the past 12 years, Lifeforce has been conducting a monitoring program called Lifewatch Boater Awareness Program. We distribute whale watch guidelines to boaters and report violations to the authorities.

I have studied the behaviour and travel patterns of the Southern Community under a Canadian Department of Fisheries and Oceans (DFO) research permit. Based on my

research Lifeforce has developed “Orca Trails” to promote land-based whale watching. We can notify Marine Park Managers when the orcas are expected to pass by.

In 2002, Lifeforce worked with government researchers to help prevent any harm to orcas when seismic tests were conducted in the San Juan Islands and BC. Lifeforce advised the researchers when the orcas and other marine wildlife would be close to the test sites. The researchers would then shut down the underwater air guns. The US team contacted Lifeforce every day in order to determine the location of the orcas. They would then choose test sites where they would not be near the orcas.

The ongoing accidents involving oil spills reinforces the need for immediate emergency plans to protect the endangered orcas travelling in these waters. The Lifeforce Foundation has been developing methodology to protect orcas and other wildlife from these life-threatening hazards.



© Lifeforce/Peter Hamilton

Cherry Point, WA

Oil Spill History

On June 26, 1999, I was in Point Roberts, WA when some orcas passed by. It was all of J and K pods. The next morning the media reported an oil spill at Cherry Point where the orcas were heading. The Arco Texas had spilled 300 gallons of crude oil from Valdez, AK. Most of the oil had spread north towards Point Whitehorn, WA and Boundary Bay, BC. When I heard about the spill location I thought that it was highly likely that these orcas went right through it because they frequently take Rosario Strait when they head south. Unfortunately, they did pass through the oil spill area. I confirmed that the orcas were in Rosario Strait the next morning.

One exposure to oil and other such hazards could result in long lasting health problems and/or fatalities. The 2000 orca census found historic low numbers in J and K pods that could have been associated with this 1999 exposure. Shocked that there were no plans in place to prevent such a tragedy, I started looking at possible methods to “warn” orcas of such dangers.

An oil or chemical spill could affect a major part of the home ranges of marine wildlife. There have been several accidents in the Southern Georgia Strait that is a temporary home range of endangered orcas.

When the Exxon Valdez oil spill first occurred, an orca pod was seen surfacing in the oil slick. In 1988, this AB pod consisted of 36 members. 14 were missing over the following three years, down to 22. The orcas probably died from inhaling the oil and were sickened from eating oil-coated prey.

From 1995 to 2003 there have been nine oil spill hazards in the Cherry Point/Ferndale and Rosario Area (as listed in Washington Oil Spill Resource Damage Assessments 1991 to 2003). On December 30, 2003 there was a large oil spill in Puget Sound. There was approximately 4800 gallons of heavy fuel oil accidentally dumped in Puget Sound near the Chevron facility in Point Wells. Since then, two other spills have occurred in October 2004 and January 2005.

There are reports of numerous other "minor" accidents. For example, on June 6, 2000 at 11:45 AM the "Axios" spilled an undisclosed amount of hydraulic oil as reported by ARCO at Cherry Point. J pod was present. I was with J2, "Granny", at the site at approximately 12:32 PM.

Methods to Alter Courses

Over the years, both planned and serendipitous events have led me to believe that it is possible to use benign, low-level sounds to attract cetaceans. In so doing, I could alter their courses to direct them away from environmental hazards.

Lifeforce has been conducting field studies utilizing existing, refined and new methods discovered through our previous wildlife protection work and scientific literature searches. Sounds, that attract animals to them and that deter animals away from them, are being explored.

Some of the methodologies can also be applied to terrestrial animals that are vulnerable to exposure to oil and chemical spills.

During one Lifeforce test the orcas were heading south and, when they heard our playbacks of orca communication, all three pods dramatically reversed direction to head north towards the sound source. They continued to travel north even when the sounds were turned off.

On another occasion, when a researcher was recording orca communication he accidentally played back the recordings and the orcas rushed towards his boat.

Lifeforce is hoping to complete studying these methods and implement our findings during emergency situations over the next few years. We hope to coordinate our programs with government, business, NGOs and others who are trying to protect marine wildlife.

Expected benefits to the environment

The Lifeforce studies directly benefits orcas and other wildlife that could be exposed to oil spills and other environmental hazards. Our work contributes to efforts to protect marine ecosystems for all life. Orcas are high on the food chain and are bio-indicators of marine pollution – both orca and human survival is interrelated.

Studies have placed polychlorinated biphenyls (PCBs) levels in orcas of the Pacific Northwest as among the highest measured in marine mammals anywhere in the world. Toxic chemicals can affect their growth, reproduction and immune systems.

In orcas, studies have shown that adult females may transfer up to 90 percent of their PCBs and other contaminants, such as DDT, to their first-born calf. This most likely causes major harm to the female orcas' reproductive cycles as well as young orcas' development.

In a 2004 study by Dr. Peter Ross, DFO, 23 chemicals, mainly pesticides, were listed that could have effects similar to those of PCBs. One of the most common is 2,4-D, which kills dandelions.

Study Activities

Lifeforce would:

1. Develop and/or refined methods to be species specific in order to prevent wildlife contact with contaminants.
2. Work with individuals, organizations and government to determine species-specific behaviours.
3. Work to resolve any industry related conflicts to preserve wildlife habitats.
4. Continue to have discussions with oil spill response companies regarding task designation in the event of any oil/chemical spill(s).
5. Provide any training (written and/or verbal) that is necessary to perform all such wildlife protection work.
6. Work with BC Ministry of Water, Land & Air Protection, Canadian Wildlife Service and all other related government response agencies to be part of the chemical/oil response efforts for the protection of species at risk.
7. Conduct field studies as follows:
 - a) Determine if sound deployment could be used as a conservation tool to remove terrestrial wildlife from contaminated areas.
 - b) Determine if sound deployment could be used as a conservation tool to prevent exposure of threatened fish stocks to contamination/prey.
 - c) Determine if sound deployment could be used as a conservation tool to reduce any bird and waterfowl exposure to hazardous spills.
 - d) Continue to develop innovative methodology to reduce the harm to orcas caused by anthropogenic activities. Lifeforce proposes to look at the responses from Orcinus orca to safe levels of novel sound stimuli. The purpose is to:
 - i. Determine if benign, novel sound stimuli can be used to alert and/or change the direction of endangered orcas to stop exposures to hazards such as oil/chemical spills.
 - ii. Determine if lone orcas can be reunited with the family pod by using methodologies such as lead sound signals.
8. Gather data for a report on the development and applications of the methodologies. This will include photograph and video documentation.

Conclusion

Methodologies can and must be developed to be species specific. These techniques to prevent wildlife exposure to oil and chemical spills can be applied to both marine and terrestrial species.

A WERT (Wildlife Emergency Response Team) should be part of the chemical/oil response efforts. This team would be trained and be responsible for designated tasks. They will deploy humane attractors and deterrents to prevent wildlife exposure.

The WERT and the development of prevention methods could be organized by a committee of related organizations. All participants would be contracted in order to maintain a permanent WERT. Funding may be stipulated under Federal legislation such as the Canada Shipping Act and/or money could be provided through company sponsorships. The onus must not be on the WERT to raise donations because the responsibility lies within the government and responsible businesses.

Faced with the lack of action and funding opportunities, Lifeforce is concerned that orcas and other wildlife are being treated as if they were resistant to oil and chemical spills. I helped lobby the Canadian and US governments to designate orcas as being endangered. In view that orcas are facing extinction, I hope that there will be immediate, direct action to protect them and other marine wildlife.



Cherry Point, WA

© Lifeforce/Peter Hamilton

Donations Gratefully Accepted and Acknowledged

Lifeforce would gratefully accept donations and sponsorships towards equipment, operating costs and field studies.

Financial support could be acknowledged in many exciting ways. This would include signage on our research vessel and/or on our wildlife rescue unit. Lifeforce supporters would also receive a lot of great publicity through media coverage of our programs.

Please Contact:

Peter Hamilton, Lifeforce Foundation
Box 3117, Vancouver, BC, V6B 3X6
(604) 669-4673

lifeforcesociety@hotmail.com

We all know that it will happen again.
We all know that we must be prepared.
Whales, otters and birds are not resistant
to oil and chemicals.
Simply put:
Orcas and Oil Don't Mix.



© Lifeforce/Peter Hamilton

Lifeforce Foundation Orca Conservation Programs



Photo Captions: Start Top left Clockwise

1. Over fishing and entanglement in fishing nets and other debris is a threat to orcas.
2. Boaters should be aware of and adhere to whale watch guidelines.
3. Boat noise interrupts foraging, navigating, rest and communication.
4. Pollution such as PCBs and dioxins affect immune and reproductive systems.
BC orcas are the most toxic of all animals worldwide.

Lifeforce Foundation

Lifeforce Founder Peter Hamilton has worked in the field of ecology and animal behaviour since 1978. He has designed various methods to enrich the lives of captive animals by mimicking the species' natural environment. He published two peer-reviewed papers on this subject. His studies of "The Behaviour and Travel Patterns of *Orcinus Orca* (Southern Community Killer whales)" have been conducted under research permits from the Canadian Department of Fisheries and Oceans (DFO). Research findings from this study were reported in Lifeforce's Orca Field Guide.

In 1982 Lifeforce helped stop another capture of the Southern Community near Victoria, BC. An estimated 48 orcas in these families had been taken in the late 60s and 70s. These captures not only resulted in the loss of the 48 orcas but has also created a very low birth rate. The abnormal age and sex ratio will take decades to return to normal.

Mr. Hamilton wrote a book entitled "Orca - A Family Story" in 1993. Methods of orca transport were discussed in this book and could be used in the plan to reunite Luna with his family. In 1997 Mr. Hamilton design and wrote the "Whale Watching Guidelines for Southern BC and Washington" in consultation with DFO and NGOs.

Lifeforce has been conducting Marine Life Programs for over twelve years. Our programs increase our knowledge of orcas and contribute to the development of strategies for Orca Recovery Plans.

Lifeforce Foundation's Contribution to the Orca Recovery Process.

Many of Lifeforce's Marine Life Program objectives are to conduct programs in cooperation with government plans to mitigate any harm to the Southern Resident Orca Population and their habitats.

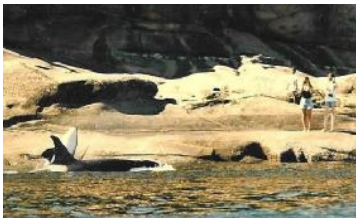
Disturbance due to vessel traffic



- **The Lifewatch Boater Awareness Program** was the first in Southern BC to conduct monitoring activities to stop vessel traffic disturbances. We distribute **Whale Watch Guidelines** for compliance among commercial and recreational boaters. This was the first area specific one developed through consultation with government and others. We are helping to mitigate boat harassment by education and reporting whale watch guidelines violations to appropriate agencies.



- Liferforce has been developing standard operating practices and data collection under a **Marine Wildlife Monitoring and Enforcement Policy**. In 2003, we organized a meeting of monitoring organizations.
- Liferforce is developing **technology and methodology** to reduce harm to wildlife caused by boat traffic. For example, we have tested the use of an arrow bar to stop and direct boats approaching orcas.
- Liferforce provides a **Whale and Dolphin Hotline** for public involvement in reporting sightings, stranding and harassment.



Saturna Island, BC

- Liferforce is implementing **Orca Trails Whale Watching** to encourage land-based whale watching in marine parks. As part of this program we will also look at the possibility of using boats to take people to the parks. Marine Protected Areas could incorporate such drop off points and various types of tourism related businesses could be developed.
- Liferforce has created an **Orca Field Guide** to educate everyone about the behaviour of orcas for understanding and safe vessel operation.



- Liferforce is conducting studies:
 - a) **“The Behaviour and Travel Patterns of Orcinus Orca (Southern Community Killer whales)”**
To collect data regarding boat traffic impacts on behaviour and travel patterns in order to secure **No-Whale-Watch zones, marine protected areas, improvements in commercial whale watching activities and improvements in marine mammal protection regulations.**



False killer whale following Liferforce boat.

- b) **“The Behaviour and Travel Patterns of a Lone False Killer Whale”**

To collect data that will contribute to our knowledge of lone dolphin behaviour.

- Liferforce hopes to work with others to develop a **Model Whale Watching Plan**. This feasibility study would look at changing the face of present whale watching activities. It would replace the haphazard, prolonged presence of commercial boats with organized Whale Watching Zones and No Whale Watching Zones. The travel patterns of the Southern Community are very predictable and would support the creation of designated water zones for whale watching. These zones would be marked by GPS and land coordinates. The zones would be approximately 2 miles apart. Commercial boats would wait within the zone for the orcas. The number of boats would be limited and the number of zone visits restricted. This model would also incorporate **Ethical Ecotourism Standards** by training and licensing operators. Land-based whale watching would also be urged and promoted.

Disturbance due to contamination by anthropogenic activities





- Lifeforce provides a fully equipped **Marine Wildlife Rescue Mobile Unit** and service for stranding and other emergencies. Our equipment includes cetacean pontoons to refloat dolphins.
- Lifeforce is conducting studies:
 - a) **Orca Reaction to Benign, Novel Sound Stimuli: Implications for Reuniting Orcas and Developing Strategies to Prevent Exposure to Environmental Hazards**
This study looks at the development of innovative methodology to reduce the harm to orcas caused by anthropogenic activities. Lifeforce proposes to look at the responses from *Orcinus orca* to safe levels of novel sound stimuli. The purpose is to:
 1. To determine if orcas, such as Luna and L pod, can be reunited by using methodologies such as boat following and lead sound signals.
 2. To determine if benign, novel sound stimuli can be used to alert and/or change the direction of endangered orcas to stop exposures to hazards such as oil/chemical spills.

Disturbance due to noise by anthropogenic activities

Lifeforce helps **mitigate impacts of seismic studies**. In May 2002 there were 24-hour seismic tests in Southern Georgia Strait. The test areas range from Pt. Grey, BC to Lummi Island, WA. In order to avoid any harm to the endangered Southern Orca Community, Lifeforce advised the researchers when the orcas and other marine wildlife would be close to the test sites. The researchers would then shut down the underwater air guns. The US team contacted Lifeforce every day in order to determine the location of the orcas. They would then choose test sites where they would not be near the orcas.



For Further Information:
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ARE WE PREPARED FOR EMERGENCIES? NO!

Presently pets, wildlife and even people would not be guaranteed protection in the event of a major emergency. The protection of pets and wildlife must be included in emergency plans. We are not prepared for major earthquakes, hurricanes, fires, floods, environmental hazards and other life threatening situations.

Every pet owner must be prepared with transport cages and food to take their animal companions with them - the animals must not be abandoned. Government plans must not force owners to leave them behind. Evacuating both people and animals would eliminate problems in attempting to reunite them afterwards. In some cases governments must provide on site temporary shelters so stranded or lost animals are not transported to other states, provinces and countries.

For the past eight years, Lifeorce has been collecting equipment to help wild and domestic animals. Lifeorce is on standby with our Wildlife Rescue Unit and boat. We were ready to set up an animal rescue post at the recent fire in Burns Bog, Vancouver, BC.

Lifeorce has been urging government agencies to set up a permanent, paid Wildlife Emergency Response Team. This team will address various emergency situations. Lifeorce must be supported to be able to implement our methods in emergency situations and to train others to use the species-specific methods.

Marine Wildlife Rescue

Lifeorce has developed methods to keep orcas and other marine wildlife away from oil/chemical spills because nothing is presently planned to stop such exposures. Orcas have been subjected to oil spills in Southern Georgia Strait. We submitted our paper "Oil and Chemical Resistant Whales, Otters and Birds?" to the Puget Sound Georgia Basin Research Conference March 29 - 31.

DFO Still Not Prepared

On April 26, 2005 a 3-year-old female Grey Whale was stranded in Boundary Bay, Canada. Fire fighters supplied equipment and started the rescue while the Vancouver Aquarium arrived later. And where was the Department of Fisheries and Oceans who told me years ago that they were setting up a response team?

The fire fighter who first saw the whale called the Vancouver Aquarium and he was told to leave it alone. He told them that the whale should be saved. He had to "scramble" for equipment. He got a water pump, tent etc. and started to save the whale with the aid of other fire fighters and the public.

The aquarium reported that the whale only had 5% - 10% chance of survival. They said that the whale was emaciated and sick. However, blood tests revealed no such health problems. They said that the whale was too large to move to the aquarium. Lucky for her. The whale left when the tide came in. The aquarium spin doctors took most of the credit when it was actually private people who organized it.

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February 22, 2006

Comments for Scoping on the Environmental Impact Statement on the Activities of the National Marine Mammal Health and Stranding Response Program

(1) *Types of activities.* What sort of activities in response to stranded marine mammals or outbreaks of disease in marine mammals should be conducted on a national level? Are there critical research needs that may be met by stranding investigations, rehabilitation, biomonitoring, disentanglement, and other health-related research activities?

If so, are these needs currently being met? If there are additional needs, what are they, how are they likely to benefit the marine mammal species, and how should they best be met?

Animals strand for two reasons, one is a natural response to disease, disorientation, predation events, or behavioral actions. The second reason is because of some effect of human interaction, such as pollution, entanglement, boat strikes, and disturbance events. Stranding investigations can be used to determine the relative incidences of these reasons and thus help understand the biology behind natural strandings, and initiate proactive responses in events associated with human caused strandings.

The critical research needs of this program should focus around the protection of wild populations and not on the recovery of single live animals that come onto the beach. The national response should focus on scientific information including the assessment of disease, biomonitoring, and a proactive approach to reducing human interactions that result in strandings. The taking of live stranded animals into captivity should only be used in rare circumstances where there is a clear set of scientifically designed criteria for the reasons for doing so.

One aspect of the stranding program that is not well supported in present national priorities is the education of the general public, and members of organizations that are responsible for beach use policies, about stranded animals. This represents an opportunity to increase the public's understanding of stranding issues, influence public opinion, and engender support for the actions of the stranding networks from people and agencies that are present on the beach. The Oregon stranding response team has paid particular attention to this aspect of their mission and as a result has focused on public education about strandings, and reducing the interaction between stranded animals and humans on the beach. This has allowed the Oregon stranding network to educate both the general public, and state and local agencies responsible for beach activities and, as a result, maintain a no rehabilitation policy for almost all animals.

(2) *Level of response effort.* For example, should there be different standards or levels of effort for different species or groups of species (i.e. pinnipeds vs. cetaceans; threatened or endangered species vs. increasing populations, etc.)? How should NMFS set these standards or limits?

With respect to stranding all species should be investigated, however the level of effort should not, in most instances, be standardized amongst species or regions. Standards that convey a similar concept to that of adaptive management are ones that might be

considered that take into account status of populations and situations associated with a stranding event. As one example, it is not cost effective to investigate the reason for the stranding of every *Zalophus* in the northeast Pacific there are however, times when a disease outbreak in this species will argue for a much larger effort.

The level of response regarding live strandings, rehabilitation and subsequent release is one example however, where national standards may be appropriate. This is an area where regional differences in policies can have unintended effects. A recent example from the Oregon network was the "rehabilitated" *Zalophus* from California that swam into Oregon waters where it re-stranded and sought human contact in the state park picnic grounds and adjacent housing, necessitating a huge effort and expense to deal with the situation. While such an example is but an isolated incident it points out how conflicts in stranding groups' policies and efforts would benefit from a review at the national level.

As we move to an ecosystem-based management for our oceans it is imperative that we consider the management of marine mammals in the larger context of the environment in which they live. The activities of the stranding networks should be measured in this broader context. One example of this ecosystem-base approach would be that the expansion of northeast Pacific pinniped populations and the northwest Atlantic harp and gray seal populations argues for an immediate halt in rehabilitation efforts for these species.

NMFS should set standards with the health and welfare of wild populations as the premier criteria.

(3) *Organization and qualifications.* How should the national stranding network be organized at the local, state, regional, eco-system, and national levels? How should health assessment research be coordinated or organized nationally? What should the minimum qualifications of an individual or organization be prior to becoming an SA holder or researcher (utilizing samples from stranded animals) to ensure that animals are treated successfully, humanely, and with the minimum of adverse impacts?

The coastal regions of the US are diverse both with respect to their geography, the density of humans, and the size and diversity of marine mammal populations. This suggests that a "one size fits all" stranding network is not the appropriate model to pursue, and regional flexibility, based on some sound guiding principles, should be paramount in determining the structure of the stranding network. Currently state boundaries are problematic with respect to the discrepancies in stranding policies, particularly with rehabilitation and consideration might be given to managing strandings using a more ecosystem are approach.

Some features of the stranding network are appropriate for a national effort. Training initiatives (euthanasia protocols, disentanglement etc.) are obvious candidates. In those instances where live animals are taken from the beach animal welfare should be paramount and the NMFS should consider establishing national guidelines along the lines of Institutional Animal Care and Use Committees used by research institutions.

(4) Effects of activities. NMFS will be assessing possible effects of the activities conducted by, for, and under the authorization of the MMHSRP using all appropriate available information. Anyone having relevant information they believe NMFS should consider in its analysis should provide a complete citation or reference for retrieving the information.

The current policy of facilitating the rehabilitation and subsequent release of stranded animals has the potential for numerous unintended effects that can seriously impact wild populations. The EIS should consider these impacts. As we learn more about the population structure of marine mammals there are an increasing number of studies that indicated that certain populations, although they may have near-continuous distributions, consist of a series of discrete subpopulations that seldom exchange individuals (e.g. for harbor seals see Lamont et al. 1996, Härkönen and Harding 2001, O'Corry-Crowe et al. 2003). This argues that the reintroduction of potentially less fit individuals (by virtue of their stranding status) has likely genetic consequences. This could be significant especially in regions where large numbers of rehabilitated animals are released.

There is also a concern for the effects of released rehabilitated animals on wild animal health. This ranges from the release of animals that are not fully treated that have the potential to infect wild populations, through to subtler and more difficult to measure and control effects that have resulted from treatment. Examples such as the alteration of pathogen populations as a result of treatment with antibiotics are well known in human biology and it is not unlikely that similar events could occur in marine mammals treated in captivity. Animals that are brought into captivity may also have undetected sub clinical infections that may go untreated and be reintroduced into the wild population as a result of release of stranded animals.

I would appreciate receiving a copy of the Draft EIS in paper format.

Yours sincerely,

Jan Hodder
Associate Professor
LOA Holder – NW Region

References

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CELEBRATING
FOUR
decades
of Scientific
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Fax Cover Sheet

TO: Mr. P. Michael Payne
Office of Protected Resources
Marine Mammal and Sea Turtle Division (F/PR2)
National Marine Fisheries Service
1315 East-West Highway, Room 13635
Silver Spring, MD 20910

FAX: 301-427-2584

FROM: Dr. Pamela Yochem
Hubbs-SeaWorld Research Institute
2595 Ingraham Street
San Diego, CA 92109

DATE: 28 February 2006

SUBJECT: Comments on the proposed National Marine Fisheries Service Environmental Impact Statement (EIS) to analyze the environmental impacts of the activities of the Marine Mammal Health and Stranding Response Program in the waters of the United States

PAGES: 3 (including cover sheet)



CELEBRATING
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28 February 2006

Mr. P. Michael Payne
Chief, Marine Mammal and Sea Turtle Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway Room 13635
Silver Spring, MD 20910-3226

Dear Mr. Payne,

The purpose of this letter is to provide written comment on the National Marine Fisheries Service request for public input on an Environmental Impact Statement on the activities of the National Marine Mammal Health and Stranding Response Program. Hubbs-SeaWorld Research Institute scientists have been studying free-ranging marine mammal populations in California for over 30 years. The results of this research are made available to the public via the peer-reviewed scientific literature, popular articles in magazines such as *Natural History* and *Discover*, presentations to scientists and the general public and through newsletters and websites. Our scientific studies in the Southern California Bight include research on the sensory ecology, physiology, population biology, foraging ecology and health of cetaceans and pinnipeds, including gray whales, killer whales, pilot whales, bottlenose dolphins, common dolphins, northern elephant seals, California sea lions, harbor seals, northern fur seals and Guadalupe fur seals. Much of this research involves collaboration with NOAA scientists from the Southwest Fisheries Science Center and the National Marine Mammal Laboratory (Alaska Fisheries Science Center).

The opportunity to work collaboratively with members of the California Marine Mammal Stranding Network to obtain data and samples from live- and dead-stranded marine mammals has greatly informed our research on free-ranging animals and has provided information critical to our understanding of the interactions between humans and living marine resources. Live and dead stranded animals have provided high-quality samples and valuable information on infectious and non-infectious diseases affecting wild populations. Morphometric data and samples collected from live and dead stranded animals have been used by us and our collaborators in studies on a wide range of topics, including marine mammal demography, functional anatomy, diving physiology, population genetics, immunogenetics and epidemiology. Live stranded animals have served as 'platforms of opportunity' for field technique development and refinement (e.g., improvement of telemetry instrument design and attachment and 'ground truthing' of satellite position data).

Live stranded marine mammals also have been important to the success of several research programs (some of them funded by NOAA/NMFS) designed to address conservation issues facing wild populations. For example, in order to determine why some species and age classes of marine mammals are more likely than others to become entangled in fishing gear, we designed a number of experiments to evaluate the responses of stranded pinnipeds to novel objects in their environment. We obtained an MMPA research permit for this project and worked with SeaWorld San Diego and the National Marine Fisheries Service to conduct studies with rehabilitating pinnipeds: this provided us with a large enough sample size to evaluate the

relative influence of factors such as group size and motivation (e.g., hungry vs. just-fed). It also provided a source of animals in the younger age classes (pups and yearlings), which are uncommon in zoological or research institution collections. We also have worked with stranded harbor seals, sea lions and elephant seals prior to their release to develop and test protocols to measure pinniped hearing, again under an MMPA research permit.

The rescue and rehabilitation of a gray whale calf by SeaWorld San Diego in 1997-1998 resulted in a rare opportunity to study baleen whale biology and physiology and resulted in a collection of papers (special issue of *Aquatic Mammals*) by scientists from several universities (University of California Los Angeles; Grossmont College; University of Alaska, Fairbanks; Moss Landing Marine Laboratories), the U.S. Navy Marine Mammal Program, the Russian Academy of Sciences, SeaWorld San Diego, the Natural History Museum of Los Angeles County and Hubbs-SeaWorld Research Institute.

The marine mammal stranding response program continues to improve our knowledge of the status and health of marine ecosystems, including interactions between humans and marine life. We recommend strongly that the program continue and that responses not be limited to cetaceans only, live animals only, or to endangered/threatened species only. As illustrated by the examples listed above, live and dead stranded pinnipeds (whether from increasing, stable or threatened/endangered populations) are a valuable resource for advancing marine mammal science and conservation.

Sincerely,



Pamela K. Yochon, MS, DVM
Executive Vice President and Senior Research Biologist

cc: DeFreese
Kent
Hogarth

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THE HUMANE SOCIETY OF THE UNITED STATES

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1315 East-West Highway, Rm. 13635
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February 28, 2006

RE: MMHSRP EIS

Dear Mr. Payne,

On behalf of the more than 9 million members and constituents of The Humane Society of the United States (The HSUS) I am submitting the following comments on the Notice of Intent to prepare and Environmental Impact Statement on the activities of the National Marine Mammal Health and Stranding Response Program. We commend the National Marine Fisheries Service (NMFS) for its proposal to release national protocols to standardize marine mammal stranding and disentanglement response around the country while retaining flexibility within regions. In our experience, the qualifications and resources of local stranding response groups varies widely and thus the response, and level of evaluation and treatment of stranded or entangled marine mammals, varies widely.

With some qualification, we wish to support the proposed action alternative (alternative 1), which would result in the publication of the Practices and Protocols Handbook and the establishment of required minimum standards for the national marine mammal stranding and disentanglement networks. While we believe that NMFS must analyze other alternatives, adopting any of the other alternatives that are presented would significantly hamper high quality response to stranded or entangled marine mammals.

The Notice of Intent (NOI) provides a number of areas in which NMFS is seeking comments. We address each area below.

(1) Types of Activities

We believe that coordination, overall responsibility for management, setting standards for response to stranding and disentanglement, and the declaration of Marine Mammal Unusual Mortality Events, should take place at the national level, but with input from regions. Oversight at the national level facilitates equitable and



Comments of the HSUS on MMHSRP EIS—page 2

proper distribution of resources and assures that standards are not discrepant from one region to another.

The NMFS has asked a variety of questions pertaining to the types of activities taken in response to stranded marine mammals. One of these questions addresses the issue of critical research needs. Data and information obtained from stranded marine mammals can inform the public of threats to public health (e.g., domoic acid, toxic chemicals). They may also alert the public and managers to an increased likelihood of disease outbreaks in marine mammal populations that may have implications for management (e.g., phocine distemper) or growing threats to vulnerable species of marine mammals (e.g. increased entanglement in certain fishing gear, increased effects resulting from intense noise). Thus, it is important that stranding response focus on two main areas: returning relatively health animals to the sea as quickly as possible and thorough examination of carcasses to ascertain information on morbidity and mortality.

In either instance, it is important that stranding responders be trained in proper collection of a variety of samples that can, among other things, reveal trauma (e.g., acoustic-related impacts, indications of entanglement). Holders of LOA/SA should be required to have specified protocol (and appropriate equipment) for proper collection, documentation and storage of samples. They should individually, or via the NMFS, have established facilities for analysis and/or archiving of samples.

We believe that the primary objective of stranding response for live animals should be to quickly ascertain the animal's condition and, wherever possible, return it to the water immediately. While it is important to assess the animal and take samples for analysis, the likelihood of a cetacean being successfully returned to the water declines the longer it lies on a beach. Thus, the NMFS should encourage expeditious beach releases of cetaceans wherever possible rather than emphasizing sampling to such a degree that the animal may remain out of the water for an extended period of time for sampling of all possible parameters, and in the process compromise the chance of a successful release. Furthermore, only in cases in which and animal is clearly an excellent candidate for rehabilitation and return to the wild should the animal be removed to a rehabilitation facility.

The HSUS is also concerned about situations in which stranded animals may need rehabilitation services prior to release. We support the establishment of minimum housing and husbandry standards for rehabilitation facilities. There is also a need for criteria for determining which animals are not a good candidate for release to the wild (e.g., long term health concerns, very young age, etc.) and thus should not be taken into care. Controversy has arisen in the past over animals in Texas and elsewhere who received long-term rehabilitative care for health conditions that would have argued for humane euthanasia and that ultimately resulted in the death of the animal or the need for permanent captivity.

Promoting the protection of all animals

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Another concern arises from taking cetaceans for into facilities rehabilitation when the animals are particularly young. In this instance, long-term captive maintenance can become an excuse or incentive for permanent captivity. This situation has arisen at Mote Marine Laboratory in Florida. Facilities that take young animals for rehabilitation should be required to demonstrate that there is a high likelihood of the successful release of the young animal and should have a well-constructed, and NMFS-approved, plan to rehabilitate it for wild release.

The NMFS may wish consider establishing an independent review process with a committee comprised of scientists, veterinarians, environmental group members and managers to periodically review trends in fates of animals taken for rehabilitation and to review all requests under any Notification of Transfer of Custody forms that would move animals from one facility to another rather than back to the wild. This would allow a review of the success of the facility's rehabilitation protocol or the need for further guidance to facilities or regions.

Any animal that dies while in the custody of a rehabilitation facility should be necropsied within 24 hours of its death and the results reported in a manner allowing for public review. This practice should not vary among species.

(2) Level of Response Effort

Fiscal and human resources are not the same in all regions. For that reason, response will vary from one SA/LOA to another. However, the NMFS should strive to improve the quality of response in areas with limited response capability as a means of equalizing quality of response as much as possible.

If it has not already done so, the NMFS should undertake an analysis of the stranding and disentanglement response capabilities of various coastal states and regions to see where consolidation or enhancement are most likely to benefit uniform response to animals in distress. We believe that the NMFS may wish to consider consolidating SA/LOAs in some areas. There appears to be no real need for multiple LOA/SAs being granted within near proximity to one another. Coordination and uniformity of response can be facilitated by granting fewer letters rather than more. In states such as Florida there are multiple LOA/SA holders and for states such as this, NMFS should review the need for multiple LOA/SA holders. Contrarily, resources for disentanglement response are often localized that training, equipment and response may need to be broadened. For example, a large whale that is seen entangled in gear is often more readily disentangled in Florida or New England, where trained responders and equipment can be readily moved to the animal, but large whales are less likely to be successfully disentangled in the mid-Atlantic or on the west coast where equipment and trained personnel are less readily available.

The NMFS should identify the level of expertise available in various SA/LOA holders and consider where or how to improve uniformity of training and resources nationally. Marine mammals (and any samples taken from them) should receive the same degree of

intervention, care and handling whether they strand in Alabama, Florida, New England, California, Washington or elsewhere.

Pinnipeds are generally somewhat harder than cetaceans, in part because part of their behavioral ecology involves substantial time out of the water. Cetaceans out of the water have often been considered to be "lost causes" in the U.S. Yet in other parts of the world they routinely survive in higher rate than is the case in many parts of the U.S. (e.g., the northeast). It would seem appropriate for the NMFS to examine why this may be. There should be an examination of the numbers and types of strandings of cetaceans and an analysis of the extent to which discrepant survival rates occur around the country and/or in comparison to other countries. This may provide insight on improving stranding response.

The HSUS believes that all stranded marine mammals deserve timely and humane response. We do, however, acknowledge that resource limitations may necessitate a higher priority being put on response to species listed under the Endangered Species Act than for species from robust stocks.

(3) Organization and Qualifications

All stranding networks should be directly affiliated with veterinarians having experience working with marine mammals. We understand that some locales may find this difficult and, for that reason if no other, consolidation of LOA/SA permits should be considered.

We are also concerned with the appropriateness of facilities which are licensed for captive display acting as rehabilitation facilities. Our concern is two fold. First, as mentioned above, there may be an incentive to keep more unusual animals for display (e.g., *Stenella* spp.) rather than adequately preparing them for release. Secondly, there can be a problem of mixed species aggregations or exposure in facilities with multiple captive marine mammal species being kept for display in close proximity to one another. Since the NMFS has raised the issue of exposure to captive and/or domestic animals, we believe that unless captive display and rehabilitation facilities can pass an inspection that ascertains that there is no likelihood of exposure to pathogens across species, they should not be licensed for rehabilitation. In situations where an animal's release has been compromised because of its exposure to captive or domestic animals; the facility should lose its authorization.

(4) Effects of Activities

We have no specific comments on this area that are not discussed above or below.

Miscellaneous Comments

The NFMS has used terminology that is confusing and should be clarified. For example "LOA" and "SA" should be consolidated to a single term that can be readily understood

and used by any agency with management responsibility. The NOI also discusses the need for a permit to allow the “taking” of endangered species. In doing so, it refers to “hazing” of marine mammals. We believe the more appropriate terminology would be “harassment.” Wherever possible NMFS should examine the terminology used by various agencies (e.g., USFWS, APHIS, etc) or protective laws (e.g., MMPA, ESA, AWA, etc.) and use consistent terminology in order to avoid confusion of meaning.

We would also like to state that we do not believe that rehabilitation facilities should be allowed to charge admission to view animals in their care. Allowing rehabilitation facilities to charge for viewing marine mammals provides an incentive to assure that there is always something for the public to see and thus may unnecessarily extend an animal’s stay at the facility to the detriment of the animal’s successful release back to the wild. Furthermore, this practice undermines laws and regulations governing captive display. Any facility charging admission to see marine mammals undergoing rehabilitation should be required to obtain a license for captive display. The NMFS should vigorously enforce this prohibition.

While we did not do an exhaustive analysis of all background documents, we would like to comment on a few points raised in the documents regarding suitability of animals for release. We do not agree with NMFS that a wound inflicted by a conspecific disqualifies an animal for release. There is inadequate substantiation for this prohibition. It has been my observation that many wild animals bear scars from interactions with members of their species (e.g., sea lions, Risso’s dolphins, bottlenose dolphins) and yet live healthy lives no more prone to conflict than other members of their group.

The NMFS also mentions that calves are not suitable for release unless with their mothers. While this makes sense on a purely intellectual basis, the wording is not clear as to the exact point at which NMFS would consider that a calf can fend for itself or be cared for or protected by others in the group. It may be more appropriate to allow determinations on a case-by-case basis. We point to the instance of a young pilot whale orphaned in 1986 off the coast of Massachusetts. The animal was of a size that suggested it was still nursing and yet it successfully fended for itself, taking shelter near large buoys, for two years. Subsequently, there have been multiple observations of a lone pilot whale in the company of a group of white-sided dolphins (Baraff 1998). The age of dependence varies with species and a blanket prohibition based a set age/size may not be appropriate. Furthermore, in a group of stranded animals, a calf may not be directly adjacent to its mother; however, the presence of lactating females in the group (one of which may be the mother) that can be released with the calf may bode well for the calf’s survival. Again, a case-by-case determination, with some NMFS guidance, may be more appropriate.

Similarly, the document states that animals with deformed or missing appendages should not be released. Observations of large baleen whales missing substantial portions of their tail flukes are common in the New England area.

NMFS raises another barrier in saying it is “naïve to assume that any two cetacean species can be put together to form a functional social unit or that even two unfamiliar members of the same species will bond into a functional social unit”. Again, this may need to be a case-by-case determination rather than a blanket determination. There are many instances of inter-specific associations, many of them long-term (ibid; Frantzis and Herzig 2002). It would seem “naïve” to us to think that two animals who are of the same species, and used to socializing with one another in a rehabilitation situation, would not have a bond of some sort that could transfer to the wild if they are released together.

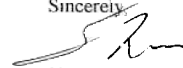
When there is doubt, the benefit of the doubt with regard to appropriateness of release from a beach or rehabilitation facility should go to the assumption that the marine mammal will survive, and it should be released; rather than assuming that an animal is “doomed” if it is in any situation other than the absolute ideal. Marine mammals are often more resilient than assumed.

Conclusion

We support the proposed action alternative, but urge the NMFS to consider the conditions of release for marine mammals that appear rigid and do not give the benefit of the doubt to the marine mammal. We also believe that there should be strict standards for housing and husbandry in rehabilitation facilities. A national approach is more appropriate than a regional approach when it comes to setting standards for training and facilities, for resource allocation and for monitoring and review. It also seems clear to us, based on previous experience, that the NMFS needs additional staff for training, inspection and coordination.

Thank you for the opportunity to comment.

Sincerely,



Sharon B. Young
Marine Issues Field Director

Resources Cited:

Baraff,LS, Asmutis-Silvia,RA. 1998. Long-term association of an individual long-finned pilot whale and Atlantic white-sided dolphins. *Marine Mammal Science*. 14:155-161.

Frantzis, A. and D. L. Herzing. 2002. Mixed-species associations of striped dolphins (*Stenella coeruleoalba*), short-beaked common dolphins (*Delphinus delphis*), and Risso’s dolphins (*Grampus griseus*) in the Gulf of Corinth (Greece, Mediterranean Sea) *Aquatic Mammals* 2002, 28.2, 188-197

INPUT from IMMS, Gulfport, MS

NMFS is seeking public comments on all issues relating to the MMHSRP, including the following specific questions:

- What sort of activities should be conducted on a local, regional and national level in response to stranded, entangled, sick, injured, and other marine mammals in distress?

Local level: The local stranding organization (LSO) should be notified immediately of any stranding in their area. LSO should be first level to investigate situation and report to regional level. LSO should be a central and essential component of the response, should one be deemed necessary. Adjacent stranding organizations should be notified also and participate if the LSO needs additional help. Since Louisiana, Alabama and Mississippi are considered one region then these organizations should be the ones utilized for strandings in the area. For example, if a stranding occurs in MS. Then IMMS should be notified 1st with LA and AL stranding organizations on standby. IMMS should investigate and determine if the situation can be handled by the local organization alone or if help is needed. If a stranding occurs in LA, then the LA stranding group should respond if available, and MS and AL would be put on standby. If there is no stranding organization in that state, or if their resources are not adequate for the situation at hand, the nearest organization with the appropriate resources should be called. Strandings in LA and MS should be the responsibility of LA and MS. Other stranding organizations should be brought in if the resources of these organizations are exhausted. Florida and Texas organizations should be used as a last resort.

- Are there critical research or management needs that may be met by stranding investigations, rehabilitation, disentanglement or health-related research and biomonitoring - activities? Are these needs currently being met? If not, what are they, how are they likely to benefit the marine mammal species, and what should be done to meet them?

Yes, there are many critical research and management needs that are met by stranding investigations. These needs include research on genetics and stock structure, population dynamics, toxicology, stranding trends in different areas, zoonotic diseases, parasitology, virology and other infectious diseases. Needs are not currently being met in the MS, LA, and AL area, aka the northern central Gulf of Mexico (needs previously stated). In the MS/LA area- a catch and release program should be implemented. Samples/biopsies can be collected on a biannual to annual basis. Knowing genetic makeup of these populations of bottlenose dolphins would allow us to determine how the different stocks are related if any. The study of zoonotic diseases in these dolphins (for example, toxoplasmosis, bartonellosis, and brucella) would allow further understanding of these diseases and possibly help us determine more about transmissions and environmental issues. Studying parasitology would help determine life cycles of parasites such as Nasitrema, and the possibility of intervention. Toxicological examination of these animals' blubber and other tissues would help evaluate the type and amount of toxins that are present in these waters... are these the result of run off from the MS River or other environmental or anthropogenic factors?

- Should there be different standards or levels of MMHSRP effort for different species or groups of species (i.e. pinnipeds vs. cetaceans; threatened or endangered species vs. increasing populations, etc.)? If so, how should NMFS set these standards or priorities?

Threatened or endangered species should receive the highest level of standards and response. All marine mammals should be treated with high standards. If a population increases and becomes a nuisance then standards may need to be adjusted, for example, salmon and sea lions; sea lions and public beaches. The sea lions have rebounded in population and now they are a nuisance in CA.

- Is the current organization of the national stranding and health assessment networks at the local, state, regional, ecosystem, and national levels adequate to meet the necessary management and research needs for conservation? If not, what changes should be implemented to make the organization more effective?

Communication is essential. Strandings should be responded to ASAP when a local stranding organization exists or is nearby. Again, this is where the local stranding organizations should have more responsibility and should be utilized as the first and primary responders to the situation, if they are capable. Stranded animals should not be left until the regional people can clear their schedule, which sometimes happens with the current system (for example, the bottlenose dolphins strandings reported in Galliano / Golden Meadow, LA in 2003).

The southeastern US region is a very large area to manage, especially since the state of Florida alone has so many strandings each year. This area should be divided into at least two regions:

- 1) TX, LA, MS, AL and FL panhandle; +/- west coast of FL and keys.
- 2) East coast of FL and Eastern (Atlantic) coast states, +/- west coast of FL.

Politics should be left out of the situation. Local organizations should be used more often.

- What should be the minimum qualifications of an individual or organization prior to becoming a Stranding Agreement holder to ensure that animals are treated appropriately, humanely, and with the minimum of adverse impacts?

The below answers are to the questions that were asked by NMFS in December 2004 in the document "Comments on the Draft NMFS National Stranding Agreement Template and the Minimum Qualifications for Issuing and Renewing a NMFS Stranding Agreement." These are the same answers that we (IMMS) had provided in December 2004.

- A.1.) Any existing marine mammal facility and its director that qualifies under a USDA license and NMFS public display or research permit should automatically be eligible and qualified to serve as a stranding network participant and director or primary representative of a stranding network participant, respectively. These facilities already meet and exceed the requirements necessary for response to both dead and live stranded marine mammals.

For those facilities not meeting the above-mentioned circumstances, experience should be based on the number of animals that a given person has handled, and their responsibility level in handling those animals, as this is more indicative of actual experience than number of years. For example, a facility in an area that does not historically receive a large number of strandings each year will gain less experience than a facility that is in an area that has a large number of strandings each year, and this discrepancy will continue for whatever time period is chosen. In this same regard, “continuous” experience is not as important as cumulative experience in the field, and again, the actual number of animals handled during this time. To illustrate this point, an individual may work three years continuously at a stranding facility with only a handful of strandings a year, of which there is less than one live stranding per year, and not be very experienced. Another individual may work two years at another facility where he/she was one of the primary animal handler and caretaker of multiple animals at a time because that region received an average of 3 or more live strandings per year. The individual in the latter scenario has more experience. Also, if that same person from the latter scenario relocates to work with another facility after a lapse of time of 6 months where they are not working with any marine mammals, they should still be considered more experienced than the first individual.

Specifically, for this section, the prospective director should have “hands-on” participation with at least six (6) dead marine mammals under the direction of experienced personnel. Included in the handling of these 6 dead animals should be a minimum of three (3) full necropsies and experience completing the NMFS Level A Data Form.

Classroom or workshop training for marine mammal strandings is also important and can include instructional videos, books, articles, and attendance at pertinent workshops all totaling a minimum of eight (8) hours.

- A.2.& 3.) Again, experience should be based on the number of animals that a given person has handled, as this is more indicative of actual experience than the number of years. Rather than “one year of continuous hands-on experience” or “comparable training,” the responders for the prospective Stranding Network Participant should have received a minimum of four (4) hours of classroom/workshop time, which includes viewing the NMFS Level A Data training video, **and/or** hands-on participation (continuous experience not necessary) with at least one (1) full necropsy and handling of three (3) other dead marine mammals, including a NMFS Level A workup.

Therefore, in this scenario, the responders will need hands-on experience or classroom training. The necropsy should be done by experienced personnel,

so if the responder(s) do not have necropsy experience, it can be done by the director himself/herself.

- B.1.) “Three years of comparable marine mammal stranding response experience” should only refer to those people who have been **fully responsible** for the care, maintenance and transport of marine mammals at a public display or research facility where marine mammals are housed and maintained for a length of time. These people would include supervisors, managers, researchers, trainers, veterinarians who have all worked for at least two (2) years cumulatively for a research or public display facility. These candidates would all need to have proven experience in the collection, transport, training, care and maintenance of live marine mammals. In addition, they would need a minimum of eight (8) hours of classroom or workshop training time as discussed in number A1 on page 1 of this document.

Any existing marine mammal facility and its director that qualifies under a USDA license and NMFS public display or research permit should automatically be eligible and qualified to serve as a stranding network participant and director or primary representative of a stranding network participant, respectively. These facilities already meet and exceed the requirements necessary for response to both dead and live stranded marine mammals.

- B.2.) “One year of continuous hands-on experience” should be defined as handling live marine mammals at a public display or research facility housing marine mammals for a cumulative total of twelve (12) months. This year of experience should include the care and handling of at least two (2) to three (3) animals. This experience can be obtained by paid employment, internships, apprenticeships, or volunteer experience.

In addition, the sentence that reads “. . . one year of continuous hands-on experience in marine mammal stranding response, triage, transport **and/or euthanasia**, or comparable training . . .” should be changed to read “. . .one year of continuous hands-on experience in marine mammal stranding response, triage, and transport (**euthanasia experience is desirable**), or comparable training . . .” In that way, an individual with one year of experience euthanizing marine mammals, but not actually transporting live animals, will not be responsible for the triage and transport of a live animal not in need of euthanasia.

- B.3.) There is no “comparable training” for experience with live marine mammals. Unless an individual has experience handling live marine mammals, they will not be able to make decisions necessary in stranding response, triage, and transport.

C.1.) Any existing marine mammal facility and its director that qualifies under a USDA license and NMFS public display or research permit should automatically be eligible and qualified to serve as a stranding network participant and director or primary representative of a stranding network participant, respectively. These facilities already meet and exceed the requirements necessary for response to both dead and live stranded marine mammals.

For those facilities not meeting the above-mentioned circumstances, experience should be based on the number of animals that a given person has handled, and their responsibility level in handling those animals, as this is more indicative of actual experience than number of years. Our suggestion is that “. . . a minimum of three years of continuous hands-on experience in marine mammal care and rehabilitation . . .” should be replaced with the following sentence: “. . . a minimum of two (2) years of cumulative experience caring for marine mammals, having handled at least two (2) to three (3) animals during that time, including responsibility for the care, maintenance, husbandry, transport, and water quality for these animals.”

C.2.) For this section, we agree with the minimum attending veterinarian requirements and would only add “A veterinarian who is consulting for a marine mammal public display or research facility for at least one year fulfills these requirements and is automatically qualified.”

For the section on recommended veterinarian requirements, we suggest eliminating the requirement to complete a course which offers basic medical training with marine mammals such as Seavet, Aquavet, or Marvet. IAAAM serves as continuous education for veterinarians. We also suggest changing the requirement that reads “Have access to the 2nd Edition CRC “Handbook of Marine Mammal Medicine” to “Have access to the **current** edition of CRC “Handbook of Marine Mammal Medicine.”

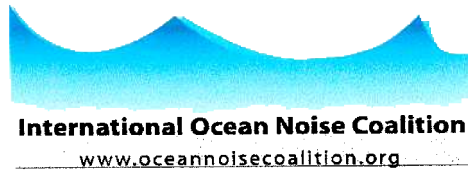
• Are public and animal health and safety needs adequately addressed in the current organization and operations of the MMHSRP?

Young animals such as calves and pups that either strand or are born at a stranding facility after the pregnant mother strands should not be euthanized just because they are deemed non-releasable, at least not without an extensive search for a home at a USDA-approved facility. These animals could go to a zoo or aquarium (a public display or research-type facility or exhibit) and have a healthy life in captivity. There needs to be more communication between the public display and research-type facilities, the stranding network, and NMFS. Many of these facilities are looking to increase their population/collection of animals and these stranded young marine mammals are

euthanized by some stranding organizations, not because of severe illness and suffering but because they are not eligible for release back to the wild. This is not right.

• Are there any other relevant issues or data NMFS should consider in its analysis of activities conducted by, for, and under the authorization of the MMHSRP? If so, please provide if or a reference for it.

Same as previous question. See above issue about euthanization of young non-releasable animals.



February 24, 2006

Mr. P. Michael Payne
Chief, Marine Mammal and Sea Turtle Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway, Room 13635
Silver Spring, MD 20910-3226

Re: Notice of Intention to prepare an Environmental Impact Statement for the stranding protocol for marine mammals (70 Federal Register 76777-76780)

Dear Mr. Payne:

The International Ocean Noise Coalition, representing over 140 global partner organizations, provides the following comments regarding the National Marine Fisheries Service (NMFS) announced intention to Conduct Public Scoping Meetings and Prepare an Environmental Impact Statement (EIS) on the Activities of the National Marine Mammal Health and Stranding Response Program.

Marine mammal stranding incidents caused by or contributed to by anthropogenic noise are of increasing concern. It has been found that animals who have stranded coincident with a noise event may display areas of hemorrhage, primarily in or around the inner ears, brain, acoustic jaw fat, and kidneys as well as vascular lesions suggestive of decompression sickness ("the bends").

Stranding incidents caused by or contributed to by anthropogenic noise are also controversial since the noise is of human origin and may be avoidable. Sources of noise may be seismic air guns, military active sonar or at-sea explosions. It is therefore of vital importance that at all stages of every marine mammal stranding incident, exposure to noise be considered as a possible causal factor in the stranding and that appropriate measures be performed so that sound can be either ruled in or out as a possible cause or contributing factor.

Stranding incidents which exhibit one or more of the following features should be suspected of involving noise as a cause or contributor:

International Ocean Noise Coalition

2 -

Mass-stranding or multi-species strandings of cetaceans over a period of a few days and/or when stranded animals are spatially separated;

Any cetacean stranding that coincides with local activities involving military sonar, air gun activity, or other sources of intense underwater sound;

Any mass- or multi-species stranding in which animals share pathologic findings suggestive of acoustic trauma.

If any or all of the conditions above are met or suspected, then the entire and intact fresh carcasses should be transported as soon as possible to a competent laboratory for full investigation. If the carcasses are too large or the stranding location is too remote to facilitate full carcass removal to a competent laboratory, consultation with an expert pathologist and examination in the field should be undertaken.

Necropsies should include a comprehensive examination for evidence of lesions that may be associated with pre-mortem noise exposure. Examination should not be limited to the ears or acoustic fats, but should include all tissues and organs. Scientific understanding of the pathology of acoustic trauma is still not fully known. Current knowledge suggests that acoustic trauma may display as hemorrhage and/or vascular lesions in the dead animal. The stranding protocol necropsy procedures should be refined and expanded as additional information on the pathology of acoustic trauma victims becomes available in the scientific literature. Currently, the guidelines in Marine Mammals Ashore, A Field Guide for Strandings edited by J. R. Geraci and V. J. Lounsbury (2005) should be followed.

The majority of the documented marine mammal stranding incidents associated with anthropogenic noise involve beaked whales. However, there are recorded standing incidents that have involved other species. Therefore the stranding protocol should include all cetaceans.

Additionally, all necropsy results should be released to the public in a timely fashion.

We appreciate the opportunity to provide these comments, which we request be entered into the record.

Sincerely,

Marsha L. Green, Ph.D.
North American Representative

Sigrid Lüber
European Representative

Comments: Marine Mammal Health and Stranding Response Program, EIS

Submitted by:

Pamela Sweeney, Stranding Coordinator
on behalf of the Marine Animal Rescue Society
psweeney@marineanimalrescue.org
P.O. Box 833356
Miami, FL 33283

Stranding Agreement Comments:

1. Would a Participant's Board Members/Directors who are legally responsible for actions of the organization but who are in no way financially compensated for their duties considered "volunteers"?
2. In terms of a lease agreement, define "long term" and what provisions may be necessary to include in such an agreement
3. NOAA/NMFS should issue bullet points for each stranding organization to review during volunteer trainings as mandatory minimum information pertaining to safety basics deemed most important for that region and/or at national level. Human safety issues must be defined properly in order for stranding organizations and/or NOAA/NMFS to adequately address such issues.

Release/Rehabilitation Comments:

4. Who constitutes the release candidate's "advisory committee?" Is this committee assembled by the stranding organization or NMFS? What criteria are met to be a member of such a committee?
5. NOAA should consider being solely responsible for aerial survey and air transport; private citizens/organizations are not permitted to call on federal resources like coast guard nor are they permitted to make a payment to a federal agency, whereas one federal agency can possibly transfer funds to another to assist the stranding network.
6. Satellite tags/satellite time should perhaps be organized/funded at a regional level where a cache of tags are paid for cooperatively by stranding network participants and are available for use as needed by whichever group is in need as seen fit by the Regional Stranding Coordinator. Because NOAA/NMFS has on hand localized/regional data that dictates likely areas of strandings, tag caches should be ready on demand in these particular areas of the state/region.
7. NOAA/NMFS should provide nutritional recommendations for stranding network participants for species based on historical data and records of previous rehabilitations to develop a baseline of standard procedures. For example, a particular formula brand or recipe may be considered standard for a particular species (calf) in rehab.
8. When release is an option for animal in rehab, a release committee must convene within 24 to 48 hours after release guidelines/medical release criteria have been met successfully.
9. Evaluate what pathogens etc are being released into the open water environment by rehabilitation facilities. Determine measurable values that organizations can consider safe as less to no impact to the human/animal environment. Evaluate measurable values for rehab tank water as well.

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Original Message -----

Subject: our quick comments

Date: Tue, 14 Mar 2006 18:22:37 -0500

From: donzum@aol.com

To: Janet.Whaley@noaa.gov

Call if you have any questions. We put these together quickly. Hope they're ok.
Comments from Marine Mammal Care Center at Fort MacArthur on January 2006
Policies and Best Practices: Marine Mammal Stranding Response, Rehabilitation, and
Release: Standards for Rehabilitation Facilities:

1. The strict and separate quarantine for each animal is impractical. We receive several animals a day during our busy months. They receive exam and bloodwork on intake and are placed accordingly after that. We also believe that some stress is eliminated in a rehabilitation setting by placing the animals with conspecifics if appropriate. Quarantine is referenced in sections 1.0, 1.7, 3.0, 3.1, 3.5 (only applies to zoological facilities that also conduct rehabilitation).
2. Should hand rearing be addressed so extensively? Is that really considered rehab? Should mother-dependent pinnipeds be hand reared? To what end-especially concerning California sea lions which are mother dependent for nearly one year? For a rehabilitation to put such resources into an animal for that long, plus having to address proper socialization, foraging, etc. makes it nearly impossible to turn out a releasable hand reared otariid. Hand rearing is addressed in sections 1.0, 1.8, 8.1.
3. Physical barriers from the public need to be mandatory - but if you enforce visual barriers, we will receive no support to do the work we do. No one will be able to afford this. Barriers are discussed in sections 1.0, 1.13.
4. The document refers to "personnel" throughout. Does this include volunteers? Can there be a definition somewhere?

5.5.6 Weighing should always be possible, shouldn't it? Measuring the animal can often be more dangerous. unless we are talking about a deceased animal on the beach.

6.7.0 - Histopathology on each animal which dies is cost-prohibitive especially during a HAB or El Nino. Are we sending this histo to AFIP? Centers should strive to do necropsies on all animals, and histo on many representative of the event.

In the interim document, Best Practices Marine Mammal Stranding Response, Rehabilitation, and Release: Standards for Release:

1.D.6.-Post release monitoring as described here is not plausible with the hundreds of pinnipeds that are released each year. They are tagged. Re-sighting on the islands or re-stranding on the mainland should be sufficient.

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February 22, 2006

Mr. P. Michael Payne
Chief, Marine Mammal and Sea Turtle Division (F/PR2)
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway, Room 13635
Silver Spring, MD 20910

Subject: MMHSRP EIS Comments

NMFS has set out several alternative proposals which may be eliminated from further study. We agree that these proposals should be summarily dismissed. The simplistic "live or die" proposal cannot be considered to comport with Congress's intent in enacting the MMPA and mandating NMFS to protect, preserve and conserve marine mammals.

This Environmental Impact Statement should not be a vehicle for NMFS to restrict, limit or eliminate the ability of Stranding Network participants to respond to, collect data, rehabilitate and release for further study marine mammals back into the wild. Rehabilitation should be a part of any effective environmental program for the protection and conservation of marine mammals. To do otherwise would limit not only the stranding networks ability to operate, thereby decreasing the effectiveness of NMFS to manage the MMHSRP, but also limit the scientific community's ability to learn more about marine mammals in the wild. The quest for knowledge should not be restrained without good cause.

Proper development of the MMHSRP should include a program to expand the scope of authority for participants to engage in rehabilitation and support for increasing and improving those organizations abilities, capabilities and the effectiveness with which they carry out the scope of their responsibilities.

1. **What sort of activities should be conducted on a local, regional and national level in response to stranded, entangled, sick, injured, and other marine mammals in distress?**

Comments: Stranding Network members should continue to respond (per the level of their LOA's) as before. Regional Stranding Coordinators should continue their efforts to more fully integrate stranding network members so that no single network member is overwhelmed with an unusual event. Nationally, standards of data collection, not just on dead marine mammals, but on live rehabilitations should be considered so that there is a repository of knowledge that other network members can access and use. The Policies and Practices Manual is a first step in making sure that network members are all held to the same standards. Providing this type of infrastructure would help strengthen the stranding network, provide for better diagnostics and treatments, and allow network members to learn from others experiences within the network.

2. **Are there critical research or management needs that may be met by stranding investigations, rehabilitation, disentanglement or health-related research and bio-monitoring activities? Are these needs currently being met? If not, what are they, how are they likely to benefit the marine mammal species, and what should be done to meet them?**

Comments: Only so much can be learned from dead marine mammals about diseases or causes of strandings. Open water observations and Level A assessments of marine mammals in the wild suffer from a number of limitations, e.g. time, weather and climate conditions, the ability to track the animals consistently, the limited number of subjects involved in the observations, etc... Consequently, there are many unresolved questions and information gaps about many of the marine mammal species that inhabit our planet. Successful rehabilitation efforts at the very least allow us a better glimpse of a species behavior, cognitive abilities and uniqueness in its niche within the ecosystem.

Rehabilitation efforts also afford unique opportunities to engage in vital research which can make a significant and positive contribution to the current store of knowledge relating to stranded and diseased marine mammals. Scientists and researchers continue to develop new techniques to test live stranded marine mammals for the effects of noise pollution, chemical pollution, disease transmission and the effects of our ever changing planet. Rehabilitators and veterinarians continue to develop new handling and medical treatment protocols to treat disease and injury which further expands our knowledge of marine mammal science. Tracking technology for marine mammals in the wild has come a long way in the last 15 years. The value in tracking released marine mammals back into the wild not only proves a successful conclusion to the rehabilitation effort, this data begins to answer and define some of the most basic questions of the species being tracked. Without live stranded marine mammals to test, many questions, some not even asked yet, would go unanswered.

Organizations that do both cetacean and pinniped rehabilitation as well as NMFS should encourage marine mammal researchers to use live stranded marine mammals in their research efforts as was suggested in a recent presentation to The Society for Marine Mammology in San Diego.

3. Should there be different standards or levels of MMHSRP effort for different species or groups of species (i.e. pinnipeds vs. cetaceans; threatened or endangered species vs. increasing populations, etc...)? If so, how should NMFS set these standards or priorities?

Comments: There should be no discrimination among the species regarding levels of response. To establish differing levels of response for cetaceans requires fine judgments for which the supporting data, e.g. populations, health, environmental condition, by-catch impacts, etc... may be either incomplete, outdated or, for some species, unknown. Without accurate and current supporting information, assignment of response levels would necessarily be speculative and subjective. Many species, then, might well be denied the response and resources essential to their continuing protection and ultimate conservation as mandated by the MMPA.

Neither should the allocation of response resources be determined simply by the designation of a species as endangered or threatened. Many species of cetaceans are on the cusp of being endangered or threatened. For example, according to a study conducted by Oceana the population of pilot whales has fallen to unsustainable levels as has that of harbor porpoises. The level of response to these or any other species when in distress should not be diminished or deferred until the survival of their species has reached the critical status of being endangered or threatened.

The mandate of the MMPA to protect and conserve marine mammals does not discriminate or distinguish among the species. Accordingly, every stranded, diseased or distressed marine mammal is statutorily entitled to the maximum response effort and to be given every reasonable opportunity for rescue, rehabilitation and release back to its natural habitat and to once again breed and help sustain its species in the wild.

4. Is the current organization of the national stranding and health assessment networks or the local, state, regional, ecosystem, and national levels adequate to meet the necessary management and research needs for conservation? If not, what changes should be implemented to make the organization more effective?

Comments: Rehabilitation is not only essential to any environmental program for the protection and conservation of marine mammals; it is inherent in the mandate of the MMPA. Currently, within the structure of the national stranding network there is a shortage of facilities capable of accepting and rehabilitating stranded, diseased or distressed marine mammals. Throughout the national network, then, there are numerous states and even entire regions in which responders to stranded, diseased and distressed marine mammals are left with no option but to euthanize viable candidates for rehabilitation and release.

Consequently, any analysis of the organizational structure and capabilities of the national stranding network should have as an objective the establishment of at least one facility with the authority and ability to rehabilitate marine mammals in each state of each region of the national network. In part, this could also be considered in determining the minimum qualifications required of individuals prior to becoming holders of Stranding Agreements or Letters of Agreement. Present Article VI/V holder's personnel could be used to help train these new facilities personnel in the techniques and practical applications of rehabilitating marine mammals. This type of cooperation and interaction would again strengthen the stranding network as a whole as well as help establish practical minimum standards of care and data collection throughout the network.

NMFS Interim Policies and Best Practices and National Template for Marine Mammal Stranding Agreements make some mention of the qualifications of those individuals in leadership positions in organizations seeking either a SA or LOA. They make only a cursory and general mention of the need for the SA or LOA holder to have the appropriate resources to carry out their responsibilities and no mention of the training of personnel. If, however, the experienced leadership does not have the equipment, facilities and personnel to conduct the activities authorized by their SA or LOA, their experience and expertise is rendered meaningless.

Admittedly, the activities authorized by the SA or LOA may be affected and influenced by a variety of factors, e.g. frequency of events, types of species stranding in any given area, geographic, topographic and climatic differences etc..., nevertheless, these variable factors notwithstanding for each level of activity authorized by the SA or LOA, there are identifiable types and amounts of equipment, facilities and basic training which are common to all and necessary to carry out their authorized activity. Consequently, NMFS can and should adopt specific and uniformly applicable requirements and criteria for equipment, facilities and basic training of personnel for each level of activity authorized by its SAs and LOAs. Additionally, a program of continuing education should be established for leadership positions so that personnel can benefit from the experience and knowledge gleaned. For example, all leadership positions should be qualified in the Incident Command System (cooperation and interaction with local state and federal agencies during mass stranding events and UME's is critical to the success of these types of events. A Network member should be able to travel anywhere when requested within the network and be able to assist and be familiar with the procedures and protocols of the ICS system since every Federal agency and most state and local agencies are now adopting the system). Leadership

positions should also have at least a basic course in press relations (bad press does not do any of us any good).

Representing or demonstrating compliance with, or exceeding, these requirements would be a precondition to obtaining either a new SA or LOA or the renewal of an existing one. Those organizations and individuals representing future compliance with these requirements should not have an indefinite or open ended period of time to fulfill their commitments. Their SAs or LOA should be issued on condition that within a given period of time, they will submit documentation of their satisfying the requirements. Pursuant to this condition, failure or the inability to meet and fulfill the representation of compliance would terminate and render the SA or LOA null and void.

In setting time limits for compliance, however, it must be recognized that those organizations seeking authority to engage in activities pursuant to Article IV or V of their SAs or LOAs will need greater and more sophisticated equipment and facilities and training programs for their personnel. Consequently, they should be afforded a more extended period of time in which to comply with the established equipment, facilities and training requirements.

5. What should be the minimum qualifications of an individual or organization prior to becoming a Stranding Agreement holder to ensure that animals are treated appropriately, humanely, and with the minimum of adverse impacts?

Comments: Designees and those apprenticing for eventual designee status should have continuing education requirements. Those requirements should include response/rescue methods, basic rigging course, medical evaluation, transport methods, stabilization techniques and methods, husbandry classes, necropsy classes, administrative requirements, familiarity with the MMPA, AWA and ESA and the relevant regulations, euthanasia protocols, medical and wound treatment, safety protocols/liability issues, just to name a few.

Defining "designee" as it pertains to each specific authorizing article (response, necropsy, transport, and rehabilitation) with approved training methods and standardized qualifications would make the Stranding Network stronger. Continuing education classes would allow existing designees the chance to learn new techniques, methods and requirements. This would also allow NOAA Fisheries the ability to benefit from the network SA/LOA Holders experiences, and designees to learn from other designee's experience.

Three years of marine mammal stranding response experience should be defined as a minimum number of actual stranding responses, educational classes in response, rescue, public/spectator/media relations, medical evaluation, stabilization techniques, and necropsy classes. Potential Designees must have participated in at least five (5) Article V stranding events plus a stranding event where that individual is in charge of a

specific aspect of an event (under the supervision of a designee) in order to be considered for designee status.

The sporadic nature of stranding events are such that some potential designees may not obtain the experience necessary in the time allotted or get the experience quickly long before the three year period. Experience should be defined by actual experience and not a definitive time period.

Specific educational and training requirements should be outlined and defined for SA/LOA Holders to follow. Training guidelines from experienced response, rescue, transport, and rehabilitation teams should be gleaned for those requirements. The Florida Fish & Wildlife Conservation Commission's Prescott Grant funded Necropsy Training Class should be used as either a requirement for each region's designees to participate in or replicated for use in each of the regions. Many organizations have training protocols that can be used for training and continuing educational qualifications.

Designation under an SA/LOA should not be given to individuals, organizations or institutions unless those individuals, organizations or institutions are fully qualified for that specific Article's responsibilities. Apprentices working to obtain a designee status should not be listed as designees as such a designation gives the appearance of qualification when no such qualification has been obtained.

All SA/LOA Holders should have at least two primary designees and one or more apprentices with a minimum of actual response experience and qualified training. During a stranding response, necropsy, transport, rehabilitation or release a fully qualified designee should be on-site at all times.

NMFS proposes that prospective participants in the Stranding Network be "established organizations". If this implies that the organization must be in being with actual marine mammal experience, newly formed, otherwise qualified organizations, would be eliminated from consideration for an SA/LOA. Consequently, the minimum requirement for an organization to demonstrate it is "established" should be proof that it is duly incorporated and in good standing in the state in which it has its principal offices and will conduct its operations and if non-profit and tax exempt that it has qualified with the IRS as a 501(c) (3) corporation and has complied with all state statutes, laws and regulations applicable to such corporations.

The guidelines provide that SA/LOA Holders shall have and maintain equipment appropriate to their stranding responsibilities. NMFS does not define what it means by "appropriate" although it does appear to be establishing a minimum equipment requirement for Article III Holders. Article IV and V Holders are invested with the greater responsibility of responding, transporting and in the case of Article V Holders rehabilitating marine mammals. Therefore, it is critical that these SA/LOA Holders possess the necessary facilities, equipment and experienced personnel to carry out these responsibilities. Consequently, NMFS should establish minimum equipment requirements which Article IV and Article V LOA Holders must have in hand and properly maintain.

NMFS seems to suggest that three years of continuous hands on experience would be required. Even at full time rehabilitation facilities, this requirement would be difficult to meet as marine mammals undergoing rehabilitation are eventually released and the facility may not have marine mammals undergoing rehabilitation on a continuous basis. Trainers from Public Display Facilities should not automatically be considered experienced either as there is a great deal of difference in treating and rehabilitating wild marine mammals than there is in maintaining and training public display marine mammals. Unfortunately, there is no one size fits all minimum requirement for an Article V designee. Those facilities rehabilitating pinipeds will have different requirements from those rehabilitating cetaceans. Article V Holders that tend to rehabilitate only a few cetacean species will have different training criteria than those facilities and teams that rehabilitate several different cetacean species. Experience and training are paramount, but the individual being designated must also be an accomplished administrator, communicator, educator, and supervisor of personnel. Letters of recommendation as well as experience and training should all be considered before approval is granted to any potential Article IV/V Individual or organization.

6. Are public and animal health and safety needs adequately addressed in the current organization and operations of the MMHSRP?

Comments: No Comment

7. Are there any other relevant issues or data NMFS should consider in its analysis of activities conducted by, for, and under the authorization of the MMHSRP? If so, please provide it or a reference for it.

Comments: It should be noted that the National Template [Article (B)(1)(b) and (c) provides that Article IV and V SAs and LOAs will be for a term of three (3) years. As indicated above, to properly perform their duties, holders of these SAs and LOAs need to acquire, at their own organizations expense, a significant amount of various types of equipment, facility infrastructure for its housing and maintenance and incur other operational and administrative costs. Given the short term of Article IV and V SAs and LOAs requires their holders to concentrate inordinate attention, time and effort to the raising and obtaining the funds to sustain their operations and detracts from their ability to perform their duties and responsibilities.

This is particularly true for those non-profit 501(c)(3) organizations (as are many in the national stranding network) which primarily depend on donations, contributions and grants for financial support. Certainly potential donors, contributors and grantors will take into account the three year term of the SAs and LOA, and the prospects of the need for their renewal at the end of this short period, when considering whether or not to commit large amounts of funds to support the operations of their holders.

In view of all of the above, the three year term currently provided for in the National Template is inadequate given the monetary investment and commitment made by Article IV and especially Article V Sa and LOA holders. A more acceptable term for Article IV and V SA/LOA holders would be five (5) years and consideration of an even longer term would not be out of order.

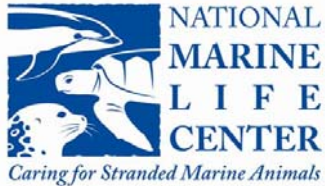
Parenthetically, but nevertheless relevant to note here, Article IX (A)(2) and (3) of the National Template also will have a chilling effect on the ability of Article IV and V SA/LOA holders to raise significant amounts of money. That a holder's SA/LOA can be drastically modified at any time by NMFS upon 30 days written notice to the holder and even more debasingly, simply upon 30 days written notice terminated by NMFS and for any reason. It is unreasonable to assume that these contingencies will not be considered by potential donors, contributors and grantors in deciding whether to make long term monetary commitments to an SA/LOA holder.

Also relevant here, it will not go unnoticed by potential donors, contributors and grantors, that in the event of NMFS's unilateral modification or termination of an SA/LOA, neither the National Template nor its existing regulatory or administrative structure provides the mechanisms or procedures for the affected SA/LOA holder to appeal and obtain review, reconsideration or reversal of the agency's action administratively or judicially.

More importantly, however, this absence of these mechanisms or procedures for an SA/LOA holder to challenge or an adverse determination or action by NMFS clearly denies the organization or individual of the fundamental due process to which they are entitled pursuant to the Administrative Procedures Act as implementing the right to such process provided by the Fifth Amendment to the Constitution. It would not be untoward then, in conjunction with the comprehensive review being undertaken in conjunction with preparation of the EIS, that NMFS adopt procedures which will bring its issuance and administration of SA/LOAs into compliance with the statutory and constitutional requirements of due process.

Respectfully submitted through:

Robert G Lingenfelter Jr
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28 February 2006

Mr. P. Michael Payne
Chief, Marine Mammal & Sea Turtle Division
Office of Protected Resources
NMFS 1315 East-West Highway, Room 13635
Silver Spring, MD 20910-3226

Dear Mr. Payne,

Thank you for the opportunity to participate in the Marine Mammal Health and Stranding Response Program's scoping for the EIS. On behalf of the National Marine Life Center, I fully support the MMHSRP's proposed action a) to issue a Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release Manual, establishing required minimum standards for the national marine mammal stranding and disentanglement networks; b) to issue an MMHSRP permit to permit response activities for endangered species, entanglement activities, biomonitoring projects, and import and export of marine mammal tissue samples; and c) to continue to issue and renew Stranding Agreements (SAs, formerly LOAs) on a case-by-case basis as necessary. The marine mammal stranding network provides an important public service by responding to and learning from stranded marine animals, and the MMHSRP's proposed action is critical to the continuation and improvement of the stranding network.

I had the privilege of attending MMHSRP staff's excellent presentation of alternatives at the Boston public scoping meeting. At that time, we were presented with the option of commenting on proposed alternatives by activity. Following are specific comments for each activity.

Response

I support the alternative that stranding criteria be revised and implemented. MMHSRP staff may wish to consider adding a provision that new and renewing SA applicants include letters of recommendations from two to three other SA-holders in good standing. This would help address the comments regarding experience and qualifications. As earlier commentators pointed out, it is difficult to assess qualifications based on time in the field or based on cases, because there are so many differences across regions. Recommendation letters would help in evaluating qualifications. Recommendation letters would also foster collaboration, teamwork, and positive communication among network members, as the incoming (or renewing) SA applicants would have to maintain good relationships within the network in order to gain recommendations.

Carcass Disposal/Euthanasia

I support the alternative of chemically euthanized animals being transported off-site whenever feasible, and others left, buried, or transported as feasible. Suffering animals have the right to humane, efficient, and effective euthanasia. Research should be conducted into improved methods of euthanasia that reduce suffering and also reduce the potential negative environmental impacts of current euthanasia chemicals. Additionally, financial resources must be made available to stranding network organizations to dispose of carcasses properly. Disposal is expensive, and it is often difficult for small, non-profit stranding network organizations with limited resources to effect proper disposal. Finally, MMHSRP

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NMLC letter re MMHSP EIS 02-28-06
p. 2 of 3

should assist in identifying logistical, geographic, and equipment resources available to effect proper disposal. Even with adequate resources, there often are not places at which to dispose of carcasses much less equipment with which to transport carcasses.

Rehabilitation

I support the alternative of rehabilitation facility guidelines being modified and implemented. Specific comments are as follows.

Standards for cetacean and pinniped facilities should be equivalent, unless there is a medical reason for one class of animals to have higher or lower standards.

The required number of staff needed to rehabilitate cetaceans (page 6) should also include trained volunteers. Once a cetacean is medically stable, there is no need for 24-hour care. Standards should include the provision that the number of people required and the amount of direct monitoring time involved may ease as the animal's condition improves.

Public display should be explored and defined. Involving the public in rehabilitation in a meaningful way, through the ability to view the animals being rehabilitated for example, is critical to maintaining and gaining support for the stranding network and MMHSRP activities. At the same time, it is important that any public viewing of rehabilitating animals not impact the animals more than they are already being impacted through the rehabilitation process. There are many possibilities through technology and facility design that may allow the public to directly view the animals and rehabilitation activities without impacting the animals. More guidance, perhaps resulting from a participatory workshop of rehabilitation experts, would be appreciated.

Finally, resources must be made available for rehabilitation facilities to improve to the level of the standards. The John H. Prescott Marine Mammal Rescue Assistance Program must be continued, and a priority placed on providing support to organizations seeking to reach, maintain, and exceed minimum standards.

Release of Rehabilitated Animals

I support the alternative of release criteria being modified and implemented. The overall release criteria are thoughtful and comprehensive. MMHSRP staff is to be commended on researching and compiling these criteria. MMHSRP staff may wish to revise the procedural guidelines in order to minimize burden on regional coordinators and stranding network organization staff and to expedite animals' releases. To that end, I offer the following specific comments.

The guidelines do not address immediate release from the beach, or relocation and release (e.g., of healthy animals or of mass-stranded animals) without entering a rehabilitation facility. Future guidelines should consider this case.

In some places (e.g., pinnipeds in California), obtaining release authorizations for each individual animal would be prohibitively time-consuming both to the stranding network organization and to NMFS staff. Provisions should be maintained allowing for a waiver of this requirement. In the case of a waiver, an organization should have its overall release policy approved by MMHSRP as part of the normal process of SA application and renewal. There should also be a procedure to allow for interim review (between SA renewals) should concerns be raised about an organization's releases.

MMHSRP should consider whether NMFS review of individual release determination recommendations is the best use of time. In many cases, the NMFS regional coordinators reviewing the release determination recommendations are not veterinarians and may not have the experience required to review the information. Another option may be for NMFS to review organizational release policies, ensure they fulfill national standards, and allow stranding network facilities to release animals as long as: they follow their release policies; they maintain a release health certificate or similar paperwork in the animal's permanent medical record kept at the organization (and available for review upon request); and submit disposition paperwork to NMFS in a timely manner. If an organization does not comply, or if there are questions raised (by NMFS, by other network organizations, or by the general public) about an

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organization's release decisions, then the more stringent requirements to submit for approval a release plan and paperwork for each individual animal prior to release could be implemented until it is felt the organization is making good release decisions.

The 15-day timeline for release plan approval does not allow stranding network organizations adequate flexibility to release animals as conditions require. It may sometimes cause animals to be kept longer than medically necessary simply to undergo the federal approval process. MMHSRP should strive for a 48-hour or 72-hour review, so that animals may be released in a timely manner.

Disentanglement

I support the alternative of implementation of disentanglement guidelines along with training requirements for disentanglement network participants. As NMFS implements these guidelines, it is important to include a strong effort to bring other regions up to northeast region's level of preparedness. This effort should include structure, training, oversight, and funding. In the absence of a viable network that is easy to contact and quick to respond, untrained members of the public will be motivated to respond. When I worked in California, for example, we had an instance in which a fishing boat improperly disentangled a whale (cut the trailing line but didn't cut the line around the peduncle). Their action, although improper, was understandable because there was no authorized agency able to respond within what the fishers considered a reasonable timeframe, and they were frustrated at the perceived lack of response. An effective, coordinated, and well-trained national disentanglement network will greatly improve human and animal safety.

Biomonitoring and Research Activities

I support the alternative of issuance of a new permit with current and new (foreseeable) projects. Stranded marine animals provide an important opportunity to learn more about animals, their populations, and the diseases and conditions that impact them. Research gained from stranded animals is critical to learning more about our oceans and about human health.

In closing, I would also like to express strong support for the John H. Prescott Marine Mammal Rescue Assistance Grant Program. This program provides critical support to stranding network organizations. Stranding response and science has advanced tremendously through the financial support of the Prescott grant program.

I commend NOAA Fisheries and in particular the staff of the MMHSRP program in using the EIS process to improve and establish standards for the stranding and disentanglement network. Thank you once again for the opportunity to participate in the process.

Sincerely,

Kathryn A. Zagzebski
President & Executive Director
National Marine Life Center

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Comments on the NOAA EIS Documents
Prepared by Stranding Program Coordinator Connie Merigo on behalf of the New
England Aquarium Rescue and Rehabilitation Program.
Submitted on February 28, 2006

General Comments:

On behalf of the staff at the New England Aquarium (NEAq), we appreciate the effort that has gone into this document and are grateful for the opportunity to provide constructive criticism.

Overall we support the efforts of the NOAA Fisheries Service to continue the National Marine Mammal Health and Stranding Response Program (MMHSRP). The MMHSRP serves an important public service in managing sick and stranded marine mammals and monitoring ocean health. Without the MMHSRP the general public would likely take matters into their own hands in regards to marine mammals in distress along our nations shores. Even with the stranding network in place the public often intervenes unaware of regulations and health risks. Human health and safety will be at grave risk without the MMHSRP.

Lastly, we feel all documents as well as course descriptions for training requirements referred to in the NOAA EIS materials under comment must be available to the stranding participants in writing before signing. We also feel that if the Stranding Participants will be held to strict reporting time frames that NMFS' agree to do the same. We understand that upon signing this letter we agree to assume financial responsibility for stranding related activities in our designated area, but we feel that the language in the LOA needs to reflect the resources available to the participant. We are concerned about the future of the Prescott Stranding Grants. If the funding is no longer available, our program will reflect the loss in some way.

Comments on National Template

1. Article I Section 3: Currently LOA's can recommend help from neighboring LOA holders when necessary. This new language "if requested by NMFS" seems to add an extra step in the process. We recommend changing this language to "if requested by other LOA holders or NMFS".
2. Article II Section A1: We recommend defining rapid response.
3. Article II Section B6: In the past, NOAA has provided only limited training regionally. We recommend training one person from each LOA.
4. Article II Section B8: NEAq has been using the ICS system for large-scale events since 1998. This is an intricate system that requires the Incident Commander to have certain qualification, skill level, and knowledge of local resources, regulation, and stranding operations. In addition, the Incident Commander is responsible for directing all resources including personnel, response vehicles and all other related equipment. Much of this equipment includes medical supplies such as syringes,

needles, controlled substance, and often expensive and sensitive diagnostic equipment, which is under the liability of the LOA holder. An arrangement where NOAA will determine an IC as stated in this section can lead to personnel safety and liability issues, resulting from the lack of intricate working knowledge if the IC is not from the primary LOA. Internal LOA policies dictate that stranding operations must happen under the direct supervision of institutional staff. Sensitive resources, as mentioned above, can not be directed by outside individuals. For example, in the case of mass strandings, New England Aquarium policy dictates that all stranding activities and equipment fall under the direction of the Stranding Coordinator or Head Veterinarian. We also have concerns regarding lack of field experience on behalf of some NOAA staff who would be selecting these IC's.

5. Article II Section C7: This section makes reference to working cooperatively with the NMFS Incident Command System (ICS) when implemented. A NMFS ICS document needs to be made available in writing to the LOA holders. As stated above, we have serious concerns about NOAA selecting Incident Commanders.
6. Article II Section C8: This seems like a labor-intensive request in regards to personnel changes, since many facilities have high influx of seasonal employees. We recommend this be limited to full time permanent staff.
7. Article II Section C11: We feel NMFS should reimburse the stranding participants for all media requested. Some participants respond to a large number of high profile events each year and this figure could become significant. We are concerned about NMFS requiring the submission of this material because this is not considered Level A data and is therefore owned by the individual LOA's. In many cases the stranding networks hire videographers to film stranding events for them. In the Aquarium's case the videographers often do it for free as long as they can then produce a marketable product. Therefore, we can not require them to release this media without reimbursement. We also recommend adding that requests for this material will be limited to law enforcement cases, and other high profile stranding events on a limited basis.
8. Article III Section B2c: We would appreciate guidelines on NMFS definition of extralimital or out of habitat situations.
9. Article III Section B3a: This section requests notification of samples retained by the participant within 30 days of a stranding. This requirement may be unattainable for LOA's with high numbers of strandings. We recommend changing this to approve for LOA's to maintain an internal database that NOAA could request as needed. We also suggest NOAA provide a specimen disposition database template for those LOA's that currently maintain their own database. With this system, duplication on the part of LOA's can be eliminated. As written, this requirement would cause a severe backlog in data submission for some LOA's.
10. Article IV Section B1c: We would like NMFS to specify which animals fall under this designation. As written this section would mean that LOA's would have to provide each volunteer with tag guns and NMFS approved tags and every animal would require multiple responders to restrain and tag where in the past, it may have just required one responder to guide an animal back to the water, or relocate and release an animal. For LOA's with large response regions, like the New England

Aquarium, this is an unrealistic goal, which would require staff supervision at every relocated animal.

11. Article IV Section B1d: We would like NMFS to clarify exactly which animals this section refers to. If this section applies to all animals brought into rehab, the request may be difficult to fulfill, and an unnecessary extra step in stranding response.
12. Article IV Section B2d: We would like NMFS to clarify exactly which human interaction cases this refers to. A human involvement case, where an animal may be healthy and merely relocated, qualifies as human interaction. This section seems to indicate that each of these cases needs to be reported to NMFS. We believe this to be an unnecessary additional step because of the nature of some of the cases involved, as well as the number of such cases. In addition, we recommend that NMFS ask for notification only for specific high profile cases, such as those that indicate specific human intent as opposed to accidental take.
13. Article IV Section B2e: We recommend that NMFS state that these requests will be made on a limited basis, as this repeats reporting by the LOA.
14. Article IV Section B2f: This section states that for all live cetacean stranding events the NMFS coordinator may request expedited reporting possibly within 24 hours. Stranding network participants shall provide NMFS with preliminary or complete stranding reports if available, including analytical results and necropsy reports possibly within 24 hours.

In many cases the stranding teams are still in the field for days during a mass stranding or large whale necropsy so it may not be possible to send the stranding report in such a short time frame. We suggest including a phrase such as "or as soon as possible" or "within 48 hours of returning from the field. In addition, analytical results and necropsy reports are not considered Level-A data and are owned by the stranding participants. We do however understand NMFS' need for the data to make informed management decisions. We prefer that this paragraph restate the caveat; NMFS will not reproduce, modify, distribute, or publish the data without consent of the Stranding Participant, unless required to release a copy under Federal law or order (such as the Freedom of Information Act).

15. Article IV Section B2g: We recommend that NMFS state that government staff may not use the data to publish internal documents, scientific publications, or professional lectures without obtaining specific LOA permission and providing LOA co-authorship.
16. Article V Section A2: We recommend that NMFS clarify this section to indicate what sort of research this encompasses. We also recommend that NMFS exclude non invasive research, such as husbandry observations, or collation of data obtained from routine exams or sample collection.

Concluding Remarks:

This document discusses in detail the training qualification, requirements and consequences that affect the LOA's. There is little discussion of the necessary qualifications and training required of the NOAA regional office staff, or discussion of any plans to ensure that staff meet any such requirements. We would like a section of the agreement to include such a discussion, and for the

LOA's to have access to NMFS regional staff qualifications. In addition, we are concerned that NMFS has a number of commitments that may prove hard to implement because of limited resources. Current NMFS staff already has an overwhelming number of responsibilities, and therefore may not be able to effectively assume these new responsibilities. We would like the LOA's to have access to an implementation plan for these new projects. Additionally, we would like consequences implemented for NMFS, just as there are for LOA's, if responsibilities are not fulfilled.

27 February 2006

P. Michael Payne, Chief
Marine Mammal and Sea Turtle Division
NMFS 1315 East-West Highway
Silver Spring, MD 20910-3226

Dear Mr. Payne,

We, the National Oceanic and Atmospheric Administration (NOAA) Northeast Region LOA and 109h agreement holders listed below, are writing in support of the proposed action to have the National Marine Fisheries Service continue to coordinate and operate the National Marine Mammal Health and Stranding Response Program (MMHSRP). Specifically, we support the MMHSRP's proposal to (1) issue policies and best practices for marine mammal stranding response, rehabilitation, and release, and establish required minimum standards for the national marine mammal stranding and disentanglement networks; (2) issue MMHSRP permits allowing response activities for endangered species, entanglement activities, biomonitoring projects, and import and export of marine mammal tissue samples; and (3) continue to issue and renew stranding agreements (formerly LOAs) on a case-by-case basis as necessary. The MMHSRP provides a critical public service by facilitating response to stranded marine mammals and by promoting research into questions related to ocean health, including causes and trends in marine mammal health and causes of strandings. While each of us has our own opinion on the specific questions involved, collectively, we believe that NMFS has not only a need, but also an obligation, to develop standards for the national marine mammal stranding and disentanglement networks, in order to operate the MMHSRP effectively and efficiently while making the best use of available limited resources.

In response to the specific questions posed for public input on the MMHSRP website, we offer the following comments:

What sort of activities should be conducted on a local, regional and national level in response to stranded, entangled, sick, injured, and other marine mammals in distress?

- We support all current activities of the MMHSRP including prevention, response, rehabilitation, release and research of marine mammals that are stranded, entangled, sick, injured, or otherwise in distress, and public education about strandings.

Should there be different standards or levels of MMHSRP effort for different species or groups of species (i.e. pinnipeds vs. cetaceans; threatened or endangered species vs. increasing populations, etc.)? If so, how should NMFS set these standards or priorities?

- To the extent that it is practical and legal, we do not believe that there should be different standards of stranding response for different species or regions, regardless of status. Valuable information may be gathered from both pinnipeds and cetaceans, and from endangered and non-endangered species. There needs to be a minimum set of standards that all network members are required to meet. However, given the differences in species and other regional issues, Headquarters should work with each region to prioritize their response based on regional conservation and research priorities and network resources. We also

understand that stranding response levels or standards must be fluid documents, able to incorporate new information as we gather it in order to continue to provide the best stranding response and investigation possible.

Is the current organization of the national stranding and health assessment networks at the local, state, regional, ecosystem, and national levels adequate to meet the necessary management and research needs for conservation? If not, what changes should be implemented to make the organization more effective?

- We believe that the current disconnect among the NMFS regions and between the regions and NMFS headquarters is hindering the development of consistent, standardized policies and procedures nationally. There are two fundamental elements that seem to be inhibiting this process. The first is that regional stranding programs operate independently, without direct supervision/connection to headquarters. This prohibits consistency in both program and policy. The second element is that the regional structure of the marine mammal programs varies greatly among the regions. Aside from the Regional Coordinator, there are no parallel positions. In some regions, NMFS employees are paid to respond to strandings, while in others and in other areas within the same regions, NMFS does not contribute to stranding response. Other inconsistencies also contribute to the problem:
 - Stranding response is governed by the regional office control in NER, but under the control of science centers in other regions.
 - Funding for NMFS appears to vary significantly regionally and annually. We would like to see regional NMFS allocation of stranding response funds divided more equally among regions, if possible, from Headquarters.
 - We are aware that MMHSRP funding has been (unfairly, in our opinion) earmarked for specific organizations and states. Anything that can be done to protect and increase the small amount of funding allocated to the MMHSRP is vital. We believe all MMHSRP funding should go towards program goals, and that funds available for dispersal should be equitably divided among stranding network participants through competitive awards and fair direct allocations.
 - The NMFS Regional and local stranding staff should have an equal or higher level of experience than is expected from the network members. If this experience is not present, representatives from NMFS should be encouraged to train with each facility under their charge. This training would help to alleviate the lack of understanding of differences within our regions and facilitate an understanding of how each organization functions.

Are public and animal health and safety needs adequately addressed in the current organization and operations of the MMHSRP?

- No, we continue to be concerned about issues surrounding euthanasia. Specifically, we would like to pursue a solution that is both humane and less toxic. The toxicity of euthanasia solution presents a disposal problem and makes it unwise to leave carcasses on uninhabited beaches where they may be consumed by scavengers. Additionally, use of the commonly-prescribed euthanasia solution can be dangerous to personnel when dealing with a struggling animal. It would also allow a broader range of disposal options for euthanized carcasses.

Are there any other relevant issues or data NMFS should consider in its analysis of activities conducted by, for, and under the authorization of the MMHSRP? If so, please provide it or a reference for it.

– We strongly support the continuation and advancement of the John H. Prescott Stranding Grant Program. The support provided by the program is vital to our efforts. However, it must be noted that the activities we are both allowed and required to perform under the current and proposed stranding agreements are in no way fully funded by the Prescott Program. NMFS must recognize the true costs of the Marine Mammal Stranding Network and be prepared for the possibility that without appropriate, annual, non-competitive funding, organizations may not be able to fulfill the goals of the MMHSRP. This is especially true as NMFS moves toward standardizing its marine mammal programs. Additional or more detailed requirements in response, rehabilitation and research may lead to additional costs which must be taken into account.

All considered, we are impressed with the effort and detail that has been presented with the EIS, and we are pleased to be a part of this important process.

Sincerely,

The members of the Northeast Region Stranding Consortium:

Susan Barco
Virginia Aquarium Stranding Program (VA)

Jay Pagel
Marine Mammal Stranding Center (NJ)

Robert DiGiovanni
Riverhead Foundation for Marine Research
and Conservation (NY)

Charles Potter
Marine Mammal Program
Smithsonian Institution (MD)

Lynda Doughty
Department of Marine Resources (ME)

Katherine Sardi
The Whale Center of New England (MA)

Tricia Kimmel
Maryland Dept. of Natural Resources (MD)

Jennifer Dittmar
Marine Animal Rescue Program, National
Aquarium in Baltimore (MD)

Katherine Mansfield
Virginia Institute of Marine Science (VA)

Suzanne Thurman
MERR Institute (DE)

Keith Matassa
Marine Animal Rehabilitation Center,
University of New England (ME)

Sean Todd
Allied Whale/College of the Atlantic (ME)

Heather Medic
Mystic Aquarium (CT)

Kathleen Touhey
Cape Cod Stranding Network, Inc. (MA)

Connie Merigo
Rescue and Rehabilitation Program, New
England Aquarium (MA)

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Subject: MMHSRP EIS comments**Date:** Tue, 28 Feb 2006 15:22:55 -0500**From:** "Daniel K. Odell" <dodell@cfl.r.com>**To:** mmhsrpeis.comments@noaa.gov

28 February 2006

Mr. P. Michael Payne, ATTN: MMHSRP EIS

Chief, Marine Mammal and Sea Turtle Division (F/PR2)

Office of Protected Resources

National Marine Fisheries Service

1315 East-West Highway Room 13635

Silver Spring, MD 20910-3226

Dear Mr. Payne:

The purpose of this letter is to provide written comment on the NMFS request for public input on the Environmental Impact Statement on the activities of the National Marine Mammal Health and Stranding Response Program as referenced in the Federal Register, volume 70, number 248, page 76777 and dated 28 December 2005. I have been involved in marine mammal stranding operations in Florida since 1974 when I was issued NMFS Permit No. 40 (dated 29 August 1974) for cetacean carcass salvage and FWS permit MM-1 (dated 15 April 1974) for Florida manatee carcass salvage. Over the intervening years I have served as volunteer Scientific Coordinator for the Southeastern U.S. Marine Mammal Stranding Network and as State Coordinator for Florida. Until 2002 when the national stranding database came online, my students and I maintained the cetacean and pinniped stranding database for the southeastern U.S. I have watched the stranding network grow and Hubbs-SeaWorld Research Institute is currently an active stranding LOA holder covering the east-central coast of Florida with emphasis on the Indian River Lagoon. Institute scientists have also participated in several Unusual Mortality Events in Florida.

The study of stranded marine mammals - both dead and alive - has been and will continue to be an invaluable resource for the study of marine mammal biology, including the assessment of the health of marine mammal species and populations. The so called 'Level A Data' are the foundation upon which all subsequent studies and analyses of data and specimens from an individual stranded animal are based and interpreted. As such, it is of critical importance that the institutions and individuals authorized to collect Level A stranding data be properly trained in the collection of these data and have a solid understanding of the importance of these data and how they will be used by other investigators. While I could go on for pages with specific examples, network participants continue to submit incomplete Level A reports and often multiple reports with failure to cross-reference field numbers when more than one institution handles an animal, especially a live animal. The quality of work submitted by these individuals and institutions should be reviewed in an ongoing fashion and corrective training given when and where needed.

With respect to the various alternative actions, I believe that

network operations must be improved by placing increased emphasis on the collection of complete and valid Level A data and collection of samples that support those data. As stated above, network participants must be trained in the proper collection and reporting of Level A data and reports must be monitored for quality on an ongoing basis with corrective actions taken immediately. In addition, I believe that collection of voucher specimens that can be used to confirm species identification (e.g. photographs, skulls, skin for DNA analysis) and perhaps to enable life history analyses as needed (e.g., teeth as applicable, particularly for odontocetes) should be considered for implementation as a mandatory requirement. "Hi-Tech" clinical and chemical analyses are often of little use if the species, age and sex of the animal from which the specimens were collected can not be verified.

The marine mammal stranding program provides a unique resource for the study and monitoring of marine mammal species and populations in the coastal waters of the United States. It is extremely important that this program continue and that specific attention be given to the collection and validation of Level A data through network participant training, evaluation and data quality control.

Sincerely,

dko

Daniel K. Odell, Ph.D.
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10 February 2006

Mr. P. Michael Payne
 Office of Protected Resources
 Marine Mammal and Sea Turtle Division (F/PR2)
 National Marine Fisheries Service
 1315 East-West Highway, Room 13635
 Silver Spring, MD 20910

Dear Mr. Payne:

We are writing in response to your call for comments on the Environmental Impact Statement (EIS) on the Marine Mammal Health and Stranding Response Program (MMHSRP). As a member of the Southwest Region of the Marine Mammal Stranding Network and one of the first permit holders in the region, we appreciate your consideration of our comments as you move forward.

Public Viewing

Our chief concern is that public viewing of our animals is integral to our Center's funding. Much of our income is based on individual donations, motivated in large part by visitors' personal viewing experience. Additionally, a central tenet of our organizational mission is to provide outreach and education to students and visitors alike. Every year we teach hundreds of students about marine mammal biology, ecology and conservation. In 2005, we taught nearly 3,000 students about seals and sea lions. Our lessons on entanglement, marine pollution, and human-animal interaction are much more powerful when students have the opportunity to view a wild animal recovering from one of these injuries.

In addition, approximately 35% of our income is based on grants from foundations that explicitly require program components in education and outreach. If we are unable to provide public education and outreach through public viewing, our ability to compete for foundation grants is crippled.

As we surmise that these concerns are shared, we would suggest establishing guidelines for viewing that protect the animals as well as the visitors. We make every effort to protect our animals from stress caused by public viewing, and we fully support the implementation of guidelines for public viewing at stranding centers. Doing away entirely with public viewing, however, would seriously compromise our ability to fund ourselves and hence our ability to provide quality care for the nearly two hundred marine mammals that strand each year in Orange County.

Quarantine

The property that our facility is housed on is provided to us at a nominal charge by the City of Laguna Beach. We have limited space and are unable to expand our existing building to include a separate quarantine facility. During the time of year when we are highly impacted with animals, we may rescue as many as five animals a day. Providing a dedicated building for individual quarantine for the number of animals we may be required to rescue is not feasible. We currently take every precaution (quarantine in temporary enclosures, footbaths and clothing disinfection, and dedicated staff) with new animals or animals that may have contagious or communicable diseases.

Laboratory Tests and Frequency of Testing

We are dedicated to providing excellent medical care for each stranded marine mammal that we rescue and treat and recognize the importance of regularly monitoring blood chemistry. Based on the number of animals that we treat annually and the cost associated with administering these tests, the expense of a bimonthly CBC/Serum Chemistry is financially prohibitive. In addition, it is our thinking that administering expensive diagnostic tests on mortally ill or injured animals at the time of their admission is a waste of resources and funding. While we could consider Prescott funding to establish and maintain the recommended testing protocol in the short term, we have concerns about the continuing financial ramifications of maintaining this frequency of testing in the long term. In addition, we do not have the staff or facility to collect, analyze, and bank serum and "buffy coat" for every animal.

We surmise that the aforementioned concerns are shared among other small stranding centers with operating budgets less than \$1 million and offer the following suggestion: the establishment of a central MMHSRP (either national or regional) diagnostic lab and sample bank. This would provide a twofold benefit to the Stranding Network. It would alleviate the costs associated with testing for individual centers and it would provide a central data bank for research purposes.

Additional Comments

We fully appreciate the need for a national standard for the MMHSRP, but would request that consideration be taken for the discrepancy in numbers of reported stranded animals between regions. The most recent data we found available was taken from NOAA's 1999-2000 MMPA Annual Report to Congress.

Region	Total Number of Strandings	Number of Live Strandings	Number of Dead Strandings
Northeast	637	275	362
Southeast	693	83	610
Northwest	304*	118	181
Southwest	2,016	942	1074

**Number includes five cases in which condition of stranded animal was unreported.*

As the table clearly illustrates, the Southwest Region, of which we are a part, is one of the most heavily impacted areas in terms of annual strandings. This fact has implications with respects to both available funding and staffing.

Conclusion

The topics which we have commented on have the potential to greatly impact our financial ability to continue providing care for Orange County, California's stranded marine mammals. Our center alone has responded to 939 animals between 2000 and 2005. We look forward to working with you towards an improved Marine Mammal Health and Stranding Response Program.

Please feel free to contact me directly at 949.494.3050 or via email at mhunter@pacificmmc.org if you have any questions or require clarification about any of these matters.

Kind regards,



Michele Hunter
Director of Operations/Animal Care

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POINT MUGU WILDLIFE CENTER
POST OFFICE BOX 1053
PORT HUENEME, CA 93044-1053
PHONE: 805-488-5168
e-mail: seaotter4@verizon.net

28 February, 2006

P. Michael Payne, Chief,
Marine Mammal and Sea Turtle Division,
Office of Protected Resources,
National Marine Fisheries Service,
1315 East-West Highway, Room 13635,
Silver Spring, MD 20910-3226

ATTN: MMHSRP EIS

Chief Payne:

To begin with, please add our name and contact information to your list of very interested parties concerning your actions regarding anything to do with marine mammals, either here on the West Coast or anywhere for that matter. I would also appreciate it if you could send me all relevant documents concerning this EIS.

I am currently the Executive Director of the Point Mugu Wildlife Center, an organization that began its existence on a Naval Air Station in 1997 and has since moved to various locations near Port Hueneme, CA. We started out with a large number of volunteers and a lot of enthusiasm and community support, most of which was destroyed by the usual problems afflicting animal welfare groups, the grisly details of which I won't go into here. Suffice it to say that we could've used more support from your marine mammal stranding coordinator in Long Beach than we ever received or hoped to receive. Instead of offering support and/or reasonable direction and guidance he kept upping the ante for a permit to establish a marine mammal rehab facility in Ventura County where one is sorely needed.

In the very beginning of our involvement with NMFS we were asked to meet only three criteria for an operating permit. As relations soured among the integral principals your marine mammal stranding coordinator kept increasing the number of items that had to be met in order to secure a permit. In addition, he kept changing his story whenever he was asked for information or help. At one point he said all permitting decisions were the sole responsibility of local animal control offices. That carved in granite rule was later changed to meet criteria of his that we were unaware of. He would often set up rules for bringing a stranded animal in that had to do with space available at rehab centers in San Pedro and Santa Barbara, ostensibly having to do with over-crowding. Since numerous animals had to be left on the beach for 48 hours or more, subject to the tender mercies of interfering humans and scowflaws who refused to obey signs warning them to stay away, this situation, which has been repeated a number of seasons, simply called out for another rehab center in our area. No permit has ever been forthcoming and his

wholly arbitrary rationale for issuing such a permit has hindered our ability to garner community support to establish one here. This situation is unacceptable and on-going. We need consistency!

A few months back your marine mammal stranding coordinator called to say we could transport stranded marine mammals under the aegis of a capable veterinarian in the Santa Barbara area who is himself establishing a marine mammal rehab center in an old school near Gaviota. This is some distance from where we live and work but is exponentially better than nothing at all. The Point Mugu Wildlife Center is currently transferring and contributing cages and other useful equipment to Dr Sam Dover's facility in Gaviota in the hopes that we can assist him in aiding stranded pinnipeds during the upcoming season, usually beginning in April. I will attach some articles from local newspapers that explain the situation here in California a bit better than I am able to do in a letter. In the meantime we are continuing our efforts to establish a state-of-the-art marine mammal and oiled bird facility here at the Aquacultural Center in Port Hueneme. It is a facility that already has infrastructure in place to supply each tenant facility with ocean water. As long as the need exists we will continue our efforts to establish a much-needed facility here, with or without the help or permission of your West Coast Marine Mammal Stranding Coordinator.

We would like you to know that we support your Proposed Alternative #1, with certain provisos that would allow for some kind of appeals process when dealing with intransigent and biased individuals in your employ. Since your increasingly restrictive budgets don't allow for fully effective work in marine mammal rehab activities we would encourage you to fully exploit all available professional help from volunteers. There are a number of qualified medical and animal handling people anxious to do what they can to help relieve the incredible animal suffering we see here on a seasonal and year round basis. I am referring, of course, to the growing number of marine mammals and sea birds that have come to grief as a result of various human recreational or commercial activities.

We thank you for this opportunity to comment on this scoping document. I fully regret not having attended your public meeting in Santa Barbara in January. Had we been notified we would've attended and submitted our comments in person. If further meetings are scheduled please make every effort to notify us, either through e-mail or some kind of public announcement. That this scoping meeting got by us, the very people with interest in this matter, is evidence that your notification process needs improvement. With optimism that things will eventually improve, we remain

Sincerely yours,

Daniel Hayes Pearson
Executive Director
Point Mugu Wildlife Center

DP/dhp
Enclosures: 1



POINT MUGU WILDLIFE CENTER

Post Office Box 1053

Port Hueneme, CA 93044-1053

(805) 488-5168 e-mail: seaotter4@verizon.net

10 July 2005

Letters

Ventura County Star
5250 Ralston Street
Ventura, CA 93003

RE: Deadly toxin is taking annual toll on sea lions by Zeke Barlow (6 July, 2005)

Dear Sirs:

It is unfortunate and regrettable that Mr Barlow's well-written and informative article partially served to spew some deadly toxin of its own. I am referring to the ill-informed and thus misleading and mean-spirited statements made by Ms Kathy Jenks, director of Ventura County Animal Control, proclaiming her disdain of the efforts of local volunteers and wildlife advocates to establish a marine mammal rehab facility in Ventura County.

We, of course, take issue with Ms Jenks' position that the establishment of a marine mammal rehabilitation center (in Ventura County?) would be "worthless." We suppose she means it would be a waste of time and wholly misdirected. This is a doubly unfortunate statement in light of the fact that Ms Jenks is known to be a compassionate woman with strong feelings for animal welfare, albeit focused mainly on errant pets, dangerous animals that could harm the public and escaped, mistreated or neglected livestock. Ms Jenks and her organization have long recognized and applauded the efforts of county volunteers to ameliorate the plight of various species of felines, canines, equines and the occasional possum and reptile.

We take exceptionally strong objection to her statement describing donors of funds for a rehab center as people who would be doing little more than throwing money down a hole. Perhaps this statement was taken out of context.

In fact, despite the plight of marine mammals (and some sea birds) affected by domoic acid poisoning, the need for a marine mammal rehab center, as well as an oiled-bird rehab center, is paramount in Ventura County and has been for several years, over and beyond the seasonal toxic poisoning that seems to occur with increasing intensity. California also needs some saltwater pools or tanks to care for injured or diseased cetaceans (dolphins, whales) that occasionally beach themselves here). Marine mammals are constantly appearing on our shores as either abandoned healthy babies (sometimes a result of human interference), or gunshot and boatstrike victims. If people are disturbed by the agonizing death throes of an animal succumbing to domoic acid poisoning, then they would not be comforted any more by the sight of an infected

animal slowly choking to death with a fish net wrapped around its head or neck. Sometimes these animals have fish-hooks imbedded in them as well and they require and deserve some human help to recover. Even if a number of these afflicted and/or injured animals die in the rehab center they at least provide valuable information about what's going on in the biological ocean; sort of like canaries in coal mines.

Concerned wildlife volunteers are aware of the precepts of nature and don't need to be lectured to about survival of the fittest. Despite what is said about them, they are not tampering with the natural order of things or altering gene pools in any significant way. Life persists on this crowded planet and most volunteers simply want to alleviate unnecessary and avoidable animal suffering; especially when it's caused by human negligence or overt human action, such as poaching or violations of The Marine Mammal Protection Act of 1972. Human-animal conditions in the ocean are not improving and asserting that a marine mammal rehab center is not needed by characterizing the efforts of concerned people as being foolish, misdirected and a total waste of time, energy, concern and money does not serve the real situation along our coastline. Despite what some people may think or say, we need to continue being stewards of life on earth, certainly more now than ever.

Sincerely,

DANIEL HAYES PEARSON
Executive Director
POINT MUGU WILDLIFE CENTER

Animals need space

Re: Daniel Hayes Pearson's July 17 letter, "Marine mammal rehab facility is needed":

Living in the beach area for the past two years, we enjoy the beautiful sunsets each day.

However, one day last week, one of the most distressing things we saw was a man on a ski boat chasing a seal in open water beside the wharf. When the seal finally dove to get away from this boat, I motioned to the man with my arm to leave the seal alone. It was only then, when he saw us watching him, that he disappeared toward Ventura Harbor.

Later the next day, we came back to the beach and saw a seal that was marred by boat scars on its back.

Another time, a young seal was on the water's edge and some volunteers had put some yellow tape up to mark the area and warn people that a young seal was in the area and to keep their distance. Sadly, it seemed to do just the opposite. Many people with dogs and cameras came to see the seal in distress.

Happily, Mr. Pearson's letter will make people aware that marine

mammals need their space to live along with people on our crowded beaches.

7/27/05 — Peter Dane,
Ventura

115 Bradford Street t 508 487.3622
 PO Box 1036 f 508 487.4495
 Provincetown, MA 02657 e ccs@coastalstudies.org

<http://www.coastalstudies.org>

**Provincetown
 Center for Coastal Studies**



FAX TRANSMITTAL

TO: Mr. Michael Payne - Office of Protected Resources
 FROM: Peter Borrelli, Executive Director
 DATE: 2/23/06

Number of pages including this page: 4

COMMENTS:

For additional information: (508) 487- 3622 Main Office
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02/23/2006 9:21AM

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**Provincetown
 Center for Coastal Studies**



February 22, 2006

Mr. P. Michael Payne
 Office of Protected Resources
 Marine Mammal and Sea Turtle Division
 (F/PR2)
 NOAA Fisheries
 1315 East-West Highway, Room 13635
 Silver Spring, MD 20910

Dear Mr. Payne:

**Re: Environmental Impact Statement on the
 Marine Mammal Health and Stranding Program**

These comments are being submitted as a follow-up to oral comments made by Dr. Charles Mayo at the February 13 scoping meeting held in Boston. The Provincetown Center for Coastal Studies (PCCS) is encouraged that NOAA Fisheries is revising the plan for of the Marine Mammal Health and Stranding Response Program (MMHSRP). Having played a key role in the creation of the Cape Cod Stranding Network, we are well aware of many of the issues addressed in the EIS, and we strongly support the call for national standards and guidelines in this field. However, these comments address the disentanglement of large cetaceans.

Roles and Training Levels

Included within the EIS are the criteria for disentanglement roles and training levels. These criteria have been developed over the past ten years by NOAA Fisheries in collaboration with PCCS, the only organization authorized to disentangle large whales on the East Coast of the United States. We believe that these criteria should serve as the basis for the development of a national disentanglement network. National standards for disentanglement should require that participation and advancement at all levels is founded on experience and training.

Training Facilities

With respect to training we recommend that there be two training facilities, one at our center in Provincetown and one on the West Coast, and that they be accredited to

02/23/2006 9:21AM

teach the protocols that will underpin the national disentanglement program. We cannot emphasize enough the dangers associated with disentanglement to both humans and animals. PCCS's twenty-year perfect safety record is the result of extensive training and adherence to safety protocols.

National Protocols

PCCS also supports the development national protocols, to the degree that they may be applicable to all species and locations throughout the nation, to further unify and advance the goals of a national program. The EIS does not address the subject of national protocols, but we encourage their careful development.

Details of protocols that have evolved in the PCCS disentanglement program that should form the basis for the development of national protocols can be found on the Disentanglement Network web site maintained by PCCS, in reports to NOAA Fisheries, and in contracts between the agency and PCCS. A manual for use by individuals trained to experience Level 3 and above by PCCS which details all aspects of disentanglement protocols will soon be produced and should offer many particulars regarding disentanglement procedures. This manual, which in no way circumvents the need for experience and approved training, offers detailed protocols that may guide the codification of national protocols.

Absent underlying protocols for disentanglement applied on a national basis it is unlikely that NOAA Fisheries will have the control that we see as essential to the successful disentanglement of whales. Because of differences in the behavior of species, fishing gear, and logistical support along the coasts of the United States, some protocols will necessarily be tailored to specific circumstances. The national program that evolves will need flexibility with respect to procedures that apply to such variable conditions as cetacean species, accessibility, and procedures that are gear-dependant. However, critically important protocols related to safety, documentation, reporting, and operations should be developed for use through out the nation.

National Disentanglement Coordinator

We support the creation of the position of National Disentanglement Coordinator. Our experience shows that the field operations that lie at the heart of any disentanglement program are aided by close coordination with a knowledgeable federal agent, one who understands the logistic, safety, and conservation issues involved in disentanglement efforts. Such an individual should oversee the national protocols and training and interact with components of the developing program to unify the effort while improving communication among the regional networks. The national coordinator of disentanglement should be knowledgeable in federal responsibilities and trained and experienced in disentanglement work with large whales at sea and in the protocols of the disentanglement operations. In our experience it is essential to have all disentanglement coordination pass through a single highly knowledgeable individual

(who may at his/her discretion then pass responsibility on to regional and network coordinators) because many issues involving the urgent response typical of disentanglement need both overview and unitary responsibility and coordination.

The present structure that has evolved during the last twenty years of disentanglement work along the East Coast of North America has shown that:

- Coordination among agencies is essential to the success of the program;
- Close coordination with one federal agent empowered to speak for NOAA Fisheries improves efficiency;
- A decentralized, coastal network of responders working in close coordination with highly trained disentanglement team deployed to the site offers the needed rapid response coupled with intervention by a skilled and experienced primary disentangler;
- Protocols evolving out of the substantial experience of a small number of individuals at PCCS offer a foundation for the advanced protocols that NOAA Fisheries needs to develop throughout the nation.

Thank you for this opportunity to comment during the scoping process.

Sincerely,



Peter Borrelli
Executive Director

26 February 2006

P. Michael Payne, Chief
Marine Mammal and Sea Turtle Division
NMFS 1315 East-West Highway
Silver Spring, MD 20910-3226

Dear Mr. Payne,

We, the Riverhead Foundation for Marine Research and Preservation (RFMRP), are writing in support of the proposed action to have the National Marine Fisheries Service (NMFS) continue to coordinate and operate the National Marine Mammal Health and Stranding Response Program (MMHSRP). With regards to the proposed action and alternatives, the RFMRP supports MMHSRP's proposal to (1) issue policies and best practices for marine mammal stranding response, rehabilitation, and release, and establish required minimum standards for the national marine mammal stranding and disentanglement networks; (2) issue MMHSRP permits allowing response activities for endangered species, entanglement activities, biomonitoring projects, and import and export of marine mammal tissue samples; and (3) continue to issue and renew stranding agreements (formerly LOAs) on a case-by-case basis as necessary. The RFMRP supports the compilation of minimum guidelines that promote a proactive and coordinated progression of the national MMHSRP. The MMHSRP provides a critical public service by facilitating response to stranded marine mammals and by promoting research into questions related to ocean health, including causes and trends in marine mammal health and causes of strandings.

The RFMRP believes that NMFS has not only a need, but also an obligation, to develop standards for the national marine mammal stranding and disentanglement networks, in order to operate the MMHSRP effectively and efficiently while making the best use of available limited resources.

In response to the proposed alternatives by activity, the RFMRP offers the following comments:

What sort of activities should be conducted on a local, regional and national level in response to stranded, entangled, sick, injured, and other marine mammals in distress?

- The RFMRP supports all current activities of the MMHSRP including prevention, response, rehabilitation, release and research of marine mammals that are stranded, entangled, sick, injured, or otherwise in distress, and public education about strandings. Due to the significant role of public funding and its link to public perceptions about strandings it is imperative that NMFS acknowledge the need for outreach with regards to broadcasting the guidelines and the regional priorities of the MMHSRP. The Riverhead Foundation recommends that NMFS support each of the region's priorities and that brochures, public service announcements and general outreach be fully recognized and supported.

To the extent that it is practical and legal, we do not believe that there should be different standards of stranding response for different species or regions, regardless of status. Valuable information may be gathered from both pinnipeds and cetaceans, and from endangered and non-endangered species. There is a need for a minimum set of standards that all network members are required to meet. However, given the differences in species and other regional issues, Headquarters should work with each region to prioritize their response based on regional conservation and research priorities and network resources. We also understand that stranding response levels or standards must be fluid documents, able to incorporate new information as we gather it in order to continue to provide the best stranding response and investigation possible. The RFMRP supports the development of one, two, and five-year plans which could be developed by a working group compiled of representatives from each of the regions.

Is the current organization of the national stranding and health assessment networks at the local, state, regional, ecosystem, and national levels adequate to meet the necessary management and research needs for conservation? If not, what changes should be implemented to make the organization more effective?

- We believe that the current disconnect among the NMFS regions and between the regions and NMFS headquarters is hindering the development of consistent, standardized policies and procedures nationally. There are two fundamental elements that seem to be inhibiting this process. The first is that regional stranding programs operate independently, without direct supervision/connection to headquarters. This prohibits consistency in both program and policy. The second element is that the regional structure of the marine mammal programs varies greatly among the regions. Aside from the Regional Coordinator, there are no parallel positions. In some regions, NMFS employees are paid to respond to strandings, while in others and in other areas within the same regions, NMFS does not contribute to stranding response. Other inconsistencies also contribute to the problem:
 - Stranding response is governed by the regional office control in NER, but under the control of science centers in other regions.
 - Funding for NMFS appears to vary significantly regionally and annually. We would like to see regional NMFS allocation of stranding response funds divided more equally among regions, if possible, from Headquarters.
 - We are aware that MMHSRP funding has been (unfairly, in our opinion) earmarked for specific organizations and states. Anything that can be done to protect and increase the small amount of funding allocated to the MMHSRP is vital. We believe all MMHSRP funding should go towards program goals, and that funds available for dispersal should be equitably divided among stranding network participants through competitive awards and fair direct allocations.
 - The NMFS Regional and local stranding staff should have an equal or higher level of experience than is expected from the network members. If this experience is not present, representatives from NMFS should be made to train with each facility under their charge. This training would help to alleviate the lack of understanding of differences within our regions and facilitate an understanding of how each organization functions. The RFMRP strongly recommends that regional coordinators spend a significant portion of their training time with each

of the organizations within their region. Additional training will assist with understanding the uniqueness of each organization within each region.

Are public and animal health and safety needs adequately addressed in the current organization and operations of the MMHSRP?

- No, we continue to be concerned about issues surrounding euthanasia. Specifically, we would like to pursue a solution that is both humane and less toxic. The toxicity of euthanasia solution presents a disposal problem and makes it unwise to leave carcasses on uninhabited beaches where they may be consumed by scavengers. Additionally, use of the commonly prescribed euthanasia solution can be dangerous to personnel when dealing with a struggling animal. It would also allow a broader range of disposal options for euthanized carcasses.

Are there any other relevant issues or data NMFS should consider in its analysis of activities conducted by, for, and under the authorization of the MMHSRP? If so, please provide it or a reference for it.

- We strongly support the continuation and advancement of the John H. Prescott Stranding Grant Program. The support provided by the program is vital to our efforts. However, it must be noted that the activities we are both allowed and required to perform under the current and proposed stranding agreements are in no way fully funded by the Prescott Program. NMFS must recognize the true costs of the Marine Mammal Stranding Network and be prepared for the possibility that without appropriate, annual, non-competitive funding, organizations may not be able to fulfill the goals of the MMHSRP. This is especially true as NMFS moves toward standardizing its marine mammal programs. Additional or more detailed requirements in response, rehabilitation and research may lead to additional costs, which must be taken, into account. The RFMRP further adds that there is a need for NMFS to recognize that even without rehabilitation that there is a fixed cost associated with the response of marine mammals.

All considered, the RFMRP is impressed with the effort and detail that has been presented with the EIS, and we are pleased to be a part of this important process.

Sincerely,

Robert A. DiGiovanni Jr.
Director/Senior Biologist

Riverhead Foundation for Marine Research and Preservation
467 E. Main Street Riverhead, New York 11901
631.369.9840 www.riverheadfoundation.org

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From [jean_public <jeanpublic@yahoo.com>](mailto:jean_public_<jeanpublic@yahoo.com>)
Sent Thursday, December 29, 2005 2:17 pm
To mmhsrpeis.comments@noaa.gov
Cc
Bcc



Subject public comment on federal register of 12/28/05 vol 70 #248 pg 76777

usdoc-noaa-id 230805B

i would like a copy of the paper eis sent to me.

commercial fish profiteers are decimating our seas. nobody watches what they do and they are inflicting serious damage on all marine mammals. law enforcement is remarkably deficient. we need more and higher fines on these lawbreaking commercial fish profiteers. they kill not only marine mammals but bird populations seriously negatively impacting the american public and their children, who will have no living creatures left in the sea after these profiteers are through. the law of the commons is in effect here - it is a well known system of robbery.

it is extremely deficient by noaa that no regulations are proposed to aid in preventing these poor marine mammals from becoming stranded in the first place. we have the u.s. navy assaulting them with sonar, cruise ships ramming them and drowning them in garbage so that their stomachs are full of plastic garbage bags, and all of this goes on courtesy of noaa which attaches little importance to this horrible killing. i want high fines on those caught. i want more catching via satellite watching. i want these commercial fish profiteers jailed and their houses and cars and bank accounts taken from them since they are negatively impacting the world.

noaa is doing a lamentable job so far in this effort. i guess the bureaucrats sitting in washington at their desks get all the tax dollars in this program.

b. sachau
15 elm st
florham park nj 07932

--- jean_public <jeanpublic@yahoo.com> wrote:

> Date: Wed, 28 Dec 2005 07:53:27 -0800 (PST)
> From: jean_public <jeanpublic@yahoo.com>
> Subject: overfishing
> To: jeanpublic@yahoo.com
>
>
> [Federal Register: December 28, 2005 (Volume 70,
> Number 248)]

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500 Sea World Drive · San Diego, California 92109-7904
Tel: 619.226.3926 · Fax: 619.226.3951
Seaworld.com

February 25, 2006

P. Michael Payne
Chief, Marine Mammal and Sea Turtle Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway Room 13635
Silver Spring, MD 20910-3226

Dear Mr. Payne,

SeaWorld in San Diego has been responding to live-stranded marine mammals in Southern California since 1964. In this endeavor, the program has responded to over 4000 stranded marine mammals composed of 17 Genera and 20 species. These animals have been mostly California sea lions, northern elephant seals, harbor seals, and common dolphins (both long and short beaked). Endangered and threatened species included in this program are Guadalupe fur seals (*Arctocephalus townsendi*), and fin whales (*Balaenoptera physalus*). Other cetacean genera included in the response program have included *Tursiops*, *Kogia*, *Lagenorhynchus*, *Eschrichtius*, *Cystophora*, *Grampus*, *Lissodelphis*, and *Phocoenoides*. This history of stranding response and demonstrated ability to work with marine mammals, as the need arises, makes SeaWorld well qualified to provide comments and suggestions regarding marine mammal health and stranding response.

Stranded animal response provides an excellent passive marine mammal monitoring system. This system in turn, provides information on the ocean environment. Live-stranded animal response provides the best picture of the dynamic condition of live marine mammals. Live-stranded response can provide animal integrated information on real-time environmental conditions such as algal blooms, coastal run-off, toxicants, and infectious diseases. While many of these conditions can be detected in dead stranded animals, the clinical impact of these conditions in dead animals can not be determined. Likewise, assessments of immune function and hormonal alterations require responding to live-stranded animals. Lastly, specimen collection and evaluations performed on live-stranded animals that unfortunately die are the gold standard for necropsy evaluations of marine mammals. These animals provide the best quality samples for researchers throughout the US. For all of these reasons, live-stranded response must continue as a corner stone of the national stranded animal response program. Critical research needs are being addressed by these programs and they continue. Additional needs include increasing support for animal biologic, serologic, post-mortem, and tracking programs. Enhancing these investigations will improve the scientific contributions possible by the live-stranding response program.

Levels of response effort should meet minimum requirements for all species. Minimum requirements should be that all live-stranded animals receive a veterinary examination within 24 hours of rescue. All live-stranded animals should have clinical blood samples collected for routine blood counts, clinical chemistries and a minimum of 2-5ml of serum banked for further serologic tests. All medical care should be under the direction of a licensed veterinarian. Any live-stranded animal that dies should receive a full necropsy evaluation with an integrated

Page two

assessment to assure that maximal information is obtained from the efforts expended on that animal. Samples should be available to researchers for bacteriology, virology, toxicology, and natural history investigations. Standards of effort and care should be established by a panel of ten personnel involved in the highest quality stranding response. All responding participants should have meeting these requirements as a condition of their letters of authorization.

The national stranding program should continue in the current organizational plan with regional coordinators overseeing the local network participants. These coordinators should strive to integrate stranding response, animal assessments, and scientific inquiry. Minimum qualifications for network participants should include: demonstration of facilities and personnel appropriate for handling, housing, and caring for marine mammals; a close relationship with a qualified veterinarian; personnel with knowledge of marine mammal health concerns, safe handling techniques, and zoonotic considerations. Through having qualified, trained, and educated personnel, the stranding response program can minimize zoonotic concerns and injuries associated with management of these animals. Facilities plans should include water management plans that assure that animals are kept in clean water and that water from rehabilitation pools is sanitized prior to discharge.

Activities conducted by the stranding response program have significantly improved our knowledge of human impacts on marine animals and marine life. Many scientific publications have been made possible through investigations in stranded animals. These publications have impacted the public's actions towards the ocean environment. In San Diego, the stranded animal program at SeaWorld has educated thousands of visitors annually about the marine environment and the animals that live there. This educational component of the stranded animal program has fostered concern and commitment to the ocean.

Given the value of the program, and a specific need to assure that personnel and facilities are adequate, alternative 1, the Proposed Action Alternative establishing minimum standards is the recommended course of action. It is critical that responses not be limited to cetaceans only. By limiting the stranding response, you would significantly impede proper training of personnel and facilities development. The marine mammal stranding response program benefits are great and growing. Continued support of this program, especially the live-stranded animal component, will assure that qualified personnel and facilities are available when needed for marine mammals with critical needs.

Sincerely,

Michael Scarpuzzi
Vice President Zoological Operations



Sierra Club

Los Padres Chapter

Santa Barbara and Ventura Counties

Arguello Group

Conejo Group

Santa Barbara Group

Sespe Group

Alan Sanders
Conservation Chair
232 N. Third St.
Port Hueneme Ca. 93041
805-488-7988
alancatdaddy@aol.com

February 22, 2006

P. Michael Payne, Chief,
Marine Mammal and Sea Turtle Division,
Office of Protected Resources,
National Marine Fisheries Service,
1315 East-West Highway, Room 13635,
Silver Spring, MD 20910-3226,
Fax: 301-427-2584

ATTN: MMHSRP EIS or e-mail at
mmhsrpeis.comments@noaa.gov with the subject line MMHSRP EIS.


Chief Payne

Please add my contact information to your list of interested parties for this and all other planned actions involving marine mammals. I would also like to request paper copies of all relevant documents.

The Los Padres Chapter includes the sections of coastlines in Ventura and Santa Barbara Counties including the Channel Islands National Park. LPC volunteers are well acquainted with stranding issues and other issues involving marine mammals. We also work closely with the Pt Mugu Wildlife Center and other volunteer organizations.

The LPC would support a variation to the preferred alternative (1) with additional features such as an appeals procedure for those denied permitting for marine mammal stranding and disentanglement networks. The application procedure also should be revised to be more user friendly for applicants. We make these comments because of our knowledge that qualified volunteers are not being supported to the detriment of the wildlife under your agencies' purview.

Thank you for the opportunity to comment on this scoping document.

Sincerely,

Alan Sanders

cc. Dan Pearson PMWC

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Written Comment Form
Marine Mammal Health and Stranding Response Program
Environmental Impact Statement (EIS)

Your input is important to us. Please use this form to tell us about the environmental issues and alternatives that you think should be analyzed in the Draft EIS. Please feel free to use additional comment sheets if more space is needed. To ensure that your comments are considered in the Draft EIS, we must receive them by February 28, 2006.

- All marine mammal response facilities should be held to APHIS standards, regardless of whether animals are on public display or not.
- Flexibility should be allowed regionally regarding release plan requirements
- regionally flexibility within reason should be allowed regarding proposed Stranding Agreements. Although I support the need for cross the board standards, this may not be realistic in some avenues due to geographical, species, population and agency availability factors. I do feel that there is a strong need for the detailed parameters for failures to comply with stranding agreements
- question regarding the termination action of the stranding agreement. If an agency has its SA terminated, is there a length of time before the agency can reapply?
- I agree with the outlined renewal guidelines for LDAs/SAs, this allows for regulation of identified expected standards

Your Name & Email Address: Shylbi Stoudt STOUBIS@TMMC.ORG
 Mailing Address: 1065 Fort Cronkite
 City, State, Zip Code: Sausalito, CA 94965

This form can be submitted to:

P. Michael Payne
 Chief, Marine Mammal and Sea Turtle Division
 Office of Protected Resources,
 NMFS 1315 East-West Highway, Room 13635
 Silver Spring, MD 20910-3226
 Email: mmhsrpeis.comments@noaa.gov
 Fax: 301-427-2584

For Office Use Only

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Written Comment Form
Marine Mammal Health and Stranding Response Program
Environmental Impact Statement (EIS)

Your input is important to us. Please use this form to tell us about the environmental issues and alternatives that you think should be analyzed in the Draft EIS. Please feel free to use additional comment sheets if more space is needed. To ensure that your comments are considered in the Draft EIS, we must receive them by February 28, 2006.

- While I understand the intent of restricting public viewing of animals undergoing rehabilitation, I can also see the benefit of allowing it under certain circumstances. Many of the agencies are non-profits, public viewing of certain species where the potential negative effects are limited. There are plenty of wild viewing areas where people can get just as close. Remote viewing should be clearly defined. Certainly no ESA listed species or cetaceans should be allowed for public viewing areas. In my opinion public viewing would have less impact on animals than conditioning behaviors.
- I feel that all the current programs related to the mmH/SRP are important and should be continued and improved upon. Therefore I feel the No Action Alternative is not feasible. Similarly I do not feel the status quo Alternative is a responsible direction to go.
- The Policies and Practices Manual should be issued

Your Name & Email Address: Shylbi Stoudt STOUBIS@TMMC.ORG
 Mailing Address: 1065 Fort Cronkite
 City, State, Zip Code: Sausalito, CA 94965

This form can be submitted to:

P. Michael Payne
 Chief, Marine Mammal and Sea Turtle Division
 Office of Protected Resources,
 NMFS 1315 East-West Highway, Room 13635
 Silver Spring, MD 20910-3226
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Written Comment Form

Marine Mammal Health and Stranding Response Program Environmental Impact Statement (EIS)

Your input is important to us. Please use this form to tell us about the environmental issues and alternatives that you think should be analyzed in the Draft EIS. Please feel free to use additional comment sheets if more space is needed. To ensure that your comments are considered in the Draft EIS, we must receive them by February 28, 2006.

→ I do not feel that any of the alternatives to be eliminated are viable options. Biomonitoring activities are important to monitor the health of the wild populations, however without data from the other programs we would have nothing to compare it to. Stranding Response only is not an option. How would you release an animal without rehab? For pinnipeds, ~~is~~ entanglement is part of the definition of a stranded marine should response and rehabilitation for cetaceans only happen, many agencies would be forced to close as the majority of their patients are pinnipeds. Some information gained from one species can be applied to another species that may be listed under the ESA. Without response and rehabilitation to non-ESA listed species we would not be able to treat those on the list as effectively. Sharing information by way of a national database allows for networks to learn & share data easily.

Your Name & Email Address: Shelbi Stoudt STOUTS@TMMC.ORG
Mailing Address: 1065 Fort Cronkhite
City, State, Zip Code: Sausalito, CA 94965

This form can be submitted to:

P. Michael Payne
Chief, Marine Mammal and Sea Turtle Division
Office of Protected Resources,
NMFS 1315 East-West Highway, Room 13635
Silver Spring, MD 20910-3226
Email: mmhsrpeis.comments@noaa.gov
Fax: 301-427-2584

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Written Comment Form

Marine Mammal Health and Stranding Response Program Environmental Impact Statement (EIS)

Your input is important to us. Please use this form to tell us about the environmental issues and alternatives that you think should be analyzed in the Draft EIS. Please feel free to use additional comment sheets if more space is needed. To ensure that your comments are considered in the Draft EIS, we must receive them by February 28, 2006.

→ From the information I have seen, I strongly support the proposed action plan presented regarding the issues and programs connected to the MMHSRP. I think all programs could and should be improved upon.

Your Name & Email Address: Shelbi Stoudt STOUTS@TMMC.ORG
Mailing Address: 1065 Fort Cronkhite
City, State, Zip Code: Sausalito, CA 94965

This form can be submitted to:

P. Michael Payne
Chief, Marine Mammal and Sea Turtle Division
Office of Protected Resources,
NMFS 1315 East-West Highway, Room 13635
Silver Spring, MD 20910-3226
Email: mmhsrpeis.comments@noaa.gov
Fax: 301-427-2584

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Subject: Fw: EIS on MMHSRP

Date: Tue, 28 Feb 2006 11:10:02 -0600

From: "Forrest Townsend D.V.M." <bayvet@bha.gccoxmail.com>

To: mmhsrpeis.comments@noaa.gov

----- Original Message -----

From: [Forrest Townsend D.V.M.](mailto:Forrest.Townsend.D.V.M.)

To: [Janet Whaley](mailto:Janet.Whaley)

Sent: Friday, February 17, 2006 11:56 AM

Subject: EIS on MMHSRP

Good Morning Janet, I reviewed your paper and only have minor comments.

page 4 6. great news for us in the FI panhandle

5 3. I am concerned of being ordered to euthanize healthy calves on the beach

5 6.a. We have sent tissues for histology to a number of pathologists I guess this is what you are calling

non-diagnostic parts, over the many past years we have requests for tissues i.e. spleens, eyes etc. these are the persons that need to apply for a permit?

6 9. good!

6 10. need the current list, had a positive brucellosis card test that the state and local health department got excited about. The NMFS needs a brief explanation in writing to explain the significance of these reportable diseases in marine mammals and the problems with our current testing methods.

7 2. Who's funding this?

7 6. Again need current list.

10 e. need to explain the chain of custody procedures to us that don't know it

10 4. this is a real problem, when a volunteer spends 2-3 hours on their time collecting samples and then are responsible for site cleanup it would only take one criticism to run alot of us off. The problem is city and county sometimes will help out but on the weekend they usually not provide assistance and added is the problem of private property access

11 b. I have been told in the past by NMFS that we had to put a satellite tag on a dolphin, and really in most cases this is the only way to really judge the success of a release on a rehab animal. I am not suggesting this on mass strandings, out of habitat dolphins and any cases that are not held in a rehab facility for an extended length of time.

13 d. oral or written approval (should be written)

14 3. does this include tissues we send to the pathologists or tissues we retain?

18 d. this is a really important item on the Gulf coast after last year, I have written my parks with recommendations to develop plans for these events

18 e. feral cats at a park caused a fatal toxoplasmosis case in a rehab dolphin

19 a. need current list

Hope this helps, Forrest

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United States Department of the Interior

NATIONAL PARK SERVICE
Glacier Bay National Park and Preserve
P.O. Box 140
Gustavus, Alaska 99826-0140
Tel: 907-697-2230 · Fax: 907-697-2654



IN REPLY REFER TO
L7619

FEB 7 2006

P. Michael Payne, Chief
Marine Mammal and Sea Turtle Division
NMFS 1315 East-West Highway
Silver Spring, MD 20910-3226

Dear Mr. Payne

Thank you for giving Glacier Bay National Park and Preserve (GBNPP) the opportunity to comment during the scoping process for the National Marine Fisheries Service's (NMFS) upcoming Environmental Impact Statement to analyze the Marine Mammal Health and Stranding Response Program (MMHSRP). As you know, GNBPP has a long history of cooperation in response to marine mammal strandings in Southeast Alaska and we look forward to continuing to be involved with the NMFS Alaska Region stranding network in the future.

We are pleased that NMFS is developing national protocols to standardize the marine mammal stranding networks across the country, however we do not support the language in the Interim Stranding Agreement Template, Section C, Participant Responsibilities: "[Participant] shall bear any and all expenses that they incur with the taking, collection, or other activities pursuant to this Agreement." Stranding network participants in Alaska face unique challenges in responding to strandings due to the lack of roads and complicated logistics associated with traveling within our remote region. In the past, the NMFS Alaska Regional Office has covered the expense of air taxis, charter flights and other travel costs incurred during our response to strandings outside GBNPP. We feel strongly that continuing this precedent is necessary given the great expense involved in responding to strandings in Alaska, thus perhaps a different version of the Stranding Agreement is needed for Alaska stranding network participants to ensure that the network remains effective.

We support the adoption of the proposed criteria for disentanglement roles and training levels following the Provincetown Center for Coastal Studies model. In addition, we encourage NMFS to develop a standardized protocol at the regional level for responding to reports of live entangled whales which clearly outlines the roles and responsibilities of Alaska stranding network members and how these mesh with NMFS personnel under an Incident Command System framework. This protocol could be adjusted on a case-by-case basis depending on the circumstances of the event.



The majority of the strandings that we are asked to respond to outside of GBNPP involve humpback whales (live entanglements and/or dead animals). We encourage NMFS to continue to prioritize responding to these events and coordinating full necropsies when dead animals are found to ensure that the causes of mortality in humpback whales in Alaska are thoroughly investigated. Finally, while the focus of the MMHSRP is on 'response' to strandings, we encourage NMFS to incorporate a proactive approach into the program in which the agency works with commercial and private stakeholders to prevent marine mammal strandings caused by fisheries interactions, vessel strikes and other anthropogenic sources.

We commend NMFS for supporting and organizing several training and educational opportunities for Alaska stranding network participants over the past year, including an advanced whale disentanglement training workshop in Glacier Bay in September 2005, a harbor seal necropsy workshop in Juneau in January 2006 and an Alaska Region marine mammal stranding network meeting in Anchorage earlier this month. These opportunities have strengthened our network and we thank you for your continued support.

We hope you will find these comments useful and we look forward to reviewing the draft EIS.

Sincerely,

Tomie Patrick Lee
Superintendent



February 28, 2006

Michael Payne, Chief
Marine Mammal and Sea Turtle Division
NMFS 1315 East-West Highway
Silver Spring, MD 20910-3226

Dear Mr. Payne,

Thank you for the opportunity to comment during the scoping process for the National Marine Fisheries Service's (NMFS) upcoming Environmental Impact Statement to analyze the Marine Mammal Health and Stranding Response Program (MMHSRP). I have been part of the Alaska Stranding Network since the 1980s. My primary involvement has been in disentangling humpbacks whales but I have conducted necropsies and identified stranded marine mammals in remote Alaskan sites for NMFS, as well.

Having been issued an LOA (Letter of Authorization and now a Stranding Agreement, SA) for a number of years, I am really just recognizing what that responsibility involves. I have concerns over the language in the Interim Stranding Agreement Template, Section C, Participant Responsibilities: "[Participant] shall bear any and all expenses that they incur with the taking, collection, or other activities pursuant to this Agreement."

Alaska has unique challenges in responding to strandings and entangled marine mammals because of the size of the state, length of the coastline, remoteness, the lack of roads (accessibility to a site) all which lead to incredibly complicated logistics associated with traveling within our state. We should not be aligned with logistics available in other regions of the United States. I realize many of the protocols we use today evolved in other regions but this established protocol, where the stranding network volunteer bears the financial responsibility for the disentanglement or necropsy, should not be applied to Alaska. The cost of doing business in Alaska is expensive when compared to other regions.

NMFS Alaska Regional Office has provided funds for travel to remote sites, including the expense of air taxis and other travel costs incurred during a response. This should continue and the Stranding Agreements should reflect this support explicitly for Alaskan participants. I can not carry this financial burden as a SA holder. I have given countless volunteer hours to the stranding network but do not have a developed program similar to what exists in other regions to support the costs of responding to a stranding or entanglement.

I believe that the MMHSRP should continue to support and develop a workable network to respond to all strandings and entanglements of live animals in Alaska. This includes providing equipment and training for participants. This is absolutely needed to document interactions with fisheries as mandated by Congress under the MMPA reauthorization. More participants are needed in all areas of Alaska. Coverage is minimal, even in areas which currently have participants. Requirements for participation could come at all levels; from basic identification at a stranding site; to placement of a telemetry buoy; to conducting a full necropsy or disentanglement.

Not only does the Stranding Network in Alaska need to be fully developed, there should be a proactive approach to this issue. As whale populations recover from commercial exploitation and the waters of

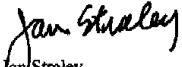
Alaska become increasingly used by vessels of all types there undoubtedly will be an increase in human interactions with marine mammals. This will occur in the form of increased vessel strikes resulting in strandings and entanglements in fishing gear, both recreational and commercial.

Currently, many of the fisheries strandings/entanglements can not be identified to gear type or origin of gear. Working proactively with the fishing communities (recreational and commercial) could solve some of these issues, not only to help identify gear involved but to offer suggestions in setting gear to reduce strandings/entanglements. Additionally, in Alaska this program should support a full time database person (or more than currently exists) at the regional level. Mary Sternfield has done an admirable job, first as an intern, then a contract employee and now as a NMFS employee BUT her position is primarily with the observer program and only minimally with the stranding network. The historical and ongoing database dealing with strandings and entanglements needs to be maintained at a high level of effort and commitment by NMFS. Fishery interactions, as determined from the disentanglement data where we can connect the interaction to a fishery, is predominately with pot gear. However, only one of the pot fisheries is listed in the List of Fisheries in having any interactions with marine mammals. Also, in the recent List of Fisheries the level III category for Alaska does not list some species I know were involved (because I disentangled whales from the gear) in having interactions with fishing gear. I fully realize that NMFS has a lot to keep track of in terms of fisheries interactions with marine mammals but this type of oversight could be alleviated by supporting a database manager at the regional level. It has improved greatly over the past 20 years but could get better, and this need will become even higher with the inevitable increasing interactions.

We do need to develop and maintain this program in Alaska, where we have marine mammal populations along our entire coastline. As our oceans become noisier, more polluted, mass die offs of marine mammals, including declines of seal and sea lions may, and continue to, occur. It will be necessary to have fully trained responders to assess such an occurrence. This is important not only to monitor changes in ocean health, climate change and global warming but because our human population relies on marine mammals for food. If limited funds are available for responding, there should be regional priorities established within Alaska to determine where these funds should be allocated. I believe a priority response should be based upon factors such as knowledge about the species (if little is known this information will increase the body of knowledge about that species) and if species is involved in a fishery interaction or human consumption. Certainly, declining populations should receive priority. However, I do think we should be careful when we are rehabilitating a marine mammal in that a decision to keep alive a marine mammal in distress should not be made for all live stranded marine mammals. If rehabilitation does occur, deciding if that animal should be released back into the wild should be made very carefully to protect other wild animals in the release location from disease.

I would like to thank NMFS for developing a website, organizing training and providing educational opportunities for Alaska participants during the past decade, particularly during the past year. These have greatly improved our ability to respond to strandings and disentanglements.

Sincerely,


Jan Straley
Assistant Professor of Biology



20 February 2006

P. Michael Payne, Chief
Marine Mammal and Sea Turtle Division
NMFS 1315 East-West Highway
Silver Spring, MD 20910-3226

Dear Mr. Payne,

We, the NOAA Northeast Region LOA and 109h agreement holders listed below, are writing in support of the proposed action to have NMFS continue to coordinate and operate the National Marine Mammal Health and Stranding Response Program (MMHSRP). Specifically, we support MMHSRP's proposal to (1) issue policies and best practices for marine mammal stranding response, rehabilitation, and release, and establish required minimum standards for the national marine mammal stranding and disentanglement networks; (2) issue MMHSRP permits allowing response activities for endangered species, entanglement activities, biomonitoring projects, and import and export of marine mammal tissue samples; and (3) continue to issue and renew stranding agreements (formerly LOAs) on a case-by-case basis as necessary. The MMHSRP provides a critical public service by facilitating response to stranded marine mammals and by promoting research into questions related to ocean health, including causes and trends in marine mammal health and causes of strandings. While each of us has our own opinion on the specific questions involved, collectively, we believe that NMFS has not only a need, but also an obligation, to develop standards for the national marine mammal stranding and disentanglement networks, in order to operate the MMHSRP effectively and efficiently while making the best use of available limited resources.

In response to the specific questions posed for public input on the MMHSRP website, we offer the following comments:

What sort of activities should be conducted on a local, regional and national level in response to stranded, entangled, sick, injured, and other marine mammals in distress?

- We support all current activities of the MMHSRP including prevention, response, rehabilitation, release and research of stranded, entangled, sick, injured, and other marine mammals in distress, and public education about strandings.

Should there be different standards or levels of MMHSRP effort for different species or groups of species (i.e. pinnipeds vs. cetaceans; threatened or endangered species vs. increasing populations, etc.)? If so, how should NMFS set these standards or priorities?

- To the extent that it is practical and legal, we do not believe that there should be different standards of stranding response for different species or regions, regardless of status. Valuable information may be gathered from both pinnipeds and cetaceans, and from endangered and non-endangered species. Rather, each region should be encouraged to

prioritize their own response based on regional conservation and research priorities and network resources. We also understand that stranding response levels or standards must be fluid documents, able to incorporate new information as we gather it in order to continue to provide the best stranding response and investigation possible.

Is the current organization of the national stranding and health assessment networks at the local, state, regional, ecosystem, and national levels adequate to meet the necessary management and research needs for conservation? If not, what changes should be implemented to make the organization more effective?

- We believe that the current disconnect among the NMFS regions and between the regions and NMFS headquarters is hindering the development of consistent, standardized policies and procedures nationally. There are two fundamental elements that seem to be inhibiting this process. The first is that regional stranding programs operate independently, without direct supervision/connection to headquarters. This prohibits consistency in both program and policy. The second element is that the regional structure of the marine mammal programs varies greatly among the regions. Aside from the Regional Coordinator, there are no parallel positions. In some regions, NMFS employees are paid to respond to strandings, while in others and in other areas within the same regions, NMFS does not contribute to stranding response. Other inconsistency also contribute to the problem:
 - Stranding response is governed by the regional office control in NER, but under the control of science centers in other regions.
 - Funding for NMFS appears to vary significantly regionally and annually. We would like to see regional NMFS allocation of stranding response funds divided more equally among regions, if possible, from Headquarters.
 - Finally, we are aware that MMHSRP funding has been (unfairly, in our opinion) earmarked for specific organizations and states. Anything that can be done to protect and increase the small amount of funding allocated to the MMHSRP is vital. We believe all MMHSRP funding should go towards program goals, and that funds available for dispersal should be equitably divided among stranding network participants through competitive awards and fair direct allocations.
 - The NMFS Regional and local stranding staff should have an equal or higher level of experience than is expected from the network members. If this experience is not present, representatives from NMFS should be made to train with each facility under their charge. This training would help to alleviate the lack of understanding of differences within our regions and facilitate an understanding of how each organization functions.

Are public and animal health and safety needs adequately addressed in the current organization and operations of the MMHSRP?

- No, we continue to be concerned about issues surrounding euthanasia. Specifically, we would like to pursue a solution that is both humane and less toxic. The toxicity of euthanasia solution presents a disposal problem and makes it unwise to leave carcasses on uninhabited beaches where they may be consumed by scavengers. Additionally, use of the commonly-prescribed euthanasia solution can be dangerous to personnel when dealing with a struggling animal. It would also allow a broader range of disposal options for euthanized carcasses.

Are there any other relevant issues or data NMFS should consider in its analysis of activities conducted by, for, and under the authorization of the MMHSRP? If so, please provide it or a reference for it.

- Yes, it must be noted that the activities we are both allowed and required to perform under the current and proposed stranding agreements are in no way fully funded by the Prescott Program. NMFS must recognize the true costs of the Marine Mammal Stranding Network and be prepared for the possibility that without appropriate, annual, non-competitive funding, organizations may not be able to fulfill the goals of the MMHSRP. This is especially true as NMFS moves toward standardizing its marine mammal programs. Additional or more detailed requirements in response, rehabilitation and research may lead to additional costs which must be taken into account.

All considered, we are impressed with the effort and detail that has been presented with the EIS, and we are pleased to be a part of this important process.

Sincerely,

The members of the Northeast Region Stranding Consortium:

Susan Barco
Virginia Aquarium Stranding Program (VA)

Robert DiGiovanni
Riverhead Foundation for Marine Research
and Conservation (NY)

Greg Jakush
Marine Animal Lifeline (ME)

Tricia Kimmel
Maryland Department of Natural Resources
(MD)

Katherine Mansfield
Virginia Institute of Marine Science (VA)



Keith Matassa
Marine Animal Rehabilitation Center,
University of New England (ME)

Heather Medic
Mystic Aquarium (CT)

Connie Merigo
Rescue and Rehabilitation Program, New
England Aquarium (MA)

Jay Pagel
Marine Mammal Stranding Center (NJ)

Charley Potter
Smithsonian Institution (MD)

Kate Sardi
Whale Center of New England (MA)

Brandi Sima
Marine Animal Rescue Program, National
Aquarium in Baltimore (MD)

Suzanne Thurman
MERR Institute (DE)

Sean Todd
Allied Whale/College of the Atlantic (ME)

Kathleen Touhey
Cape Cod Stranding Network, Inc. (MA)

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27 February 2006

P. Michael Payne, Chief
Marine Mammal and Sea Turtle Division
NMFS 1315 East-West Highway
Silver Spring, MD 20910-3226

Dear Mr. Payne,

We are writing to provide comments on the proposed actions of NMFS to continue to coordinate and operate the National Marine Mammal Health and Stranding Response Program (MMHSRP) for response to stranded marine mammals and research into questions related to mammal health, including trends in marine mammal health and the causes of strandings, of the Marine Mammal Protection Act.

We believe that NMFS has not only a need, but also an obligation, to develop standards for the national marine mammal stranding and disentanglement networks in order to operate the MMHSRP effectively and efficiently, making the best use of available limited resources.

In general, we are very impressed with the documents produced as a part of the EIS/NEPA process. With the exception of some minor comments, the Stranding Agreement (SA) template, the SA minimum criteria, Rehabilitation Facility Guidelines, Release Criteria and Disentanglement Guidelines are well thought out, well written and organized.

The updated proposed actions/alternatives presented at the scoping meetings are more problematic. While we understand and agree with the idea of breaking the MMHSRP into programmatic activities (Response, Carcass Disposal/Euthanasia, Rehabilitation, Release of rehabilitated animals, Disentanglement, Research and Biomonitoring), we are concerned that some of the alternative actions are untenable and others are not listed. We list first general comments on the amended alternatives, followed by specific comments for each activity, answers to questions posed in the scoping presentation, and, finally, comments on the draft documents listed in paragraph three above.

General comments on scoping meeting amended alternatives for all activities:

- We reject the *'No Action'* and the *'Curtail Activity Immediately'* alternatives for all activities. It is critical that these activities continue.

- We reject the *'authorize some activities, do not allow others'* alternative for all activities unless specifically stated below.
- We do not prefer the *'Status Quo'* alternative for any activity. NOAA must make changes in order to operate the MMHSRP more effectively and efficiently.
- Where applicable, we believe that the criteria/guidelines mentioned under different activities should be implemented with minimal revisions.
- We are assuming that recommendation of an alternative does not preclude acceptance of another, especially where criteria or guidelines are concerned. For example acceptance of *'Release Criteria'* does not preclude implementation of other alternatives such as the *'All animals released'* alternative.

Comments on Stranding Response Alternatives:

- Does *'Stranding Response'* only refer to DEAD animals??? If not the section should be structured based on the *'Articles of Authorization'* recommended in the Stranding Agreement template.
- For dead and live animal initial response, we prefer the *'Response to some animals required, others optional'* alternative, but suggest re-wording the alternative and a different required/optional breakdown under the alternative.
- We do not believe it should be optional to record data Level A or partial Level A (if only location, date and suspected species) about a stranded marine mammal and would therefore like to see the alternative read: *'Level A response required; higher levels of response required or optional depending on the circumstances: ...'* or something similar.
- Levels of response (level A, B & C or other definition) should be based on both species group and condition code, and, perhaps, on location and time of year.
- The definition of Level A response could change depending on the carcass condition and the status of the population.
- Requirements/guidelines for stranding response (species, population or group, age class, condition) and data collection (Level A, B & C or other definition) should be dynamic and directed by NOAA/NMFS HQ with input from the regional coordinators and SA holders. Requirements and guidelines could be issued annually and more specific protocols, based on regional disease threats, UMEs, and other events, could be issued on an as-needed basis.

Comments on Carcass Disposal/Euthanasia Alternatives:

- It is unclear whether the *'All animals buried on site'* and the *'All animals transported off-site for disposal'* refer to all carcasses or only those that have been chemically euthanized.
- If the above alternatives refer to all carcasses, then without further funding, stranding response organizations cannot be responsible for either burial or off-site transport of all marine mammal carcasses. Requiring

either of these alternatives as part of an SA would effectively shut down numerous organizations response activities.

- If the above alternatives refer only to chemically euthanized carcasses, then carcass disposal of non-euthanized carcasses (especially of large whales and carcasses that die naturally during mass strandings and UMEs) should also be addressed with funding provided for proper disposal, especially if euthanized.
- The final alternative *'Chemically euthanized animals transported off-site; others left, buried or transported as feasible'* is the most appropriate alternative without funding being provided specifically for disposal.
- We feel that euthanasia guidelines for large and for endangered animals is needed. These situations involve legal and/or environmental concerns that we have little guidance on at present. Can we, legally, euthanize an endangered whale, if the animal is clearly suffering????
- We suggest that NOAA explore a less toxic, but humane means of chemical euthanasia as soon as possible. It is possible that a combination of potassium chloride with a less toxic (or non-toxic) depressant or pain killer can provide humane euthanasia. This would address both worker safety and carcass disposal issues in less-than-ideal field situations.

Comments on Rehabilitation Alternatives:

- Does *'Rehabilitation'* refer to both live stranding first response and live stranding rehabilitation and release as described in the *'Articles of Authorization'* recommended in the Stranding Agreement template? Please clarify.
- Our comments assume adoption of the Stranding Agreement Template and Rehab and Release best practices and facility guidelines as proposed with, at most, minor changes.
- We do not agree with any of the alternatives as written. We do believe that NOAA/NMFS should require specific data collection (diagnostic tests, behavioral and physical assessment, etc.) for animals taken into rehab based on species, population or group, age class, health status, etc.
- Because emerging diseases, HABS, and other unusual events are more likely to be detected in live specimens of more common species/populations, it seems unwise to stop requiring rehabilitation of these groups such as harbor seals and California sea lions. Some limited rehab, or at least sampling of live animals should be required (where facilities exist) in each region in each population at different times of the year.
- We believe that NOAA/NMFS should develop spatial and temporal rehab/release priorities based on species, population or group, age class, health status, etc.
- Requirements/guidelines/priorities for live animal response, rehab and release (species, population or group, age class, condition) and data collection (diagnostic tests, behavioral and physical assessment, etc.) should be dynamic and directed by NOAA/NMFS HQ with input from the regional coordinators and SA holders. Requirements and guidelines could

be issued annually and more specific protocols, based on regional disease threats, UMEs, and other events, could be issued on an as-needed basis.

- Whenever possible, active, post-release monitoring of rehabilitated animals should be strongly recommended or required.

Comments on Release Alternatives:

- We agree with the *'All animals released'* alternative (with exceptions below) if the release guidelines are adopted as is or with minimal changes.
- There may be times and places where release of a successfully rehabilitated animal is not authorized to ensure protection of the environment and/or human safety.
- There may be exceptions where an animal that is initially not a candidate for release is taken into rehabilitation (For example: an abandoned or injured *Tursiops* neonate or walrus pup rehabilitated with unconditional placement into an approved collection prior to the rehab process; an animal taken into rehab in order to further investigate disease, especially zoonoses, before euthanasia).

Comments on Disentanglement Alternatives: (large whales)

- We agree with the *'Implementation of Disentanglement Guidelines, training prerequisites for Disentanglement Network participants'* alternative.
- We believe that there should also be guidelines and authorization for small cetacean and pinniped disentanglement, especially in fixed gear.

Comments on Biomonitoring Alternatives:

- We agree with the *'Issuance of New Permit with current and new (forseeable) projects'* alternative.

General comments on guidelines and criteria:

- Final decisions regarding issuance of and renewal of Stranding Agreements (SAs) should be made by NOAA/NMFS HQ and regional stranding coordinators with input from current SA holders in the region. These decisions should NOT be made solely by regional administrators (RAs) or other administrators at the regional level. At most, their input should be considered by HQ and the regional stranding coordinators.
- Final decisions about release should NOT be made by regional administrators (RAs). At most, their input should be considered by HQ and the regional stranding coordinator. In general RAs are not veterinarians, have little or no stranding experience and may not be well versed in marine mammal biology. The final decision should be made by HQ, with input from the facility that rehabilitated the animal(s), the regional stranding coordinator, as well as veterinarians and experts on the species/rehab process.

Responses to specific questions posed in the scoping input document on the MMHSRP website:

What should the minimum qualifications of an individual or organization be prior to becoming an SA holder or disentanglement participant?

Staff of any potential SA holder are required to have hands-on experience and/or comparable training from a facility or organization currently holding a NOAA/NMFS SA or similar international agreement. Written documentation from previous supervisor(s) should be required to ensure that appropriate experience was obtained.

What should the requirements be for continued participation in the networks? Should there be a certification or licensing process? What training should be required?

Facilities or organizations should be required to maintain 'good standing' status by following guidelines established in the minimum standards and SA template. We agree with the conditions described in the SA National Template.

Certifications or licenses in addition to the SA would be helpful, but costly. Training in human interaction evaluation, large whale stranding response, euthanasia, mass stranding response and UME coordination should be required in order to achieve a certification.

What sort of activities should be conducted on a local, regional and national level in response to stranded, entangled, sick, injured, and other marine mammals in distress?

We support all current activities of the MMHSRP including response, rehabilitation, release and research/biomonitoring of stranded marine mammals (pinnipeds and cetaceans in the NER).

Should there be different standards or levels of MMHSRP effort for different species or groups of species (i.e. pinnipeds vs. cetaceans; threatened or endangered species vs. increasing populations, etc.)? If so, how should NMFS set these standards or priorities?

To the extent that it is practical and legal, we believe there should never be a 'No response' alternative for dead animals (i.e. where no data are collected) for any species or region, regardless of status.

For live animals, to the extent that it is practical and legal, we believe that there should be a 'No response' alternative that allows nature to take its course without intervention or euthanasia for any species or region, regardless of status.

Is the current organization of the national stranding and health assessment networks at the local, state, regional, ecosystem, and national levels adequate to meet the necessary management and research needs for conservation? If not, what changes should be implemented to make the organization more effective?

We believe that the current disconnect among the NOAA/NMFS regions and between the regions and NOAA/NMFS headquarters is hindering the need for consistency and standardization nationally. In some areas, NOAA employees are paid to respond to strandings, while in other areas, NMFS does not contribute directly to stranding response.

Among regions, stranding response is under regional office control (in NER), but under the control of science centers in others (in SER). In order to maintain consistency, we believe that regional stranding coordinators should answer directly to and make decisions based on recommendations from HQ with input from regional staff and not *vice versa*.

Funding for stranding response (outside of Prescott) appears to vary significantly regionally and annually.

We are aware that NOAA/NMFS set-aside funding has been earmarked (unfairly in our opinion) for stranding organizations and activities in certain states. Anything that can be done to protect and increase the small amount of funding allocated to the Marine Mammal Stranding Network and MMHSRP is vital.

Are public and animal health and safety needs adequately addressed in the current organization and operations of the MMHSRP?

No, we continue to be concerned about euthanasia. We would like to pursue a humane, but less toxic alternative to the euthanasia solution that is currently approved by the AVMA.

The toxicity of euthanasia solution presents a disposal problem and makes it unwise to leave carcasses on uninhabited beaches where they may be consumed by scavengers.

Use of the solution can be dangerous to personnel when dealing with a struggling animal. If we can develop a euthanasia protocol that utilizes non-controlled, less toxic drugs, then we may be able to implement a euthanasia certification that does not require licensed veterinary personnel to administer. This would reduce stressful transports for some animals as well as reduce dangerous situations for response staff. It would also allow a broader range of disposal options for euthanized carcasses.

Are there any other relevant issues or data NMFS should consider in its analysis of activities conducted by, for, and under the authorization of the MMHSRP? If so, please provide if or a reference for it.

Yes, it must be noted that the activities we are 'allowed' to perform under the current and proposed stranding agreements are in no way fully funded by the Prescott Program. NOAA/NMFS must recognize the true costs of the 'Volunteer' Marine Mammal Stranding Network and be prepared for the possibility that without appropriate, annual, non-competitive funding support, organizations may not be able to fulfill the goals of the MMHSRP.

Specific Comments on Documents:
SA template, SA minimum criteria and Disentanglement Guidelines acceptable as written.

Standards for Rehabilitation Facilities

Chapter 1

pg 2 - Need definition of "qualified personnel" ratio of 3:1 for critical cetacean care

- Can this include trained volunteers along with 1 trained, experienced staff member?
- Must all 3 be on the premises 24/7 or just available (to come in) in case of emergency?

pg 5, section 1.3 - Minimum standards should take temporary holding into consideration (*e.g.* triage for 24-48 hours); dark/light periods should be considered

pg 6, section 1.5 - Must the 2 qualified trained staff members be on the premises for each and every dependent cetacean 24/7? Each animal must be able to be ID'd to evaluate food consumption, treatment, etc. (*e.g.* mass stranding event/rehab attempt)

pg 10, section 2.2.1 – Consider increased frequency of coliform counts (more often than weekly, at least every 2-3 days).

pg 10, section 2.2.2 - specify daily recording/measuring of ozone levels

pg 16, section 3.8 - persons immuno-suppressed possibly specify cold and flu are considered infectious diseases

pg 16 section 4.1 - recommend rotating disinfectants; specify appropriate disinfectants (*i.e.* virocidal); require disinfection of decks, steps, wet suites, etc.

pg 19, section 6.1 - not realistic to expect veterinarian to available for "immediate examination upon admittance to a facility" or to "Recommend" the person be a full time employee or contracted veterinarian of record at facilities managing over 10 cetacean cases per year.

pg 22, section 7.1 - Include list of reportable diseases with which to notify NOAA/NMFS along with brief descriptions; recommendation of -80F freezer unrealistic for many rehab facilities unless supplied

pg 24, section 8.2 - Address carcass disposal if euthanized or not

Chapter 2

pg 29, section 1.7 – Add specifications regarding structurally separate facility for quarantined animal

pg 32, section 1.12 – Recommending 24 hour monitoring when animals are present may be unrealistic, especially if monitoring requires direct monitoring by on-site personnel. As a compromise, perhaps specify on-site monitoring during critical phases or if physical condition warrants (*e.g.* seizures)

pg 37, section 3.1 - Elaborate or define "sufficient air turnover"

pg 39, section 3.7 - Replace *consider* viral screening with *obtain* (if NOAA/NMFS provides funding)

pg 40, section 3.7 - Address potential for human to animal transmission (*e.g.* person should not handle animal if the person has a viral or contagious disease); in addition, persons immuno-suppressed should not handle animal

Section 4.1 - Specify cleaning walls and pens "at least once daily;" specify recommended frequency of disinfectant rotation and define "appropriate" (*e.g.* virocidal, etc)

pg 42, section 5.5 - Must there be staff members present or are trained "certified" volunteers acceptable?

Standards for Release

Whenever possible, NOAA/NMFS should respond in timely matter (within 48 hours?) so as not to interfere with time sensitive releases.

Although notification of tracking results requirement is understandable, ownership of data must be guaranteed

Section I, pg 35 - Tracking daily for 2 months and at least one full year may be unrealistic

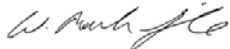
Section E, #4, pg 47 - It is stated in paragraph that veterinarian must do hands-on exam with 72 hours of release while it states <10 days in checklist. Ten days is more realistic.

Many of our comments and recommendations in the SA template, SA minimum criteria, Rehabilitation Facility Guidelines, Release Criteria and Disentanglement Guidelines require a significant amount of input and oversight from the MMHSRP staff at NOAA/NMFS HQ. It is imperative that the MMHSRP be adequately staffed in order to accomplish these goals.

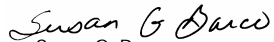
In addition, for the National Marine Mammal Stranding Network to function effectively and efficiently, many decisions about levels of response, rehab, release and disentanglement would be best made with the input of experts in stranding response. We suggest the formation of a National Stranding Advisory Group to provide input to HQ for important decisions and policies. Members should include administrators and/or veterinarians from stranding response organizations in each region as well as experts on pinniped and cetacean rehab, large whale necropsy and disentanglement.

All considered, we are impressed with the effort and detail that has been presented as a part of the EIS/NEPA analysis, and we are pleased to be a part of this important process.

Sincerely,



W. Mark Swingle
Director of Research & Conservation



Susan G. Barco
Stranding Response Program Coordinator

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Subject:

Date: Tue, 28 Feb 2006 20:44:13 -0500

From: Scott Weber <sweber@neaq.org>

To: mmhsrpeis.comments@noaa.gov

CC: Michele Sims <msims@nmlc.org>, Connie Merigo <cmrigo@neaq.org>,
Charlie Innis <cinnis@neaq.org>

Marine Mammal Health and Stranding Response Environmental Impact Statement (EIS)

Comments

The efforts of NMFS to standardize care among stranding responders is welcomed and all your work is greatly appreciated. The following are some suggestions on the policies and best practices on marine mammal stranding response, rehabilitation, and release.

Many of the draft policies seem redundant to other laws and requirements already instituted by USDA for display of marine mammals and IACUC requirements. These references could be directly cited to stress where NMFS policies may differ and or compliment already established legislation to prevent an additional layer of redundancy. For institutions that have larger goals and missions beyond the scope of stranding, having a third set of policies and best practices would add another layer of bureaucracy that would take staff time away from response and directed towards administration. Several of the statements throughout the document are undefined. Some examples are the use of "qualified trained rehabilitation staff members" and "prevent discomfort". The numbers of staff suggested in section 1.5 for both the minimum standard and recommended are entirely unmanageable in smaller institutions. For example, since we provide 24 hour care for critical ill cetaceans until they are stabilized, even with a staff of nine individuals we would be unable to do any other work to maintain our level of coverage if 3 qualified staff were on duty all the time, if the animal remained critical for a period of 10 + days. Management of staff may best be left to the institutions. Under Section 2 Water Quality, no mention is made about protecting staff or the public from discharged water. Much of the water quality section may be referred to either USDA standards for keeping marine mammals and or the EPA NPDES for discharge regulation that are already established. It is unclear in Section 2 under the recommended standards why fecal strep or yeast counts should be completed when they are not referenced in any of the text. These are good suggestions, but could benefit from supporting paragraphs prior to the recommendation. The word "regularly" should be defined in regards to testing frequency. It is unclear under Section 3 Quarantine who is responsible for overseeing quarantine of animals. This could be made clear and perhaps should be the attending veterinarian. In this section no mention is made in Section 3.7 of the attending veterinarian having responsibility for clearing animals of quarantine before placing marine mammals together. In Section 5.2 Food Storage and Thawing, the recommended culturing of fish slime layer while frozen has rarely yielded positive results in our facility, where as we culture for Erysipelothrix when the fish is freshly thawed. No mention is made of veterinary responsibility for animal nutrition. Section 5.5 Public Feeding could be deleted. There is no minimum standard if public feeding is prohibited. Section 6 Veterinary Medical Care raised several concerns. The first is that preventive medicine was not mentioned or stressed. Veterinary responsibilities for quarantine and nutrition were not well defined. Recommended standards for veterinary experience seemed to deviate from the minimum standards by specifically endorsing several independent organizations and/or training opportunities that are not government endorsed or sponsored. The government should not require membership in any single organization. A list of several marine mammal organizations could be listed in an appendix for veterinarians to refer to. Recommending a single organization to join has several implications from an animal welfare and liability issue, especially when abstracts are not consistently peer-reviewed. An example is a case report presented at IAAAM in 2000 that referred to the attempted rehabilitation of a pygmy sperm whale that had 2/3 of the fluke amputated. This case could be considered an inhumane approach to rehabilitation. Many other marine mammal organizations and zoo and wildlife veterinary groups offer excellent continuing education material as well such as the AAZV. Reference to textbooks could again be offered as a list of text materials and references in an appendix to accommodate new book editions without changing the entire

policy draft. A similar argument can be made for the third recommended item regarding specific courses. Having completed and teaching in these courses, these programs are so basic, far better experience may be received in veterinary externships and residencies at various zoos and aquariums. A list of available courses and training can be provided in an appendix. The recommended number of cetacean cases and pinniped cases for veterinary experience are inappropriate and not well-defined. For example it is very conceivable that an institution in the northeast may have 30 seal pups to nurse during a given season, whereas other institutions in the same region may try to attempt half dozen more difficult adult pinniped cases. One could easily argue from a veterinary perspective the latter may afford a more qualified veterinarian while the former great husbandry experience. Having rehabbed cetaceans, for a small institution to complete 10 cetacean cases in a year especially harbor porpoise may be unattainable the way these animals strand as individuals. Both recommended requirements referring to numbers of cases should be omitted or better defined as to types of clinical cases and perhaps even species. Perhaps quality verses quantity of cases and data collection should be encouraged.

It is suggested that NMFS may consider recommending veterinary led necropsy on all code 1 and code 2 animals both from rehab and stranded if it is the intention to gather infectious diseases data. Standardizing necropsy procedures would greatly benefit data collection for research.

Thanks for your time and consideration.

Warm regards,

E. Scott Weber, MSc Aquatic Veterinary Science, VMD

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NEAQ's Mission: "To present, promote, and protect the world of water."

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A non-profit organization emphasizing whale
research, conservation, and education.

P. Michael Payne, Chief
Marine Mammal and Sea Turtle Division
NMFS 1315 East West Highway
Silver Spring, MD 20910-3226

February 28, 2006

Dear Mr. Payne,

I am writing on behalf of The Whale Center of New England, a designee in the Northeast Regional Stranding Network, to comment as a part of the scoping process for preparation of a Draft Environmental Impact Statement on the National Marine Mammal Health and Stranding Response Program (MMHSRP). Specifically, we would like to state our support of the proposed action for the National Marine Fisheries Service (NMFS) to continue to coordinate the MMHSRP. We also offer the following comments in response to the questions posed in the public scoping document.

What sort of activities should be conducted on a local, regional, and national level in response to stranded, entangled, sick, injured, and other marine mammals in distress?

We believe that all of the current activities of the MMHSRP are valuable and should be continued. These activities include the Marine Mammal Disentanglement and Stranding Networks, the John H. Prescott Marine Mammal Rescue Assistance Grant Program, the Marine Mammal Unusual Mortality Event and Emergency Response Program, the Information Management, and the Health Bio-monitoring Research, Development, and Banking Program. Our reasons for supporting these programs include:

- Gaining further understanding of marine mammal populations to aid in their federally mandated management;
- Gathering information on the nature and rate of human interaction with marine mammals and, if necessary, means to mitigate these conflicts;
- Monitoring ecosystem health by documenting habitat threats, such as biotoxin outbreaks and accumulation of pollutants in marine mammal tissues;
- Reducing pain and suffering of landed marine mammals by evaluating their health and administering medical care or euthanasia, as appropriate;
- Providing an opportunity for public education to increase awareness and appreciation of marine mammals and their habitats, as well as to promote appropriate behavior around landed animals.

We would like to give particularly strong support to the John H. Prescott Marine Mammal Rescue Assistance Grant Program. Stranding response, rehabilitation, and release require significant financial resources and the Prescott Program relieves some of this financial burden. In our case, Prescott funding has specifically allowed us to respond to stranding events at our present level, both by providing funds for necessary equipment (from a stranding vehicle to

supplies such as kennels used to move animals) and the personnel to be available for timely responses. We encourage NMFS to continue this program in the future and, if possible, increase the funding available to cover a higher percentage of these costs. In the future, if financial backing becomes unavailable for the Prescott Program budget line item, we encourage NMFS to pursue other avenues of funding to maintain support for the stranding network.

We support the issuance of a policies and best practices manual for the national stranding network, but only if it is flexible enough to account for species differences, as well as the pressures and conflicts that are unique to each region. For instance, stranding network participants in the Northeast Region must be prepared to respond to mass stranded cetaceans, whereas other regions may rarely, if ever, have these events. During a mass stranding, the responding organization's resources may be strained, perhaps requiring a reprioritization of other response efforts during that period. The manual should be flexible enough to allow for such cases, allowing organizations to change their standard operating procedures to do the best they can during unforeseen and taxing circumstances. Standardizing protocols and procedures has value in order to ensure consistency in the stranding network to provide a minimum level of care and response for these animals, but it is important to not standardize to the point of losing species differences. Requirements for pinniped response and rehabilitation would not be appropriate for cetaceans or vice versa. The manual should take these differences into account.

Are there critical research or management needs that may be met by stranding investigations, rehabilitation, disentanglement, or healthy-related research and bio-monitoring activities? Are these needs currently being met?

As mentioned above, the activities of the MMHSRP are vital to understanding these federally protected marine mammals and also to better understanding the human or habitat-related threats to their survival. The Unusual Mortality Event and Emergency Response Program is important as a tool to monitor environmental conditions using marine mammals as sentinels of ecosystem health. Although this is a valuable program, there is room for improvement in its organization and management. One of the key efforts in responding to unusual mortality events (UMEs) is thorough collection of data and biological samples, for which we believe that there should be NMFS-sponsored training events. In the past there have been only certain stranding network participants that were targeted for this sort of training, but we feel that the program would be strengthened by dissemination of this information to all participants. We also believe that the stranding network members should be kept better abreast of UMEs both in their region and nation-wide. This knowledge is critical to assess possible extensions of these events past their known or suspected boundaries. Keeping stranding network members apprised of the UME can facilitate this process, as well as potentially foster cooperation amongst organizations. As stated above, declaration and analysis of UMEs is only scientifically important when compared against the baseline data that are collected by the stranding network and analyzed in the bio-monitoring, research, and banking programs.

Should there be different standards or levels of MMHSRP effort for different species or groups of species? If so, how should NMFS set these standards and priorities?

We believe the current high level of field stranding response should continue in the future, but that rehabilitation efforts for different populations and/or species might be prioritized based on their status. Much of the information on marine mammal distribution and behavior, as well as identification of human interaction rates, emerging diseases, or biotoxin outbreaks comes from data collected during field responses to strandings. Response may also allow stranding network members to reduce health and safety threats between people and landed marine mammals, reduce the pain and suffering of stranded animals, and also educate people about the animals that share their shores in an effort to foster environmental stewardship. However, many resources are

allocated to the rehabilitation and release of marine mammals and it is here that we think different levels of effort may be appropriate. We believe that the resources for rehabilitation should be weighted towards species that are known to be below the optimal sustainable population (OSP) or towards species for which there is insufficient data to accurately assess the population size. Using the precautionary principle, we should make every effort to rehabilitate and release species whose population status is unknown. It is these strategic species that stranding network members should be required under their Stranding Agreement to rehabilitate. Species that are at or above the OSP should receive lower priority, allowing stranding network members to choose, based on availability of resources, whether or not they rehabilitate these animals. For example, in the Northeast Region, there are a great deal of resources expended on the rehabilitation of harp seals, which upon successful release, could easily travel up to Canada and be taken during their annual seal hunt.

What should be the minimum qualifications of an individual or organization prior to becoming a Stranding Agreement holder to ensure that animals are treated appropriately, humanely, and with the minimum of adverse impacts?

In response to this question, we have specific comments regarding the Minimum Eligibility Criteria interim document.

- ◇ In sections A1 and B1, we suggest changing the wording from “geographic need” to “geographic or programmatic need,” to reflect that some areas may have sufficient geographic coverage, but not enough resources to deal with the high volume of stranding events.
- ◇ Numbers 1 and 2 from section A and B should also be included in section C.
- ◇ In sections A3 and B3, other organizations have commented that this experience should be region-specific, but we feel that would be too restrictive. Instead of making it region-specific, it would be more appropriate to make it taxa-specific (e.g. pinnipeds, odontocetes, etc.).
- ◇ In section A4, we believe that the requirement of two employees each with a minimum of one year of hands-on experience is too restrictive and unnecessary. Collecting level A and B data does not require extensive experience, and internal training for this methodology seems adequate. Further, it is not necessary to specify the number of employees that are trained, because the requirements for number of staff greatly differ by region and by organization based on the number of stranded animals reported.
- ◇ In section C1, we suggest the wording should be changed to experience *and* education, rather than experience *or* education. Education alone does not qualify someone to respond to every situation in a rehabilitation facility; experience is a must.
- ◇ In section C4, there should be no specification that there needs to be a trained volunteer base. If the facility can maintain high quality care with only paid staff, then that should be appropriate. The statement would be adequate if changed to *a trained staff or volunteer base*.

We thank you for the opportunity to comment on this process.

Sincerely,

Katherine Sardi
Assistant Director
Stranding Coordinator

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mmhsrpeis.comments@noaa.gov (MMHSRP EIS)

Re: Notice of Intent to prepare an Environmental Impact Statement on the Activities of the National Marine Mammal Health and Stranding Response Program (MMHSRP).

28 February 2006

Dear Mr. Payne:

On behalf of the 70,000 members and constituents of the Whale and Dolphin Conservation Society (WDCS), I would like to offer the following comments regarding the Notice of Intent to prepare an Environmental Impact Statement on the Activities of the National Marine Mammal Health and Stranding Response Program, Docket No. [I.D. 120805B]. Additionally, I request a paper copy of the Draft EIS sent to the signature address on this document.

The WDCS appreciates the efforts by the NMFS to pursue standards for the stranding response programs. We believe the stranding and disentanglement response programs are essential to the continued protection and conservation of marine mammals and recognize the need for standardized practices throughout these programs. We also believe there is a need for the continued collection and assessment of data and development of innovative, noninvasive response, rescue and research techniques.

Proposed Action:

- Policies and Best Practices for Marine Mammal Stranding Response, Rehabilitation and Release (Policies and Practices) Manual would be issued, establishing required minimum standards for the national marine mammal stranding and disentanglement networks.
- MMHSRP permit would be issued to permit response activities for endangered species, entanglement activities, biomonitoring projects, and import and export of marine mammal tissue samples.
- Stranding Agreements (formerly LOAs) would continue to be issued or renewed on a case-by-case basis as necessary.



The WDCS supports the Proposed Action and we do not believe the Alternatives considered meet the statutory obligations set by Title IV of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1421). In addition to the Proposed Action, we offer the following general suggestions regarding the stranding program and comments regarding the specific draft documents.

General Comments:

National Stranding Coordinator and National Data Archive:

The NMFS has requested public comments as to whether stranding activities should be conducted on a national level. If so, what are the needs, and how to best meet these needs? The WDCS strongly encourages NMFS to create a national program with a single, national coordinator and national protocols. Because we understand that species may differ between regions, we encourage the NMFS to create protocols based on species, or groups of species issues, and not on historic geographic locations. A national program can ensure that funds are disseminated equitably and where the need is greatest plus ensuring that impacts to migratory species are viewed throughout their current and future ranges, as we know these are changing from historic norms, and not just within any specific region.

According to Title IV of the MMPA, mandated goals and purposes of the MMHSRP include: to “facilitate the collection and dissemination of reference data on the health of marine mammals and health trends of marine mammal populations in the wild”; and to “coordinate effective responses to unusual mortality events...”.

We believe that health and human impact trends are more likely to be determined through a national data base, rather than archiving data regionally, such as is the case with ship-strikes of large whales along the east coast. For example, strandings of large, endangered, baleen whales occur throughout the entire east coast range with many occurring in the mid-Atlantic. These strandings are often attributed to ship strikes. However, the current division of stranding regions occurs at the Virginia / North Carolina border. An animal struck off Virginia may strand in North Carolina. Different regions may have unique protocols for response, data collection and dissemination, and funding allocations. Having a national coordinator would ensure that, regardless of where the strike, or stranding, occurred, protocols for necropsy would be uniform and resources would be available. Additionally, we request that the NMFS establish a web-based accessible database to archive suspected ship strikes, such as is currently done for entanglements of large whales.



Level of Response:

The NMFS has requested comments as to whether there should be different standards or levels of effort for different species or groups of species.

As mentioned previously, we believe that species, or groups of species, should dictate stranding protocols rather than regions. However, we also believe that NMFS must require the response to all stranded marine mammals and not prioritize based on abundance of a population.

In fact, mortalities resulting from human interactions and toxins are more likely to be detected in abundant, coastal populations than in pelagic, or endangered, populations. For example, responding to strandings of abundant California sea lions has resulted in documentation of toxins such as domoic acid as well as human interactions such as entanglements in fishing nets and gun shot wounds. These issues also impact endangered Stellar sea lions. Gathering information from an abundant population, such as California sea lions, can result in temporal and spatial impact data which can be utilized to enhance the conservation of endangered populations.

Additionally, the MMPA includes, in its definition of “stranded” as any marine mammal floating in waters under U.S. jurisdiction. Both humpback and right whales takes are known to exceed the designated Potential Biological Removal rate (PBR) for these species yet floating carcasses of these species are not always retrieved for necropsy. Carcasses of other species of large whales are even less likely to be retrieved and necropsied resulting in limited information as to the impacts on these species.

We believe that NMFS must respond to reports of all floating large whales, regardless of whether external signs of human interaction are noted on the carcass. Ship strikes are frequently determined by necropsy, and not by external signs of trauma and, according to Moore et al. 2004, post mortem examinations are necessary to ensure better our understanding of mortalities that are due to human interaction. We believe that floating large whales should be retrieved and thoroughly necropsied with a full necropsy report available within 14 days of when the carcass is initially reported.

Because there are areas where beaching a carcass for necropsy is difficult, we recommend NMFS design and fund construction of a number of mobile necropsy stations or barges to ensure these data are collected in all US waters.

Coordination with Local Officials and Public Outreach:

As part of the Stranding Agreement, we believe that NMFS must require stranding network participants to demonstrate outreach to all local officials (i.e. harbor masters, police, dog officers, etc) on, at least, an annual basis by way of a report to the NMFS. Furthermore, the Stranding Agreements should also require public outreach and



education programs particularly in areas of high pinniped strandings. This would be to ensure public safety and minimize impacts on marine mammal individuals and populations.

Coordination with Research Community:

We believe that the number of takes should be minimized and suggest that NMFS establish a sampling archive bank for unused portions of tissue, fecal matter, exhalation, fluids, etc. obtained by stranding networks. Future permit requests requiring these types of samples should be required to utilize archived materials prior to authorization of additional takes from the wild.

Standardize Terminology:

We recommend, for the sake of consistency, that NMFS remove the word “hazing” from their stranding documents and replace it with the word “harassment” as “hazing” is ambiguous and “harassment” has a statutory definition. Furthermore, we suggest the both the NMFS and the Fish and Wildlife Service (FWS) use the same reference for their agreements with stranding networks. Currently, the NMFS issues “Stranding Agreements” and FWS issues “Letters of Authorization”. As stated previously, we believe responding to marine mammals should be coordinated nationally and, for the sake of consistency, we feel the type of authorization given should be uniform.

Comments Regarding the Specific Draft Documents:

Marine Mammal Stranding Agreement:

According to the proposed document, NMFS will “periodically” review the agreement, however, no timetable is given as to when the reviews will occur not what form any review may be. Since NMFS proposes the first year as a probationary period, we recommend that a review should occur at six months.

Standards for Cetacean Rehabilitation Facilities:

We generally agree with the suggested improvements to standards, such as increasing the pool size and the time needed to drain/fill a pool. However, we strongly believe that the NMFS must be clear that the primary objective is to release or refloat an animal immediately from the stranding site and moving a stranded animal into a rehabilitation facility is a last resort.

In cases where an animal is moved into a rehabilitation facility, the stated goal should be to expedite the animals’ release back into the wild. While in rehab, the animal(s) should not be subjected to sampling or experimentation that do not directly relate to expediting its release back into the wild or research contributing to the conservation of the wild



population(s). Those samples that are obtained (e.g. blood, fecal, tissue) should be archived and, as suggested previously, made available to researchers and their use mandated prior to issuing permits for wild research.

We strongly support the notion that rehabilitation facilities should mimic natural settings, such as the suggested changes in daylight, the frequency and quantity of food given, etc. Furthermore, we believe that human interaction should be minimized and the priority should be for remote (camera) monitoring of the animals throughout their time in rehabilitation.

We believe that the NMFS must develop more stringent requirements for sampling of animals in rehabilitation. For instance the current document does not specify how often blubber-thickness should be monitored ultrasonically, nor does NMFS specify the technique to be used. The WDCS strongly believes that samples must be obtained in the least invasive means possible. For example, we believe that girth measurements should be obtained photographically rather than from a weekly capture of the animal. Furthermore, as is required for cetaceans, we believe that pinnipeds which die in rehab should be necropsied within 24 hours of death.

Best Practices Standards for Release:

As stated previously, we believe that the Standards for Release document must emphasize that the primary goal for response to any live stranded marine mammal must be the animal's immediate release back into the wild. If an animal is deemed not immediately appropriate for release and is brought into captivity for rehabilitation purposes, every effort should be made to expedite its return to the wild as soon as possible. Rehabilitation facilities must mimic natural conditions, for that species, as closely as possible. We also emphasize the importance of limited human contact and behavioral conditioning. We strongly support the notion that, if an animal does not pose a health threat to the wild population, it is a candidate for release. We believe that only cases of zoonoses, or disease to the wild population, should prevent a beach release.

The NMFS indicates that these guidelines will be reviewed periodically but no time line is given for the review process or the revisions. We suggest that the NMFS review all guideline documents at least every five years. Furthermore, we recommend that the NMFS develop a working group for the review process. The working group should consist of stranding network members, researchers, conservationists as well as State and Federal regulators.

In addition to the aforementioned review committee, we believe the NMFS should require a similar oversight committee to review and agree any Notification of Transfer of Custody requests before rehab animals are placed in permanent display facilities. According to the NMFS, cetaceans in rehab for more than two years or otherwise too habituated are non-releasable. We question why a cetacean would be in rehab for two



years. Any animal still be in rehab for this period of time should have its case history reviewed by one of the review bodies.

Furthermore, we believe that the NMFS must mandate that animals placed in permanent facilities must be placed in settings which mimic their natural environment and must not allow these animals to become performance, swim-with, or petting pool animals.

We agree that cetaceans must not be exposed to any type or variety of domestic or captive animal. We would recommend that the NMFS develop a system of probation, review and revocation of any Stranding Agreement, in addition to monetary fines in cases where rehab animals are intentionally exposed to either domestic or captive animals while in a permitted facility or where a rehab animal is held for a period longer than 2 years or experience any mistreatment in that facility.

We would recommend that the NMFS develop a system of probation, revocation of Stranding Agreement, or monetary fines in cases where rehab animals are intentionally exposed to either domestic or captive animals while in a permitted facility.

We acknowledge the need to document survivorship in released animals but are concerned with the identification requirements put forward by the NMFS. According to the document, "NMFS requires all delphinids released in the wild to have a minimum of three forms of identification including photoidentification, freeze branding and dorsal fin tag". We believe this is excessive and may put further stress on the animal reducing its chance for survival. Studies have shown dorsal fin tags can result in substantial deformities to the dorsal fin (Mazzarella et al. 2002). Furthermore, implanted tags may result in hydrodynamic drag, alterations in behavior and increased energy expenditure. We recommend, that where identification is necessary that, aside from photographing natural markings, only one other, minimally invasive procedure be allowed. Furthermore, we recommend that NMFS investigate the use of microchip-implant tags such as those currently being developed to identify fishing gear and those used for domestic pet identification. We also recommend that, in cases where multiple animals are released together, only one tag is used in order to minimize impacts on cetaceans; as is recommended for pinnipeds.

According to the document, the NMFS may require an animal to be recaptured following a release if the animal appears to be in distress or pose a risk. However, it is unclear as to the disposition of the animal once it is recaptured. Nor is the methodology of recapture and the determinants of "distress" and "risk" clear. We question as to whether the NMFS is requiring further rehabilitation, euthanasia or movement to a permanent display facility. We recommend that this be made clear prior to the publication of this document and could not support any proposal where a recaptured animal was moved to a permanent display facility.



While we are aware of concerns regarding beach releases of dependent cetacean calves, we do not agree that dependent calves can only be released in the presence of their mothers. First, in situations of mass strandings, it may not be possible to specifically determine which lactating female, on the beach, is the mother of a dependent calf within that stranded group. Secondly, alloparental care has been documented in captivity (Ridgeway et al. 1995) and inferred in wild populations (Simard and Gowans 2004). We believe that, providing lactating females are present, the calf should be considered releasable for a beach release in a mass stranding situation.

We do not support the notion that, if an animal stranded primarily because of a shark attack then it lacks ability to avoid predators and survive in the wild. Anecdotal evidence indicates that dolphin/shark interactions occur commonly (Gibson 2006) and, therefore, can be considered to be natural. Similarly, we do not agree with the assessment that animals with injuries by conspecifics should not be released. Intraspecific wounds are common in many marine mammal species (Martin and DaSilva 2006, Norman and Mead 2001, Angliss and DeMaster 1997). These behaviors are natural and should not be a criteria used to evaluate whether an animal is suitable for release.

We also question why the NMFS would consider an animal with a deformed or amputated appendage as unsuitable for release. Many wild marine mammals have been observed with amputated and/or deformed appendages and are successful. For example, the WDCS has observed humpback, right whale and fin whales missing, up to, a full fluke yet these animals have been observed feeding, and with calves (WDCS unpublished data). Both boto and *Tursiops* have been observed missing part of their flukes but appear to behave normally in the wild (Martin and DaSilva 2006, Gibson 2006). As such, we do not agree that the NMFS should consider these animals as unsuitable for release.

We also disagree that with the NMFS assertion that it would be “naïve to assume that any two cetacean species can be put together to form a functional social unit or that even two unfamiliar members of the same species will bond into a functional social unit”. Again, evidence is to the contrary. Frantiz and Herzing (2002) reported that interspecific associations or interactions were common in the Mediterranean Sea. These associations have been reported for at least 33 cetacean species (in: ibid).

Finally, we question the NMFS concerns regarding the release of geriatric animals when the NMFS, itself, reports there have been cases of manatees in captivity for more than 40 years. With little known about the life span of most marine mammals, we believe it is premature, and inappropriate, to make judgment calls based on the supposed age of the individual. The WDCS considers, as stated above, that only animals those animals posing a health threat to a wild population to be considered non-releasable.



Disentanglement Roles and Training Levels:

We support the concept of producing a national standard for the disentanglement and the development of training levels. We believe the draft put forward by the NMFS is a good baseline from which to produce a final product. However, we believe that, like the rest of the stranding network, this should also be coordinated on a national, rather than regional level. We feel that a committee made from members of the current Atlantic Large Whale Disentanglement Network (ALWDN), currently under the direction of the Provincetown Center for Coastal Studies (PCCS), should be consulted to produce a finalized national document within an agreed timeframe. This document should cover the protocols, the implementation and on-going monitoring and policing of any national scheme.

In summary:

- The NMFS should designate a National Stranding Coordinator and National Protocols.
- Program funds should be overseen by the National Coordinator to ensure that dissemination of funds is equitable, targeted and appropriate.
- The NMFS should designate a consultation committee, which will include some members of the East Coast Disentanglement Network, to address disentanglement protocols before they are finalized leading to the production of an agreed, timetabled and implementable program.
- The NMFS should create a data archive system, accessible on the internet for the documentation of Unusual Marine Mammal Mortality Events and Ship Strikes.
- The NMFS should ensure that all marine mammal species over PBR and endangered species are retrieved and thoroughly necropsied.
- The NMFS should create a designated location, or remote site, for large whale necropsies.
- The NMFS should mandate their Stranding Agreement letter holders routinely coordinate with local officials in areas of strandings.
- The NMFS should minimize invasive tagging techniques for released animals.
- The NMFS should require the response and examination of all stranded marine mammals in order to monitor diseases, human interactions, etc.



- The NMFS needs to develop a mechanism for euthanasia that will minimize environmental impacts and threats to stranding teams.
- There is a need to develop a plan leading to a program being implemented for the timely and safe disposal of all marine mammal carcasses.
- The NMFS should require coordination between permitted researchers and stranding coordinators to minimize sampling impacts on wild populations.

The comments made here relate exclusively to the rescue situation in the US and do not imply any blanket support by WDCS for captive rehabilitation. WDCS has severe doubts about the utility of captive rehabilitation as a primary tool for stranded or otherwise stricken cetaceans and will continue to monitor and review rescue methods worldwide. We appreciate the opportunity to comment and thank you for your time and consideration.

Sincerely,

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Office of Protected Resources
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APPENDIX E

BIOLOGICAL RESOURCES TABLES

Table E-1. Protected and Sensitive Habitats on the U.S. Atlantic Coast

Protected and Sensitive Habitat	Type	State/ Territory
Acadia National Park	NP	ME
Alligator River National Wildlife Refuge	NWR	NC
Anagansett National Wildlife Refuge	NWR	NY
Archie Carr National Wildlife Refuge	NWR	FL
Ashepoo Combahee Edisto Basin National Estuarine Research Reserve	NERR	SC
Assateague Island National Seashore	NS	MD-VA
Back Bay National Wildlife Refuge	NWR	VA
Biscayne National Park	NP	FL
Blackbeard Island National Wildlife Refuge	NWR	GA
Blackbeard Island Wilderness	W	GA
Blackwater National Wildlife Refuge	NWR	MD
Block Island National Wildlife Refuge	NWR	RI
Bombay Hook National Wildlife Refuge	NWR	DE
Brigantine Wilderness	W	NJ
Buck Island Reef National Wildlife Refuge	NWR	VI
Cabo Rojo National Wildlife Refuge	NWR	PR
Canaveral National Seashore	NS	FL
Cape Cod Bay Northern Right Whale Critical Habitat	CH	MA
Cape Cod National Seashore	NS	MA
Cape Hatteras National Seashore	NS	NC
Cape Lookout National Seashore	NS	NC
Cape May National Wildlife Refuge	NWR	NJ
Cape Romain National Wildlife Refuge	NWR	SC
Cape Romain Wilderness	W	SC
Cedar Island National Wildlife Refuge	NWR	NC
Chesapeake Bay (MD) National Estuarine Research Reserve	NERR	MD
Chesapeake Bay (VA) National Estuarine Research Reserve	NERR	VA
Chincoteague National Wildlife Refuge	NWR	VA
Conscience Point National Wildlife Refuge	NWR	NY
Crocodile Lake National Wildlife Refuge	NWR	FL
Cross Island National Wildlife Refuge	NWR	ME
Culebra National Wildlife Refuge	NWR	PR
Cumberland Island National Seashore	NS	GA
Cumberland Island Wilderness	W	GA
Currituck National Wildlife Refuge	NWR	NC
Delaware National Estuarine Research Reserve	NERR	DE
Desecheo National Wildlife Refuge	NWR	PR
Dry Tortugas National Park	NP	FL

Table E-1. Protected and Sensitive Habitats on the U.S. Atlantic Coast (continued)

Protected and Sensitive Habitat	Type	State/ Territory
E.A. Morton National Wildlife Refuge	NWR	NY
E.B. Forsythe National Wildlife Refuge	NWR	NJ
Eastern Shore Virginia National Wildlife Refuge	NWR	VA
Everglades National Park	NP	FL
Fire Island National Seashore	NS	NY
Fisherman Island National Wildlife Refuge	NWR	VA
Florida Keys National Marine Sanctuary	NMS	FL
Florida Keys Wilderness	W	FL
Franklin Island National Wildlife Refuge	NWR	ME
Gray's Reef National Marine Sanctuary	NMS	GA
Great Bay National Estuarine Research Reserve	NERR	ME
Great Bay National Wildlife Refuge	NWR	NH
Great South Channel Northern Right Whale Critical Habitat	CH	MA
Great White Heron National Wildlife Refuge	NWR	FL
Green Cay National Wildlife Refuge	NWR	VI
Green Sea Turtle Critical Habitat	CH	PR
Guana Tolomato Matanzas National Estuarine Research Reserve	NERR	FL
Harris Neck National Wildlife Refuge	NWR	GA
Hawksbill Sea Turtle Critical Habitat	CH	PR
Hobe Sound National Wildlife Refuge	NWR	FL
Hudson River National Estuarine Research Reserve	NERR	NY
J. H. Chafee National Wildlife Refuge	NWR	RI
Jacques Cousteau National Estuarine Research Reserve	NERR	NJ
Johnson's Seagrass Critical Habitat	CH	FL
Key West National Wildlife Refuge	NWR	FL
Leatherback Sea Turtle Critical Habitat	CH	VI
Mackay Island National Wildlife Refuge	NWR	VA
Mackay Island National Wildlife Refuge	NWR	NC
Marjory Stoneman Douglas Wilderness	W	FL
Martin National Wildlife Refuge	NWR	MD
Mashpee National Wildlife Refuge	NWR	MA
Merritt Island National Wildlife Refuge	NWR	FL
Monitor National Marine Sanctuary	NMS	NC
Monomoy National Wildlife Refuge	NWR	MA
Monomoy Wilderness	W	MA
Moosehorn National Wildlife Refuge	NWR	ME
Nantucket National Wildlife Refuge	NWR	MA
Narragansett Bay National Estuarine Research Reserve	NERR	RI

Table E-1. Protected and Sensitive Habitats on the U.S. Atlantic Coast (continued)

Protected and Sensitive Habitat	Type	State/ Territory
Navassa Island National Wildlife Refuge	NWR	PR
Ninigret National Wildlife Refuge	NWR	RI
Nomans Land Island National Wildlife Refuge	NWR	MA
North Carolina National Estuarine Research Reserve	NERR	NC
North Inlet-Winyah Bay National Estuarine Research Reserve	NERR	SC
Oyster Bay National Wildlife Refuge	NWR	NY
Parker River National Wildlife Refuge	NWR	MA
Pea Island National Wildlife Refuge	NWR	NC
Pelican Island National Wildlife Refuge	NWR	FL
Pelican Island Wilderness	W	FL
Petit Manan National Wildlife Refuge	NWR	ME
Pinckney Island National Wildlife Refuge	NWR	SC
Piping Plover Critical Habitat	CH	NC-FL
Plum Tree Island National Wildlife Refuge	NWR	VA
Pond Island National Wildlife Refuge	NWR	ME
Prime Hook National Wildlife Refuge	NWR	DE
Rachel Carson National Wildlife Refuge	NWR	ME
S.B. McKinney National Wildlife Refuge	NWR	CT
Sachuest National Wildlife Refuge	NWR	RI
Salt River Bay National Historic Park and Ecological Preserve	Preserve	VI
Sandy Point National Wildlife Refuge	NWR	VI
Sapelo Island National Estuarine Research Reserve	NERR	GA
Savannah National Wildlife Refuge	NWR	SC
Seal Island National Wildlife Refuge	NWR	ME
Seatuck National Wildlife Refuge	NWR	NY
Southeastern Right Whale Critical Habitat	CH	GA-FL
Stellwagen Bank National Marine Sanctuary	NMS	MA
Swanquarter National Wildlife Refuge	NWR	NC
Swanquarter Wilderness	W	NC
Thatches National Wildlife Refuge	NWR	MA
Trustom Pond National Wildlife Refuge	NWR	RI
Tybee National Wildlife Refuge	NWR	SC
Vieques National Wildlife Refuge	NWR	PR
Virgin Islands National Park	NP	VI
Waccamaw National Wildlife Refuge	NWR	SC
Wallops Island National Wildlife Refuge	NWR	VA
Waquoit Bay National Estuarine Research Reserve	NERR	MA
Wassaw National Wildlife Refuge	NWR	GA

Table E-1. Protected and Sensitive Habitats on the U.S. Atlantic Coast (continued)

Protected and Sensitive Habitat	Type	State/ Territory
Wells National Estuarine Research Reserve	NERR	ME
Wertheim National Wildlife Refuge	NWR	NY
West Indian Manatee Critical Habitat	CH	FL
Wolf Island National Wildlife Refuge	NWR	GA
Wolf Island Wilderness	W	GA
Yellow-shouldered Blackbird Critical Habitat	CH	PR

Source: DOC/NOAA and DOI 2006, Wilderness.net 2006

Notes: CH – Critical Habitat

NERR – National Estuarine Research Reserve

NP – National Park

NS – National Seashore

NWR – National Wildlife Refuge

W – Wilderness

Table E-2. Protected and Sensitive Habitats in the Gulf of Mexico

Protected and Sensitive Habitat	Type	State
Anahuac National Wildlife Refuge	NWR	TX
Apalachicola National Estuarine Research Reserve	NERR	FL
Aransas National Wildlife Refuge	NWR	TX
Bayou Sauvage National Wildlife Refuge	NWR	LA
Big Boggy National Wildlife Refuge	NWR	TX
Big Branch Marsh National Wildlife Refuge	NWR	LA
Bon Secour National Wildlife Refuge	NWR	AL
Brazoria National Wildlife Refuge	NWR	TX
Breton National Wildlife Refuge	NWR	LA
Cedar Keys National Wildlife Refuge	NWR	FL
Cedar Keys Wilderness	W	FL
Chassahowitzka National Wildlife Refuge	NWR	FL
Chassahowitzka Wilderness	W	FL
Crystal River National Wildlife Refuge	NWR	FL
Delta National Wildlife Refuge	NWR	LA
Egmont Key National Wildlife Refuge	NWR	FL
Everglades National Park	NP	FL
Flower Garden Banks National Marine Sanctuary	NMS	TX
Grand Bay National Estuarine Research Reserve	NERR	AL-MS
Grand Bay National Wildlife Refuge	NWR	AL-MS
Gulf Islands National Seashore	NS	FL-MS
Gulf Sturgeon Critical Habitat	CH	FL-LA
Island Bay National Wildlife Refuge	NWR	FL
Island Bay Wilderness	W	FL
J.N. "Ding" Darling National Wildlife Refuge	NWR	FL
J.N. "Ding" Darling Wilderness	W	FL
Laguna Atascosa National Wildlife Refuge	NWR	TX
Lower Suwanee National Wildlife Refuge	NWR	TX
Mandalay National Wildlife Refuge	NWR	LA
Marjory Stoneman Douglas Wilderness	W	FL
Matlacha Pass National Wildlife Refuge	NWR	FL
McFaddin National Wildlife Refuge	NWR	TX
Mission-Aransas National Estuarine Research Reserve	NERR	TX
Moody National Wildlife Refuge	NWR	TX
Padre Island National Seashore	NS	TX
Passage Key National Wildlife Refuge	NWR	FL
Passage Key Wilderness	W	FL
Pine Island National Wildlife Refuge	NWR	FL

Table E-2. Protected and Sensitive Habitats in the Gulf of Mexico (continued)

Protected and Sensitive Habitat	Type	State
Pinellas National Wildlife Refuge	NWR	FL
Piping Plover Critical Habitat	CH	FL-TX
Rookery Bay National Estuarine Research Reserve	NERR	FL
Sabine National Wildlife Refuge	NWR	LA
San Bernard National Wildlife Refuge	NWR	TX
Shell Keys National Wildlife Refuge	NWR	LA
St. Marks National Wildlife Refuge	NWR	FL
St. Marks Wilderness	W	FL
St. Vincent National Wildlife Refuge	NWR	FL
Ten Thousand Islands National Wildlife Refuge	NWR	FL
Texas Point National Wildlife Refuge	NWR	TX
Weeks Bay National Estuarine Research Reserve	NERR	AL
West Indian Manatee Critical Habitat	CH	FL
Whooping Crane Critical Habitat	CH	TX

Source: DOC/NOAA and DOI 2006, Wilderness.net 2006

Notes: CH – Critical Habitat

NERR – National Estuarine Research Reserve

NMS – National Marine Sanctuary

NP – National Park

NS – National Seashore

NWR – National Wildlife Refuge

W – Wilderness

Table E-3. Protected and Sensitive Habitats on the U.S. Pacific Coast

Protected and Sensitive Habitat	Type	State
Admiralty Island National Monument	NM	AK
Alaska Maritime National Wildlife Refuge	NWR	AK
Alaska Peninsula National Wildlife Refuge	NWR	AK
Aleutian Islands Wilderness	W	AK
Aniakchak National Monument and Preserve	NM	AK
Bandon Marsh National Wildlife Refuge	NWR	OR
Becharof National Wildlife Refuge	NWR	AK
Becharof Wilderness	W	AK
Bogoslof Wilderness	W	AK
California Coastal Chinook Salmon ESU Critical Habitat	CH	CA
California Coastal National Monument	NM	CA
Cape Krusenstern National Monument	NM	AK
Cape Meares National Wildlife Refuge	NWR	OR
Castle Rock National Wildlife Refuge	NWR	CA
Central California Coast Coho Salmon ESU Critical Habitat	CH	CA
Central California Steelhead ESU Critical Habitat	CH	CA
Central Valley Spring-run Chinook Salmon ESU Critical Habitat	CH	CA
Channel Islands National Marine Sanctuary	NMS	CA
Chuck River Wilderness	W	AK
Chugach National Forest	NF	AK
Coastal California Gnatcatcher Critical Habitat	CH	CA
Columbia River Chum Salmon ESU Critical Habitat	CH	OR/WA
Copalis National Wildlife Refuge	NWR	WA
Cordell Bank National Marine Sanctuary	NMS	CA
Coronation Island Wilderness	W	AK
D.E. San Francisco Bay National Wildlife Refuge	NWR	CA
Dungeness National Wildlife Refuge	NWR	WA
Elkhorn Slough National Estuarine Research Reserve	NERR	CA
Ellicott Slough National Wildlife Refuge	NWR	CA
Farallon Wilderness	W	CA
Flattery Rocks National Wildlife Refuge	NWR	WA
Forrester Island Wilderness	W	AK
Glacier Bay National Park	NP	AK
Glacier Bay Wilderness	W	AK

Table E-3. Protected and Sensitive Habitats on the U.S. Pacific Coast (continued)

Protected and Sensitive Habitat	Type	State
Grays Harbor National Wildlife Refuge	NWR	WA
Guadalupe-Nipomo Dunes National Wildlife Refuge	NWR	CA
Gulf of the Farallones National Marine Sanctuary	NMS	CA
Hazy Island Wilderness	W	AK
Hood Canal Summer-run Chum Salmon ESU Critical Habitat	CH	WA
Humboldt Bay National Wildlife Refuge	NWR	CA
Izembek National Wildlife Refuge	NWR	AK
Izembek Wilderness	W	AK
Kachemak Bay National Estuarine Research Reserve	NERR	AK
Katmai National Park and Reserve	NP	AK
Katmai Wilderness	W	AK
Kenai Fjords National Park	NP	AK
Kenai National Wildlife Refuge	NWR	AK
Kenai Wilderness	W	AK
Kootzoonoo Wilderness	W	AK
Kuiu Wilderness	W	AK
Lewis and Clark National Wildlife Refuge	NWR	OR
Los Padres National Forest	NF	CA
Lower Columbia River Chinook Salmon ESU Critical Habitat	CH	OR/WA
Marbled Murrelet Critical Habitat	CH	AK
Marin Islands National Wildlife Refuge	NWR	CA
Maurille Island Wilderness	W	AK
Misty Fjords National Monument	NM	AK
Mollie Beattie Wilderness	W	AK
Monterey National Marine Sanctuary	NMS	CA
Nestucca Bay National Wildlife Refuge	NWR	OR
Nisqually National Wildlife Refuge	NWR	WA
Northern California Steelhead ESU Critical Habitat	CH	CA
North Pacific Right Whale Critical Habitat	CH	AK
Nunivak Wilderness	W	AK
Olympic Coast National Marine Sanctuary	NMS	WA
Olympic National Forest	NF	WA
Olympic Wilderness	W	WA
Oregon Islands National Wildlife Refuge	NWR	OR

Table E-3. Protected and Sensitive Habitats on the U.S. Pacific Coast (continued)

Protected and Sensitive Habitat	Type	State
Oregon Islands Wilderness	W	OR
Padilla Bay National Estuarine Research Reserve	NERR	WA
Petersburg Creek-Duncan Salt Chuck Wilderness	W	AK
Point Reyes National Seashore	NS	CA
Protection Island National Wildlife Refuge	NWR	WA
Puget Sound Chinook Salmon ESU Critical Habitat	CH	WA
Quillayute Needles National Wildlife Refuge	NWR	WA
Russell Fjord Wilderness	W	AK
Sacramento River Winter-run Chinook Salmon ESU Critical Habitat	CH	CA
Salinas River National Wildlife Refuge	NWR	CA
San Diego National Wildlife Refuge	NWR	CA
San Francisco Bay National Estuarine Research Reserve	NERR	CA
San Juan Islands National Wildlife Refuge	NWR	WA
San Pablo Bay National Wildlife Refuge	NWR	CA
Seal Beach National Wildlife Refuge	NWR	CA
Semidi Wilderness	W	AK
Siletz Bay National Wildlife Refuge	NWR	OR
Simeonof Islands Wilderness	W	AK
Sinuslaw National Forest	NF	OR
South Baranof Wilderness	W	AK
South Etolin Wilderness	W	AK
South Prince of Wales Wilderness	W	AK
South Slough National Estuarine Research Reserve	NERR	OR
South-Central California Coast Steelhead ESU Critical Habitat	CH	CA
Southern California Steelhead ESU Critical Habitat	CH	CA
Southern Oregon/Northern California Coasts Coho Salmon ESU Critical Habitat	CH	CA/OR
Southern Resident Killer Whale DPS Critical Habitat	CH	WA
Spectacled Eider Critical Habitat	CH	AK
Steller Sea Lion Conservation Area	Conservation Area	AK
Steller Sea Lion Critical Habitat	CH	CA/OR/AK
Steller's Eider Critical Habitat	CH	AK

Table E-3. Protected and Sensitive Habitats on the U.S. Pacific Coast (continued)

Protected and Sensitive Habitat	Type	State
Stikine-LeConte Wilderness	W	AK
Sweetwater Marsh National Wildlife Refuge	NWR	CA
Three Arch Rocks National Wildlife Refuge	NWR	OR
Tidewater Goby Critical Habitat	CH	CA
Tijuana River National Estuarine Research Reserve	NERR	CA
Tijuana Slough National Wildlife Refuge	NWR	CA
Tebenkof Bay Wilderness	W	AK
Togiak National Wildlife Refuge	NWR	AK
Tongass National Forest	NF	AK
Tracy Arm-Fords Terror Wilderness	W	AK
Unimak Wilderness	W	AK
Warren Island Wilderness	W	AK
Washington Islands Wilderness	W	WA
West Chichagof-Yakobi Wilderness	W	AK
Western Snowy Plover Critical Habitat	CH	CA-WA
Willapa National Wildlife Refuge	NWR	WA
Wrangell-St. Elias Wilderness	W	AK

Source: DOC/NOAA and DOI 2006, 50 CFR 226.204, 226.205, 226.210, and 226.212, Wilderness.net 2006

Notes: CH – Critical Habitat

NERR – National Estuarine Research Reserve

NF – National Forest

NM – National Monument

NMS – National Marine Sanctuary

NP – National Park

NS – National Seashore

W – Wilderness

Table E-4. Protected and Sensitive Habitats in the Pacific Islands

Protected and Sensitive Habitat	Type	State/Territory
Bird Island Marine Sanctuary	Marine Sanctuary	CNMI
Hawaiian Monk Seal Critical Habitat	CH	HI
Fagatele Bay National Marine Sanctuary	NMS	AS
Guam National Wildlife Refuge	NWR	GU
Hawaiian Islands National Wildlife Refuge	NWR	HI
Forbidden Island Marine Sanctuary	Marine Sanctuary	CNMI
Kilauea Point National Wildlife Refuge	NWR	HI
Midway Atoll National Wildlife Refuge	NWR	HI
National Park of American Samoa	NP	AS
Northwestern Hawaiian Islands Marine National Monument	NM	HI
Hawaii Volcanoes Wilderness	W	HI
Hawaiian Islands Humpback Whale National Marine Sanctuary	NMS	HI

Source: DOC/NOAA and DOI 2006, Wilderness.net 2006

Notes: AS– American Samoa

CH – Critical Habitat

CNMI– Commonwealth of the Northern Mariana Islands

GU – Guam

NM – National Monument

NMS – National Marine Sanctuary

NP – National Park

NWR – National Wildlife Refuge

W – Wilderness

Table E-5. Protected Invertebrates and Plants Inhabiting the ROI

Common Name	Scientific Name	Federal Status under ESA	ROI Occurrence
White abalone	<i>Haliotis sorenseni</i>	E	CA
Elkhorn coral	<i>Acropora palmate</i>	T	FL, PR, VI
Staghorn coral	<i>Acropora cervicornis</i>	T	FL, PR, VI
Johnson's seagrass	<i>Halophila johnsonii</i>	T/CH	FL

Source: NMFS 2006, USFWS 2006

Notes: CH – Critical Habitat

E – Federally listed as endangered

PR – Puerto Rico

T – Federally listed as threatened

VI – U.S. Virgin Islands

Table E-6. Sea Turtles Inhabiting the ROI

Common Name	Scientific Name	Federal Status under ESA	ROI Occurrence
Green	<i>Chelonia mydas</i>	T*/CH	Entire
Hawksbill	<i>Eretmochelys imbricate</i>	E/CH	South Atlantic Coast, Gulf of Mexico, Pacific Area Islands
Kemp's ridley	<i>Lepidochelys kempii</i>	E	Atlantic Coast
Leatherback	<i>Dermochelys coriacea schlegelii</i>	E/CH	Entire
Loggerhead	<i>Caretta caretta gigas</i>	T	Entire
Olive ridley	<i>Lepidochelys olivacea</i>	T	South Atlantic Coast, Pacific Coast (rare in OR, WA, AK), Pacific Islands

Source: USFWS 2006

Notes: CH – Critical habitat in a ROI

E – Federally listed as endangered

T – Federally listed as threatened

* – Florida nesting population listed as endangered

Table E-7. Protected Fisheries Resources on the U.S. Atlantic Coast

Common Name	Scientific Name	Federal Status under ESA	Occurrence
Atlantic salmon (Gulf of Maine DPS)	<i>Salmo salar</i>	E	ME
Smalltooth sawfish	<i>Pristis pectinata</i>	E	NC-FL
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	E	Entire Atlantic Coast

Source: USFWS 2006

Notes: E – Federally listed as endangered

Table E-8. Protected Fisheries Resources in the Gulf of Mexico

Common Name	Scientific Name	Federal Status under ESA	Occurrence
Gulf sturgeon	<i>Acipenser oxyrinchus desotoi</i>	T/CH	FL-LA
Smalltooth sawfish	<i>Pristis pectinata</i>	E	Entire Gulf of Mexico

Source: USFWS 2006

Notes: CH – Critical Habitat

E – Federally listed as endangered

T – Federally listed as threatened

Table E-9. Protected Fisheries Resources on the U.S. Pacific Coast

Common Name	Scientific Name	Federal Status under ESA
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	E/T/CH
Chinook salmon ESUs:	California Coastal ESU	T/CH
	Central Valley spring-run ESU	T/CH
	Lower Columbia River ESU	T/CH
	Puget Sound ESU	T/CH
	Sacramento River winter-run ESU	E/CH
Chum salmon	<i>Oncorhynchus keta</i>	E/T/CH
Chum salmon ESUs:	Hood Canal summer-run ESU	T/CH
	Columbia River ESU	T/CH
Coho salmon	<i>Oncorhynchus kisutch</i>	E/T/CH
Coho salmon ESUs:	Southern Oregon/Northern California Coasts ESU	T/CH
	Central California Coast ESU	E/CH
Green sturgeon (Southern DPS)	<i>Acipenser medirostris</i>	T
Sockeye salmon	<i>Oncorhynchus nerka</i>	E/T
Steelhead	<i>Oncorhynchus mykiss</i>	E/T/CN/CH
Steelhead ESUs:	Northern California ESU	T/CH
	Central California ESU	T/CH
	South-Central California Coast ESU	T/CH
	Southern California ESU	E/CH
Tidewater goby	<i>Eucyclogobius newberryi</i>	E/CH
White abalone	<i>Haliotis sorenseni</i>	E

Source: 50 CFR 226.204, 226.205, 226.210, and 226.212

Notes: CH – Critical habitat
 CN – Candidate species
 E – Federally listed as endangered
 T – Federally listed as threatened

Table E-10. Protected Birds of the U.S. Atlantic Coast

Common Name	Scientific Name	Federal Status under ESA	Distribution	Migration Pattern
Bald eagle	<i>Haliaeetus leucocephalus</i>	T/AD	Locally throughout most of North America, including coasts	Occurs year-round in many coastal areas. Breeds in spring, and some individuals migrate south during winter, while many remain in the northeast year-round.
Piping plover	<i>Charadrius melodus</i>	T/CH	Atlantic coast, Great Lakes, Northern Great Plains, Gulf coast, and Caribbean. Critical habitat for wintering populations from North Carolina south to Florida.	Breeds on sandy beaches in isolated colonies on the northeast coast and Great Lakes region from March to September, where they spend the summer. Winters along southeastern coast.
Roseate tern	<i>Sterna dougallii dougallii</i>	E	Atlantic coast and Caribbean	Breeds on islands and protected sand spits. Occurs on northeast coast during spring and summer and migrates south as far as the Caribbean during fall and winter.
Whooping crane	<i>Grus Americana</i>	NEP	Virginia to Florida	Winters in the Gulf coast of Texas October to April, when they migrate north to Canada.
Wood stork	<i>Mycteria americana</i>	E	South Carolina to Florida	Breeds in Alabama, Florida, Georgia, and South Carolina.
Yellow-shouldered blackbird	<i>Agelaius xanthomus</i>	E/CH	Critical habitat areas in southwest Puerto Rico and Isla Mona	Resident species in Puerto Rico and Isla Mona. Nesting season April to October.

Source: USFWS 2006

Notes: AD – Proposed Delisting

CH – Critical Habitat in the ROI

E – Federally listed as endangered

NEP – Non-essential population

T – Federally listed as threatened

Table E-11. Protected Birds of the Gulf of Mexico

Common Name	Scientific Name	Federal Status under ESA	Distribution	Migration Pattern
Bald eagle	<i>Haliaeetus leucocephalus</i>	T/AD	Locally throughout most of North America, including coasts	Winters along central and southeast coast and Texas coast with year-round populations in Florida and Gulf coasts east of Texas.
Brown pelican	<i>Pelecanus occidentalis</i>	E	Texas to Mississippi	Year-round resident in the southeast.
Piping plover	<i>Charadrius melodus</i>	T/CH	Atlantic coast, Great Lakes, Northern Great Plains, Gulf of Mexico. Critical habitat for wintering populations entire Gulf Coast.	Winters on the southeast and Gulf coasts and the Caribbean October to March. Breeding: Atlantic coast, Great Lakes, and Northern Great Plains.
Whooping crane	<i>Grus Americana</i>	E/CH	Critical habitat is on Texas coast	Winters in the Gulf coast of Texas October to April, when they migrate north to Canada.
Wood stork	<i>Mycteria americana</i>	E	Alabama (Mississippi Valley)	Breeds in Alabama, Florida, Georgia, and South Carolina.

Source: USFWS 2006

Notes: AD – Proposed Delisting

CH – Critical Habitat in the ROI

E – Federally listed as endangered

T – Federally listed as threatened

Table E-12. Protected Birds of the U.S. Pacific Coast

Common Name	Scientific Name	Federal Status under ESA	Distribution	Migration Pattern
Bald eagle	<i>Haliaeetus leucocephalus</i>	T/AD	Locally throughout most of North America, including coasts	Year-round resident and breeds in most Pacific continental coastal areas. Some migration occurs from northern California and Oregon to southern California coast, where small population spends the summer.
Brown pelican	<i>Pelecanus occidentalis</i>	E	Pacific coast	Breeds in southern California March to April and is found from southern Mexico to central California and occasionally from northern California to Washington.
California Condor	<i>Gymnogyps californianus</i>	E	Condors reintroduced into mountains of Los Angeles, vicinity of Big Sur, and Arizona	On coast of California.
California clapper rail	<i>Rallus longirostris obsoletus</i>	E	San Francisco Bay area, California	Year-round resident on central and southern California coast.
California least tern	<i>Sterna antillarum browni</i>	E	Central and southern coast of California	Breeds and spends spring and summer on southern and central California coasts. Migrates to Central America and south in fall for the winter.
Coastal California Gnatcatcher	<i>Poliioptila californica californica</i>	T/CH	Southern California coast. Critical habitat in Southern California.	Non-migratory inhabiting coastal sage scrub from Los Angeles county south to Baja California, Mexico.
Light-footed clapper rail	<i>Rallus longirostris levipes</i>	E	Southern California coast	Year-round resident on central and southern California coast.

Table E-12. Protected Birds of the U.S. Pacific Coast (continued)

Common Name	Scientific Name	Federal Status under ESA	Distribution	Migration Pattern
Marbled murrelet	<i>Brachyrampus marmoratus marmoratus</i>	T/CH	Alaska coast south to California coast. Critical habitat in Alaska.	Breeds from northern Washington to San Francisco coast. Winters along entire Pacific coast. Summers from Kenai Peninsula, Barren Islands, and Aleutian Islands south along the coast of North America.
San Clemente loggerhead shrike	<i>Lanius ludovicianus mearnsi</i>	E	San Clemente Island, California	Year-round resident on San Clemente Island.
San Clemente sage sparrow	<i>Amphispiza belli clementeae</i>	T	San Clemente Island, California	Year-round resident on San Clemente Island.
Short-tailed albatross	<i>Phoebastria albatrus</i>	E	Open Pacific Ocean from Alaska to California	Found most commonly in summer and fall. Breeds in Japan, Midway, and Hawaii and migrates north for summer and south for winter.
Spectacled eider	<i>Somateria fisheri</i>	T/CH	Coast of Alaska	Breeds on the coast of Alaska on the Bering Sea and the Arctic Ocean. Migrates south for the winter but winter range is unknown.
Steller's eider	<i>Polysticta stelleri</i>	T/CH	Alaska Coast, accidental south to California. Critical habitat in Alaska.	Accidental in summer in Pacific waters. Breeds on eastern Arctic coast and migrates to Aleutian Islands and western coast of Alaska.
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	T/CH	Washington to California. Critical habitat in California, Oregon, and Washington.	Summers along Pacific coast and migrates south to Mexico and South America during winter.

Source: USFWS 2006

Notes: AD – Proposed Delisting

CH – Critical Habitat in the ROI

E – Federally listed as endangered

T – Federally listed as threatened

Table E-13. Protected Birds of the Pacific Islands

Common Name	Scientific Name	Federal Status under ESA	Distribution	Migration Pattern
Guam bridled white-eye	<i>Zosterops conspicillatus conspicillatus</i>	E	Guam	Year-round resident, habitat includes beach strand.
Hawaiian Coot	<i>Fulica americana alai</i>	E	Hawaii coasts	Year-round resident Hawaiian Islands.
Hawaiian dark-rumped petrel	<i>Pterodroma phaeopygia sandwichensis</i>	E	Pacific Ocean around Hawaii	Found on the Hawaiian Islands from May to mid-November during breeding; central Pacific from mid-November through April.
Hawaiian duck	<i>Anas wyvilliana</i>	E	Pearl Harbor, Hawaii	Year-round resident on selected Hawaiian Islands.
Hawaiian stilt	<i>Himantopus mexicanus knudseni</i>	E	Hawaii coasts	Year-round resident Hawaiian Islands.
Laysan duck	<i>Anas laysanensis</i>	E	Laysan, Hawaii	Year-round resident Laysan Atoll, Hawaii.
Laysan finch	<i>Telespyza cantans</i>	E	Laysan, Pearl, and Hermes atolls, Hawaii	Year-round resident Laysan, Pearl, and Hermes atolls, Hawaii.
Mariana crow	<i>Corvus kubaryii</i>	E	Guam	Year-round resident, habitat includes beach strand.
Newell's Townsend's shearwater	<i>Puffinus auricularis newelli</i>	E	Pacific Ocean around Hawaii	Found on the island of Kauai April through September during breeding. On the open ocean from October to April.
Nihoa finch	<i>Telespyza ultima</i>	E	Nihoa Island, Hawaii	Year-round resident Nihoa Island, Hawaii.
Short-tailed albatross	<i>Phoebastria albatrus</i>	E	Open Pacific Ocean from Alaska to California	Most common in summer and fall. Breeds in Midway and Hawaii.

Source: USFWS 2006

Notes: E – Federally listed as endangered

Table E-14. Marine Mammals Common in the NMFS Northeast Region

Common Name	Scientific Name	Federal Status under ESA	Distribution
Phocids (true or earless seals)			
Bearded seal	<i>Erignathus barbatus</i>	*	Unusual
Gray seal	<i>Halichoens griseus</i>	*	Year-round resident
Harbor seal	<i>Phoca vitulina</i>	*	Year-round resident
Harp seal	<i>Phoca groenlandica</i>	*	More common in winter
Hooded seal	<i>Cystophora cristata</i>	*	More common in winter
Ringed seal	<i>Phoca hispida</i>	*	More common in winter
Mysticetes (baleen whales)			
Blue whale	<i>Balaenoptera musculus</i>	E	Population highest in spring/summer due to northward migration from subtropics
Bryde's whale	<i>Balaenoptera edeni</i>	*	Located in southern part of ROI
Fin whale	<i>Balaenoptera physalus</i>	E	Year-round resident, peak from April to October, visits coastal waters in many areas
Minke whale	<i>Balaenoptera acutorostrata</i>	*	Abundant from April to November; frequent coastal regions, bays, offshore banks
Humpback whale	<i>Megaptera novaeangliae</i>	E	Migratory population, with peak abundance mainly during summer but also in autumn; coastal distribution in the summer. Breeds in the Caribbean within 8–16 km of shore
North Atlantic right whale	<i>Eubalaena glacialis</i>	E/CH	Population highest in spring/summer
Sei whale	<i>Balaenoptera borealis</i>	E	Range from ME to VA
Odontocetes (toothed whales and dolphins)			
Atlantic white-sided dolphin	<i>Lagenorhynchus acutus</i>	*	Common inshore spring through autumn, uncommon from DE to VA
Atlantic spotted dolphin	<i>Stenella frontalis</i>	*	Occur in southern part of ROI, generally pelagic
Blainville's beaked whale	<i>Mesoplodon densirostris</i>	*	Pelagic habitat
Clymene dolphin	<i>Stenella clymene</i>	*	Occur in southern ROI, pelagic
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	*	Common in summer

Table E-14. Marine Mammals Common in the NMFS Northeast Region (continued)

Common Name	Scientific Name	Federal Status under ESA	Distribution
Dwarf sperm whale	<i>Kogia sima</i>	*	Occur from DE to VA
False killer whale	<i>Pseudorca crassidens</i>	*	Occur from DE to VA
Gervais' beaked whale	<i>Mesoplodon europaeus</i>	*	Oceanic habitat
Killer whale	<i>Orcinus orca</i>	*	Occasional visitor
Long-finned pilot whale	<i>Globicephala melas</i>	*	Pelagic, moves inshore late summer and fall
Northern bottlenose whale	<i>Hyperoodon ampullatus</i>	*	Occasional, seen in fall and winter
Pantropical spotted dolphin	<i>Stenella attenuata</i>	*	Uncommon
Pygmy sperm whale	<i>Kogia breviceps</i>	*	Rare north of Cape Cod, MA
Risso's dolphin	<i>Grampus griseus</i>	*	Uncommon north of Cape Cod, MA
Rough-toothed dolphin	<i>Steno bredanensis</i>	*	Pelagic habitat
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	*	Generally pelagic, occurs in southern ROI (DE to VA) in the summer
Sowerby's beaked whale	<i>Mesoplodon bidens</i>	*	Pelagic habitat
Sperm whale	<i>Physeter macrocephalus</i>	E	Mainly in deep waters, migrates to shallower waters from ME to NC
Spinner dolphin	<i>Stenella longirostris</i>	*	Occurs in southern ROI (DE to VA)
Striped dolphin	<i>Stenella coeruleoalba</i>	*	Common, pelagic habitat
True's beaked whale	<i>Mesoplodon mirus</i>	*	Pelagic habitat
Beluga whale	<i>Delphinapterus leucas</i>	*	Occasional strays, seen in winter
Short-beaked common dolphin	<i>Delphinus delphis</i>	*	Generally pelagic, common
Bottlenose dolphin	<i>Tursiops truncatus</i>	*	Seen in summer offshore, uncommon
White-beaked dolphin	<i>Lagenorhynchus albirostris</i>	*	Occur from November to June

Table E-14. Marine Mammals Common in the NMFS Northeast Region (continued)

Common Name	Scientific Name	Federal Status under ESA	Distribution
Harbor porpoise	<i>Phocoena phocoena</i>	*	Common in inshore areas from April to October; strandings reported in Florida; sometimes enters bays and river mouths

Source: Geraci and Lounsbury 2005

Notes: CH – Critical Habitat in the ROI
 E – Federally listed as endangered
 T – Federally listed as threatened
 * – only protected under MMPA

Table E-15. Marine Mammals Common in the NMFS Southeast Region

Common Name	Scientific Name	Federal Status under ESA	Distribution
Phocids (true or earless seals)			
Harbor seal	<i>Phoca vitulina</i>	*	Occasional
Mysticetes (baleen whales)			
Blue whale	<i>Balaenoptera musculus</i>	E	Population highest in spring/summer due to northward migration from subtropics
Bryde's whale	<i>Balaenoptera edeni</i>	*	Common
Fin whale	<i>Balaenoptera physalus</i>	E	Year-round resident, visits coastal waters in many areas
Minke whale	<i>Balaenoptera acutorostrata</i>	*	Uncommon in Gulf of Mexico, occur in other waters of the ROI; frequent coastal regions, bays, offshore banks
Humpback whale	<i>Megaptera novaeangliae</i>	E	Migratory population moves along the southeastern U.S. on the way to its wintering grounds, occur January through May
North Atlantic right whale	<i>Eubalaena glacialis</i>	E/CH	Wintering and calving grounds are along Georgia and Florida, occur December through March, nearshore
Sei whale	<i>Balaenoptera borealis</i>	E	Southern portion of range during spring/summer
Odontocetes (toothed whales and dolphins)			
Atlantic spotted dolphin	<i>Stenella frontalis</i>	*	Generally pelagic
Blainville's beaked whale	<i>Mesoplodon densirostris</i>	*	Pelagic
Bottlenose dolphin	<i>Tursiops truncatus</i>	*	Both coastal and offshore variety are common in this ROI, frequents bays and estuaries
Clymene dolphin	<i>Stenella clymene</i>	*	Pelagic
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	*	Pelagic
Dwarf sperm whale	<i>Kogia sima</i>	*	Pelagic
Gervais' beaked whale	<i>Mesoplodon europaeus</i>	*	Oceanic

Table E-15. Marine Mammals Common in the NMFS Southeast Region (continued)

Common Name	Scientific Name	Federal Status under ESA	Distribution
Harbor porpoise	<i>Phocoena phocoena</i>	*	Rare in southeast Atlantic, not in Gulf of Mexico/Caribbean
False killer whale	<i>Pseudorca crassidens</i>	*	Pelagic
Fraser's dolphin	<i>Lagenodelphis hosei</i>	*	Rare in southeast Atlantic and Gulf of Mexico, occurs in Caribbean, pelagic
Killer whale	<i>Orcinus orca</i>	*	Uncommon
Long-finned pilot whale	<i>Glodicephala melas</i>	*	Northern part of southeast Atlantic, rare, pelagic
Melon-headed whale	<i>Peponocephala electra</i>	*	Rare in southeast Atlantic, occur in Gulf of Mexico, pelagic
Pantropical spotted dolphin	<i>Stenella attenuata</i>	*	Offshore and coastal groups
Pygmy killer whale	<i>Feresa attenuata</i>	*	Pelagic
Pygmy sperm whale	<i>Kogia breviceps</i>	*	Pelagic
Risso's dolphin	<i>Grampus griseus</i>	*	Pelagic
Rough-toothed dolphin	<i>Steno bredanensis</i>	*	Pelagic
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	*	Pelagic
Sperm whale	<i>Physeter macrocephalus</i>	E	Generally pelagic
Spinner dolphin	<i>Stenella longirostris</i>	*	Common, pelagic and coastal, daytime in shallow bays
Striped dolphin	<i>Stenella coeruleoalba</i>	*	Pelagic
True's beaked whale	<i>Mesoplodon mirus</i>	*	Pelagic
Short-beaked common dolphin	<i>Delphinus delphis</i>	*	Pelagic
Trichechids (manatees)			
West Indian manatee	<i>Trichechus manatus</i>	E/CH	Resident in rivers and coastal waters of peninsular Florida and southern Georgia; previous records in Carolinas and Texas

Source: Geraci and Lounsbury 2005

Notes: CH – Critical Habitat in the ROI

E – Federally listed as endangered

* – only protected under MMPA

Table E-16. Marine Mammals Common in the NMFS Southwest Region

Common Name	Scientific Name	Federal Status under ESA	Distribution
Otarrids (eared seals or sea lions)			
California sea lion	<i>Zalophus californianus</i>	*	Year-round resident
Guadalupe fur seal	<i>Arctocephalus townsendi</i>	T	Breeds off Baja California
Northern elephant seal	<i>Mirounga angustirostris</i>	*	Year-round resident
Northern fur seal	<i>Callorhinus ursinus</i>	*	Year-round resident
Steller sea lion	<i>Eumetopias jubatas</i>	T/CH	Visitor to area from southern breeding grounds, coastal to pelagic
Phocids (true or earless seals)			
Harbor seal	<i>Phoca vitulina</i>	*	Year-round resident
Mysticetes			
Blue whale	<i>Balaenoptera musculus</i>	E	Population highest in spring due to northward migration from subtropics
Bryde's whale	<i>Balaenoptera edeni</i>	*	Rare in southern California
Fin whale	<i>Balaenoptera physalus</i>	E	Common in summer, visits coastal waters in many areas, migratory
Gray whale	<i>Eschrichtius robustus</i>	*	Migration population, with peak abundance in winter and spring
Humpback whale	<i>Megaptera novaeangliae</i>	E	Migratory population, with peak abundance mainly during summer but also in autumn
Minke whale	<i>Balaenoptera acutorostrata</i>	*	Year-round resident, frequent coastal regions, bays, offshore banks
North Pacific right whale	<i>Eubalaena japonica</i>	E	Only two sightings in southern California
Sei whale	<i>Balaenoptera borealis</i>	E	Seen in summer/fall during migration, pelagic
Odontocetes (toothed whales and dolphins)			
Baird's beaked whale	<i>Berardius bairdii</i>	*	Peak June-October, pelagic
Blainville's beaked whale	<i>Mesoplodon densirostris</i>	*	Pelagic
Bottlenose dolphin	<i>Tursiops truncatus</i>	*	Year-round resident; frequents bays and estuaries in southern regions

Table E-16. Marine Mammals Common in the NMFS Southwest Region (continued)

Common Name	Scientific Name	Federal Status under ESA	Distribution
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	*	Pelagic
Dall's porpoise	<i>Phocoenoides dalli</i>	*	Year-round resident, nearshore in deep water, pelagic
Dwarf sperm whale	<i>Kogia sima</i>	*	Rare further north, pelagic
Ginkgo-toothed beaked whale	<i>Mesoplodon ginkgodens</i>	*	Rare, pelagic
False killer whale	<i>Pseudorca crassidens</i>	*	Occasional, pelagic
Harbor porpoise	<i>Phocoena phocoena</i>	*	Coastal in bays, estuaries, and rivers; frequent offshore banks
Hubb's beaked whale	<i>Mesoplodon carlhubbsi</i>	*	Pelagic
Killer whale	<i>Orcinus orca</i>	*	Incidental accounts of transients in area, most likely from northern latitudes; common inshore visitors
Long-beaked common dolphin	<i>Delphinus capensis</i>	*	Occur in southern California, prefer shallow, warm waters
Northern right whale dolphin	<i>Lissodelphis borealis</i>	*	Inshore winter through spring, pelagic
Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>	*	Year-round resident, peak winter through spring, pelagic
Perrin's beaked whale	<i>Mesoplodon perrini</i>	*	Pelagic
Pygmy sperm whale	<i>Kogia breviceps</i>	*	Pelagic
Risso's dolphin	<i>Grampus griseus</i>	*	Year-round resident, pelagic
Rough-toothed dolphin	<i>Steno bredanensis</i>	*	Uncommon, pelagic
Short-beaked common dolphin	<i>Delphinus delphis</i>	*	Year-round resident, pelagic
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	*	Small year-round population, peak late winter/early spring
Sperm whale	<i>Physeter macrocephalus</i>	E	Peak from November-April, generally pelagic
Stejneger's beaked whale	<i>Mesoplodon stejnegeri</i>	*	Pelagic
Striped dolphin	<i>Stenella coeruleoalba</i>	*	Pelagic

Table E-16. Marine Mammals Common in the NMFS Southwest Region (continued)

Common Name	Scientific Name	Federal Status under ESA	Distribution
Southern sea otter	<i>Enhydra lutris nereis</i>	T	Year-round resident

Source: Geraci and Lounsbury 2005

Notes: CH – Critical Habitat in the ROI

E – Federally listed as endangered

T – Federally listed as threatened

* – only protected under MMPA

Table E-17. Marine Mammals Common in the NMFS Northwest Region

Common Name	Scientific Name	Federal Status under ESA	Distribution
Otarrids (earred seals or sea lions)			
Northern elephant seal	<i>Mirounga angustirostris</i>	*	Year-round resident
California sea lion	<i>Zalophus californianus</i>	*	Year-round resident
Steller sea lion	<i>Eumetopias jubatas</i>	T/CH	Visitor to area from southern breeding grounds, coastal to pelagic
Northern fur seal	<i>Callorhinus ursinus</i>	*	Year-round resident
Phocids (true or earless seals)			
Harbor seal	<i>Phoca vitulina</i>	*	Year-round resident
Mysticetes (baleen whales)			
Blue whale	<i>Balaenoptera musculus</i>	E	Occur spring-fall; pelagic but may frequent coastal waters and shallow banks
Gray whale	<i>Eschrichtius robustus</i>	*	Found March-May, October-December, few in summer
Fin whale	<i>Balaenoptera physalus</i>	E	Occur in summer, generally pelagic, visits coastal waters in many areas, migratory
Humpback whale	<i>Megaptera novaeangliae</i>	E	Migratory population, with peak abundance mainly during summer but also in autumn
Minke whale	<i>Balaenoptera acutorostrata</i>	*	Year-round resident; frequents coastal regions, bays, and offshore banks
North Pacific right whale	<i>Eubalaena japonica</i>	E	Uncommon
Sei whale	<i>Balaenoptera borealis</i>	E	Seen in summer and fall
Odontocetes (toothed whales and dolphins)			
Baird's beaked whale	<i>Berardius bairdii</i>	*	Occur April-October, pelagic
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	*	Pelagic
False killer whale	<i>Pseudorca crassidens</i>	*	Occasional, pelagic
Hubb's beaked whale	<i>Mesoplodon carlhubbsi</i>	*	Pelagic

Table E-17. Marine Mammals Common in the NMFS Northwest Region (continued)

Common Name	Scientific Name	Federal Status under ESA	Distribution
Killer whale	<i>Orcinus orca</i>	*/E	Southern Resident population listed as endangered. Inshore year-round.
Stejneger's beaked whale	<i>Mesoplodon stejnegeri</i>	*	Pelagic
Sperm whale	<i>Physeter macrocephalus</i>	E	Seen spring-fall, generally pelagic
Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>	*	Year-round resident, generally pelagic, nearshore in deep water
Pygmy sperm whale	<i>Kogia breviceps</i>	*	Pelagic
Northern right whale dolphin	<i>Lissodelphis borealis</i>	*	Uncommon
Risso's dolphin	<i>Grampus griseus</i>	*	Occur spring-fall, pelagic
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	*	Uncommon
Short-beaked common dolphin	<i>Delphinus delphis</i>	*	Rare, pelagic
Striped dolphin	<i>Stenella coeruleoalba</i>	*	Rare, pelagic
Dall's porpoise	<i>Phocoenoides dalli</i>	*	Year-round resident, pelagic; nearshore in deep water
Harbor porpoise	<i>Phocoena phocoena</i>	*	Coastal in bays, estuaries, and rivers; frequent offshore banks
Mustelid (otters)			
Northern sea otter	<i>Enhydra lutris kenyoni</i>	T	Year-round resident

Source: Geraci and Lounsbury 2005

Notes: CH – Critical Habitat in the ROI

E – Federally listed as endangered

T – Federally listed as threatened

* – only protected under MMPA

Table E-18. Marine Mammals Common in the NMFS Alaska Region

Common Name	Scientific Name	Federal Status under ESA	Distribution
Otarrids (eared seals or sea lions)			
Bearded seal	<i>Erignathus barbatus</i>	*	Occur along continental shelf of Beaufort, Chukchi, and Bering Seas
Northern fur seal	<i>Callorhinus ursinus</i>	*	Found in Pribilof Islands and San Miguel Island, breeding areas, occur summer-fall
Steller sea lion	<i>Eumetopias jubatus</i>	T/E/CH	Distributed around North Pacific rim, northward to Bering Sea and along eastern shore of Kamchatka Peninsula, Gulf of Alaska, and Aleutian Islands
Phocids (true or earless seals)			
Harbor seal	<i>Phoca vitulina</i>	*	Year-round resident, northern extent is Bristol Bay/Kuskokwim Bay area
Northern elephant seal	<i>Mirounga angustirostris</i>	*	Males feed near eastern Aleutian Islands, and in Gulf of Alaska
Ribbon seal	<i>Histiophoca fasciata</i>	*	Found in Bering and Chukchi seas; winter-spring, offshore along ice front; summer range unknown; breeds along ice front
Ringed seal	<i>Phoca hispida</i>	*	Found in southern Bering Sea
Spotted seal	<i>Phoca largha</i>	*	Occur along continental shelf of Beaufort, Chukchi, and Bering Seas
Odobenids (walrus)			
Walrus	<i>Odobenus rosmarus divergens</i>	*	Found in shallow water areas, close to ice or land; geographic range encircles the Polar Basin
Mysticetes (baleen whales)			
Blue whale	<i>Balaenoptera musculus</i>	E	Occur from the Gulf of Alaska to the Aleutian Islands, pelagic, may frequent coastal waters and shallow banks
Bowhead whale	<i>Balaena mysticetus</i>	E	Occur in the coastal and offshore regions, mostly along ice fronts and leads, migratory
Fin whale	<i>B. physalus</i>	E	Common in summer, generally pelagic, visits coastal waters in many areas, migratory
Gray whale	<i>Eschrichtius robustus</i>	*	Migrate along the Alaskan coast in winter and early spring; inhabit the eastern Alaskan waters during summer; occur in both the Bering and Chukchi seas

Table E-18. Marine Mammals Common in the NMFS Alaska Region (continued)

Common Name	Scientific Name	Federal Status under ESA	Distribution
Humpback whale	<i>Megaptera novaeangliae</i>	E	Common in summer, coastal in many areas, migratory
Minke whale	<i>B. acutorostrata</i>	*	Common in summer, frequent coastal regions, bays, and offshore banks
North Pacific right whale	<i>Eubalaena japonica</i>	E	Occur in Gulf of Alaska and Bering Sea
Sei whale	<i>Balaenoptera borealis</i>	E	Occur in southern Alaska during summer and fall, pelagic
Odontocetes (toothed whales and dolphins)			
Baird's beaked whale	<i>Berardius bairdii</i>	*	Occur in southern part of Alaska during winter, pelagic
Beluga whale	<i>Delphinapterus leucas</i>	*	Coastal in bays, estuaries, and rivers; migratory along leads; winter offshore in pack ice
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	*	Occur in the Aleutian islands, pelagic
Killer whale	<i>Orcinus orca</i>	*	Common, inhabit coastal waters throughout SE Alaska, Gulf of Alaska, and Aleutian Islands
Dall's porpoise	<i>Phocoenoides dalii</i>	*	Occur south of the Bering Strait, pelagic, nearshore in deep water, found frequently in inside waters of SE Alaska
Harbor porpoise	<i>Phocoena phocoena</i>	*	Occur year-round in SE Alaska; coastal in bays, estuaries, and rivers; frequent offshore banks
Narwhal	<i>Monodon monoceros</i>	*	Rare, usually associated with pack ice and deep water
Pacific White-sided dolphin	<i>Lagenorhynchus obliquidens</i>	*	Common in Aleutian Islands in summer, pelagic, nearshore in deep water
Stejneger's beaked whale	<i>Mesoplodon stejnegeri</i>	*	Pelagic
Sperm whale	<i>Physeter macrocephalus</i>	E	Common in summer, mostly males, generally pelagic
Mustelids (otters)			
Northern sea otter	<i>Enhydra lutris keyoni</i>	T	Lives in shallow water areas along the shores of the North Pacific

Source: Geraci and Lounsbury 2005

Notes: CH – Critical Habitat in the ROI
 E – Federally listed as endangered
 T – Federally listed as threatened
 * – only protected under MMPA

Table E-19. Marine Mammals Common in the NMFS Pacific Islands Region

Common Name	Scientific Name	Federal Status under ESA	Distribution
Phocids (true or earless seals)			
Hawaiian Monk seal	<i>Monachus schauinslandi</i>	E/CH	Most common northwest of the main seven-island chain
Mysticetes (baleen whales)			
Blue whale	<i>Balaenoptera musculus</i>	E	Population thought to occur in deeper offshore waters
Bryde's whale	<i>Balaenoptera edensi</i>	*	Occurs throughout the main seven island chain January through April
Fin whale	<i>Balaenoptera physalus</i>	E	Occurs in winter
Humpback whale	<i>Megaptera novaeangliae</i>	E	Occurs throughout the main seven island chain January through April
Minke whale	<i>Balaenoptera acutorostrata</i>	*	Occurs near Leeward Island
North Pacific right whale	<i>Eubalaena japonica</i>	*	Rare, most likely stray individuals from more northern populations
Sei whale	<i>Balaenoptera borealis</i>	E	In eastern North Pacific, population is migratory transient from coast of Mexico to Gulf of Alaska
Odontocetes (toothed whales and dolphins)			
Blainville's beaked whale	<i>Mesoplodon densirostris</i>	*	Pelagic
Bottlenose dolphin	<i>Tursiops truncatus</i>	*	Common along the coastlines
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	*	Rare
Dwarf sperm whale	<i>Kogia sima</i>	*	Pelagic
False killer whale	<i>Pseudorca crassidens</i>	*	Occasionally seen between the main Hawaiian islands, pelagic
Fin whale	<i>Balaenoptera physalus</i>	E	Common in winter, visits coastal waters in many areas, migratory
Fraser's dolphin	<i>Lagenodelphis hosei</i>	*	Pelagic
Killer whale	<i>Orcinus orca</i>	*	Rare
Melon-headed whale	<i>Peponocephala electra</i>	*	Occasionally seen between the main Hawaiian islands, pelagic
Pantropical spotted dolphin	<i>Stenella attenuata</i>	*	Common along the coastlines
Pygmy killer whale	<i>Feresa attenuata</i>	*	Occasionally seen between the main Hawaiian islands, pelagic

**Table E-19. Marine Mammals Common in the NMFS Pacific Islands Region
(continued)**

Common Name	Scientific Name	Federal Status under ESA	Distribution
Pygmy sperm whale	<i>Kogia breviceps</i>	*	Pelagic
Rough-toothed dolphin	<i>Steno bredanensis</i>	*	Pelagic
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	*	Occasionally between the main Hawaiian islands, pelagic
Sperm whale	<i>Physeter macrocephalus</i>	E	In deeper waters off Hawaii, year-round resident
Striped dolphin	<i>Stenella coeruleoalba</i>	*	Pelagic
Spinner dolphin	<i>Stenella longirostris</i>	*	Pelagic and coastal, daytime in shallow bays

Source: Geraci and Lounsbury 2005

Notes: CH – Critical Habitat in the ROI

E – Federally listed as endangered

* – only protected under MMPA

APPENDIX F

NATIONAL MARINE MAMMAL STRANDING NETWORK AND DISENTANGLEMENT NETWORK MEMBERS

Marine Mammal Stranding Network

Organization/Individual	Location	Authority	Rehabilitation (NMFS Species)
NMFS Northeast Region			
Allied Whale, College of the Atlantic	Bar Harbor, ME	SA	N/A
Marine Animal Lifeline	Portland, ME	SA	Pinnipeds
Maine Department of Marine Resources	Boothbay Harbor, ME	109h	N/A
University of New England	Biddeford, ME	SA	Pinnipeds, Small Cetaceans
The Whale Center of New England	Gloucester, MA	SA	N/A
New England Aquarium	Boston, MA	SA	Pinnipeds, Small Cetaceans
Cape Cod Stranding Network	Buzzards Bay, MA	SA	N/A
Mystic Aquarium	Mystic, CT	SA	Pinnipeds, Small Cetaceans
Riverhead Foundation for Marine Research	Riverhead, NY	SA	Pinnipeds, Small Cetaceans
Marine Mammal Stranding Center	Brigantine, NJ	SA	Pinnipeds
MERR Institute, Inc.	Nassau, DE	Designee of Delaware DNREC	N/A
Maryland Department of Natural Resources, Cooperative Oxford Laboratory	Oxford, MD	109h	N/A
National Aquarium in Baltimore	Baltimore, MD	SA	Pinnipeds, Small Cetaceans
Smithsonian Institute, National Museum of Natural History	Washington, D.C.	SA	N/A
Virginia Aquarium and Marine Science Center	Virginia Beach, VA	SA	Pinnipeds
Virginia Institute of Marine Science, College of William and Mary	Gloucester Point, VA	SA	N/A
NMFS Southeast Region			
Duke University Marine Laboratory	Beaufort, NC	Designee of UNCW	N/A
NMFS, SEFSC Beaufort Laboratory	Beaufort, NC	109h	Pinnipeds, Small Cetaceans
University of North Carolina at Wilmington (UNCW), Biological Sciences	Wilmington, NC	SA	N/A
National Ocean Service (NOS) Charleston Laboratory	Charleston, SC	109h	N/A
South Carolina Wildlife and Marine Resources Division	Charleston, SC	109h	N/A
Georgia Department of Natural Resources, Non-Game Endangered Wildlife Program	Brunswick, GA	109h and SA	N/A
Clearwater Marine Aquarium	Clearwater, FL	SA	Small Cetaceans
Dynamac Corporation DYN-2	Kennedy Space Center, FL	SA	N/A

Organization/Individual	Location	Authority	Rehabilitation (NMFS Species)
NMFS Southeast Region (continued)			
Florida Keys Marine Mammal Rescue Team	Cudjoe Key, FL	SA	Small Cetaceans
FWC Apalachicola National Reserve	Eastpoint, FL	109h	N/A
Gulf Islands National Seashore	Gulf Breeze, FL	109h	N/A
Gulf World Marine Park	Panama City Beach, FL	SA	Small Cetaceans
Harbor Branch Oceanographic Institute, Inc.	Fort Pierce, FL	SA	Small Cetaceans
Hubbs-SeaWorld Research Institute	Orlando, FL	SA	N/A
Marine Animal Rescue Society	Miami, FL	SA	Small Cetaceans
Marine Mammal Conservancy, Inc.	Key Largo, FL	SA	Small Cetaceans
Marine Mammal Stranding Network-Southwest Region	Cape Coral, FL	SA	N/A
Mote Marine Laboratory	Sarasota, FL	SA	Small Cetaceans
NMFS, SEFSC Miami Laboratory	Miami, FL	109h	N/A
NMFS, SEFSC Panama City Laboratory	Panama City, FL	109h	N/A
SeaWorld Orlando	Orlando, FL	SA	Small Cetaceans
The Florida Aquarium	Tampa, FL	SA	N/A
The Stranding Center, Inc.	Pensacola Beach, FL	SA	N/A
Marterra Foundation, Inc.	Mobile, AL	SA	N/A
Gulf Islands National Seashore	Ocean Springs, MS	109h	N/A
Institute for Marine Mammal Studies	Gulfport, MS	SA	Small Cetaceans
Mississippi Department of Marine Resources	Biloxi, MS	109h	N/A
NMFS, SEFSC Pascagoula Laboratory	Pascagoula, MS	109h	N/A
NMFS, SEFSC Galveston Laboratory	Galveston, TX	109h	N/A
Texas Marine Mammal Stranding Network (TMMSN)	Galveston, TX	SA	Small Cetaceans
Texas State Aquarium	Corpus Christi, TX	Designee of TMMSN	N/A
Puerto Rico Department of Natural and Environmental Resources	San Juan, PR	109h/SA	Small Cetaceans
NMFS Southwest Region			
Northcoast Marine Mammal Center	Crescent City, CA	SA	Pinnipeds
The Marine Mammal Center	Sausalito, CA	SA	Pinnipeds, Small Cetaceans
Long Marine Laboratory, University of California at Santa Cruz	Santa Cruz, CA	SA	Pinnipeds, Small Cetaceans
Long Beach Animal Control	Long Beach, CA	109h	N/A
Santa Barbara Marine Mammal Center	Santa Barbara, CA	SA	Pinnipeds
Santa Barbara Museum of Natural History	Santa Barbara, CA	SA	N/A
Fort MacArthur Marine Mammal Care Center	San Pedro, CA	SA	Pinnipeds
Pacific Marine Mammal Center	Laguna Beach, CA	SA	Pinnipeds

Organization/Individual	Location	Authority	Rehabilitation (NMFS Species)
NMFS Southwest Region (continued)			
SeaWorld San Diego	San Diego, CA	SA	Pinnipeds
Los Angeles County Museum of Natural History	Los Angeles, CA	SA	N/A
Moss Landing Marine Laboratories	Moss Landing, CA	SA	N/A
California Academy of Sciences, Department of Ornithology & Mammalogy	San Francisco, CA	SA	N/A
Humboldt State University, Vertebrate Museum	Arcata, CA	SA	N/A
California Wildlife Center	Malibu, CA	109h	N/A
Whale Rescue Team	El Segundo, CA	109h	N/A
Wildrescue	Malibu, CA	109h	N/A
NMFS Northwest Region			
Cascadia Research Collective	Olympia, WA	Contingency Plan	N/A
Central Puget Sound Marine Mammal Stranding Network	Greenbank, WA	SA	N/A
Dungeness National Wildlife Refuge	Port Angeles, WA	109h	N/A
Edmonds Animal Control	Edmonds, WA	109h	N/A
Makah Tribe	Neah Bay, WA	Contingency Plan/Designee (NMFS, NWR)	N/A
NMFS, Northwest Regional Office	Seattle, WA	109h	N/A
NMFS, Northwest Fisheries Science Center	Seattle, WA	109h	N/A
Olympic Coast National Marine Sanctuary	Port Angeles, WA	109h	N/A
Olympic Coast National Park	Port Angeles, WA	109h	N/A
Point Defiance Zoo and Aquarium	Tacoma, WA	Contingency Plan	Pinnipeds
Port Townsend Marine Science Center	Port Townsend, WA	Designee (NMFS, NWR)	N/A
Progressive Animal Welfare Society	Lynwood, WA	Contingency Plan	Pinnipeds
Seattle Animal Control	Seattle, WA	109h	N/A
The Whale Museum	Friday Harbor, WA	SA	N/A
U.S. Fish and Wildlife Service	Lacey, WA	109h	N/A
Washington Department of Fish and Wildlife	Olympia, WA	109h	N/A
Whatcom County Volunteers		Designee (NMFS, NWR)	N/A
Wolf Hollow Wildlife Rehabilitation Center	Friday Harbor, WA	Contingency Plan	Pinnipeds
Free Flight Wildlife Rehabilitation Center	Bandon, OR	Designee (NMFS, NWR)	Pinnipeds

Organization/Individual	Location	Authority	Rehabilitation (NMFS Species)
NMFS Northwest Region (continued)			
Oregon Coast Aquarium	Newport, OR	Designee (NMFS, NWR)	Pinnipeds, Small Cetaceans
Oregon Department of Fish and Wildlife	Salem, OR	109h	N/A
Oregon Institute of Marine Biology	Charleston, OR	SA	N/A
Oregon State University	Newport, OR	SA	N/A
Portland State University	Portland, OR	SA	N/A
NMFS Alaska Region			
Alaska SeaLife Center	Seward, AK	SA	Pinnipeds, Small Cetaceans
Aleut Community of St. Paul Island Tribal Government	St. Paul Island, AK	SA	N/A
Alaska Sea Otter and Stellar Sea Lion Commission	Anchorage, AK	SA	N/A
Alaska Whale Foundation	Petersburg, AK	SA	N/A
Alaska Zoo	Anchorage, AK	SA (not active)	N/A
University of Alaska Museum	Fairbanks, AK	SA	N/A
Mr. Andy Aderman, Togiak National Wildlife Refuge	Dillingham, AK	109h	N/A
Ms. Kimberly Beckman, Alaska Department of Fish and Game	Fairbanks, AK	109h	N/A
Reid Brewer, University of Alaska, Fairbanks/Sea Grant	Dutch Harbor, AK	Affiliate with Kate Wynne's SA	N/A
Dr. Kathy Burek	Eagle River, AK	Affiliate w/ASLC's SA	N/A
Ms. Angela Doroff, USFWS	Anchorage, AK	109h	N/A
Mr. Gary Frietag	Ketchikan, AK	SA	N/A
Chris Gabriele, National Park Service, Glacier Bay National Park	Glacier Bay, AK	109h/SA	N/A
Ms. Verena Gill, USFWS	Anchorage, AK	109h	N/A
Ms. Eileen Henniger, Yakutat Tribe	Yakutat, AK	109h	N/A
Ms. Lauri Jemison, Alaska Department of Fish and Game	Juneau, AK	109h	N/A
North Gulf Oceanic Society	Homer, AK	SA	N/A
Ms. Lori Quakenbush, Alaska Department of Fish and Game	Fairbanks, AK	109h	N/A
Gay Sheffield, Alaska Department of Fish and Game	Fairbanks, AK	109h	N/A
Ms. Jan Straley, University of AK, Southeast, Sitka Campus	Sitka, AK	SA	N/A
Jamie Womble, National Park Service, Glacier Bay National Park	Juneau, AK Glacier Bay, AK	109h	N/A
Ms. Kate Wynne, University of Alaska, Fairbanks/Sea Grant	Kodiak, AK	SA	N/A

Organization/Individual	Location	Authority	Rehabilitation (NMFS Species)
NMFS Pacific Islands Region			
Sea Life Park by Dolphin Discovery	Waimanalo, HI	SA	Small Cetaceans
NMFS Pacific Islands Fisheries Science Center	Honolulu, HI	109h	Pinnipeds

Marine Mammal Disentanglement Network

Individual	Organization	Location	Responder Level
NMFS Northeast Region			
Dr. Sean Todd	Allied Whale, College of the Atlantic	Bar Harbor, ME	3
Mr. Jamison Smith	NMFS, Northeast Regional Office, Protected Resources Division	Gloucester, MA	4
Dr. Charles Mayo	Provincetown Center for Coastal Studies	Provincetown, MA	5
Mr. Scott Landry	Provincetown Center for Coastal Studies	Provincetown, MA	5
Mr. David Morin	Provincetown Center for Coastal Studies	Provincetown, MA	5
Ms. Jooke Robbins	Provincetown Center for Coastal Studies	Provincetown, MA	3
Mr. Bob Bowman	Provincetown Center for Coastal Studies	Provincetown, MA	3
Ms. Amy Kennedy	Provincetown Center for Coastal Studies	Provincetown, MA	3
Mr. Brian Sharp	Provincetown Center for Coastal Studies	Provincetown, MA	3
Mr. Gregory Krutzikowsky	Provincetown Center for Coastal Studies	Provincetown, MA	3
Mr. David Osterberg	Provincetown Center for Coastal Studies	Provincetown, MA	2
Mr. Mackie Greene	Campobello Whale Rescue Team	Campobello Island, New Brunswick, Canada	4
Dr. Moira Brown	New England Aquarium	Boston, MA	3
Ms. Lisa Conger	New England Aquarium	Boston, MA	3
Mr. Chris Slay	New England Aquarium	Boston, MA	4
Ms. Amy Knowlton	New England Aquarium	Boston, MA	3
Ms. Monica Zani	New England Aquarium	Boston, MA	3
Mr. Scott Kraus	New England Aquarium	Boston, MA	3
Mr. Phil Hamilton	New England Aquarium	Boston, MA	3
Mr. Timothy Cole	NMFS, Northeast Fisheries Science Center	Woods Hole, MA	3
Mr. Fred Wenzel	NMFS, Northeast Fisheries Science Center	Woods Hole, MA	3
Mr. Glenn Salvador	NMFS, Northeast Regional Office	Belle Haven, VA	3
Mr. Mark Swingle	Virginia Aquarium and Marine Science Center	Virginia Beach, VA	3
Ms. Susan Barco	Virginia Aquarium and Marine Science Center	Virginia Beach, VA	3
NMFS Southeast Region			
Mr. William McLellan	Biological Sciences and Center for Marine Science, University of North Carolina, Wilmington	Wilmington, NC	3
Dr. Andrew Read	Duke University Marine Laboratory	Beaufort, NC	3

Individual	Organization	Location	Responder Level
NMFS Southeast Region (continued)			
Mr. Andrew Westgate	Duke University Marine Laboratory	Beaufort, NC	3
Mr. Keith Rittmaster	North Carolina Maritime Museum	Beaufort, NC	3
Mr. Bruce Ferrier		Outer Banks, NC	2
Mr. Wayne McFee	NOAA/NOS/NCCOS	Charleston, SC	2
Mr. Eric Zolman	NOAA/NOS/NCCOS	Charleston, SC	2
Mr. Clay George	Georgia Department of Natural Resources	Brunswick, GA	3
Mr. Mark Dodd	Georgia Department of Natural Resources	Brunswick, GA	3
Ms. Leigh Youngner	Georgia Department of Natural Resources	Brunswick, GA	2
Mr. Adam MacKinnon	Georgia Department of Natural Resources	Brunswick, GA	3
Mr. Brad Winn	Georgia Department of Natural Resources	Brunswick, GA	3
Mr. Tom Pitchford	Florida Fish and Wildlife Conservation Commission	Jacksonville, FL	3
Mr. Andy Garrett	Florida Fish and Wildlife Conservation Commission	Jacksonville, FL	3
Mr. Alex Costidis	Florida Fish and Wildlife Conservation Commission	St. Petersburg, FL	2
Mr. Arthur Wong	Florida Fish and Wildlife Conservation Commission	Jacksonville, FL	2
Ms. Katie Jackson	Florida Fish and Wildlife Conservation Commission	Jacksonville, FL	2
Ms. Barb Zoodsma	NMFS, Southeast Regional Office, Protected Resources Division	Fernandina Beach, FL	3
Mr. Anthony Martinez	NMFS, Southeast Fisheries Science Center	Miami, FL	3
Ms. Alicia Windham-Reid	U.S. Geological Survey	Gainesville, FL	3
Mr. Bill Foster			3
Mr. Jeff Thompson			3
Mr. John Pieno			3
Mr. Lou Browning			3
Mr. Michael Neelon			3
Mr. Steve Brown			3
Mr. Steve Robbins			3
Mr. Tom Fernald			3
Ms. Tricia Naessig			2
NMFS Southwest Region			
Dr. Jim Harvey	Moss Landing Marine Laboratories	Moss Landing, CA	3
Mr. Scott Benson	Moss Landing Marine Laboratories	Moss Landing, CA	3
Mr. John Douglas	Moss Landing Marine Laboratories	Moss Landing, CA	2
Ms. Karin Forney	NMFS, Southwest Fisheries Science Center, Protected Resources Division	Santa Cruz, CA	2
Dr. Frances Gulland	The Marine Mammal Center	Sausalito, CA	3
Ms. Shelbi Stoudt	The Marine Mammal Center	Sausalito, CA	2
Ms. Erin Brodie	The Marine Mammal Center	Sausalito, CA	2

Individual	Organization	Location	Responder Level
NMFS Southwest Region (continued)			
Ms. Lauren De Maio	The Marine Mammal Center	Sausalito, CA	2
Ms. Sue Andrews	The Marine Mammal Center	Sausalito, CA	2
Mr. David Casper	Long Marine Laboratory, University of California, Santa Cruz	Santa Cruz, CA	3
Teri Sigler	Long Marine Laboratory, University of California, Santa Cruz	Santa Cruz	3
Traci Fink	Long Marine Laboratory, University of California, Santa Cruz	Santa Cruz	2
Mr. Steve Clabuesch	Long Marine Laboratory, University of California, Santa Cruz	Santa Cruz	2
Mr. Pete Dal Ferro	Long Marine Laboratory, University of California, Santa Cruz	Santa Cruz	2
Dr. Robin Dunkin	Long Marine Laboratory, University of California, Santa Cruz	Santa Cruz	2
Mr. Bob Yerena	NOAA Office of Enforcement	Monterey, CA	2
Mr. Dave Minard	Monterey Bay NMS	Monterey Bay, CA	2
Ms. Deirdre Hall	Monterey Bay NMS	Monterey Bay, CA	2
Mr. Jean de Marignac	Monterey Bay NMS	Monterey Bay, CA	2
Mr. Jamie Hall	Gulf of Farallones NMS	San Francisco, CA	2
Mr. Mick Menigoz	Gulf of Farallones NMS	San Francisco, CA	2
Mr. Bob Pucinelli	CA Fish and Game/ Skipper for Yerena	San Francisco, CA	2
Mr. Sean Van Sommerman	Pelagic Shark Foundation	Santa Cruz, CA	2
Mr. Pieter Folkens	Alaska Whale Foundation	San Francisco, CA	3
Mr. Sean Hanser	Alaska Whale Foundation		3
Ms. Kathy Koontz	Alaska Whale Foundation		2
Mr. Keith Yip	SeaWorld	San Diego, CA	3
Ms. Jody Westberg	SeaWorld	San Diego, CA	3
Mr. Joel Gitezon	Los Angeles County Lifeguards	Los Angeles, CA	2
Mr. Jonas Russell	Los Angeles County Lifeguards	Los Angeles, CA	2
Mr. Nathan Stebor	Santa Barbara Marine Mammal Center	Santa Barbara, CA	2
Ms. Evonne Risdall	Santa Barbara Marine Mammal Center	Santa Barbara, CA	2
Ms. Dave Risdall	Santa Barbara Marine Mammal Center	Santa Barbara, CA	2
Mr. Terrance Shinn	CINMS	Santa Barbara, CA	2
Mr. Ed Stetson	Santa Barbara Harbor Patrol	Santa Barbara, CA	2
Mr. Peter Howorth	SBMMC Santa Barbara Marine Mammal Center	Santa Barbara, CA	4
Ms. Sara Graef	AK Whale Foundation	Los Angeles, CA	3
Mr. Joe Cordaro	NMFS Southwest Regional Office, Protected Resources Division	Los Angeles, CA	2

Individual	Organization	Location	Responder Level
NMFS Alaska Region			
Ms. Kate Wynne	University of Alaska Fairbanks/Sea Grant	Kodiak, AK	4
Ms. Bree Witteveen	University of Alaska Fairbanks/Sea Grant	Kodiak, AK	3
Ms. Annie Fiske	University of Alaska Fairbanks	Kodiak, AK	2
Mr. Bob Foy	University of Alaska Fairbanks	Kodiak, AK	3
Ms. Cathy Foy	University of Alaska Fairbanks	Kodiak, AK	2
Mr. Mark Witteveen	Alaska Department of Fish and Game	Kodiak, AK	3
Mr. Ken Hansen	NMFS Office of Law Enforcement	Kodiak, AK	2
Mr. Jim Wisher	NMFS Office of Law Enforcement	Homer, AK	3
Mr. Dennis Thaute	NMFS Office of Law Enforcement	Homer, AK	
Cy St-Amand	NGOS	Homer, AK	2
L.A. Holmes	NGOS	Homer, AK	2
Mr. Scott Adams	NMFS Office of Law Enforcement	Homer, AK	2
Ms. Barbara Mahoney	NMFS Alaska Regional Office, Protected Resources Division	Anchorage, AK	2
Mr. Dan Vos	NMFS Alaska Regional Office, Protected Resources Division	Anchorage, AK	2
Mr. Matt Clark	NMFS Office of Law Enforcement	Anchorage, AK	2
Mr. Matt Eagleton	NMFS Alaska Regional Office, Habitat Division	Anchorage, AK	2
Mr. Jonathan Taylor	NMFS Alaska Regional Office, Habitat Division	Anchorage, AK	2
Mr. Brad Smith	NMFS Office of Law Enforcement	Anchorage, AK	
Mr. Tim Lebling	Alaska Sea Life Center	Seward, AK	3
Lee Kellar	Alaska Sea Life Center	Seward, AK	2
Ms. Carrie Goertz	Alaska Sea Life Center	Seward, AK	2
Ms. Elizabeth Moundalexis	Alaska Sea Life Center	Seward, AK	2
Mr. Brett Long	Alaska Sea Life Center	Seward, AK	2
Ms. Aleria Jensen	NMFS Alaska Regional Office, Protected Resources Division	Juneau, AK	3
Ms. Kaja Brix	NMFS Alaska Regional Office, Protected Resources Division	Juneau, AK	3
Mr. Flip Nicklin	Whale Trust	Juneau, AK	2
Ms. Linda Nicklin	Whale Trust	Juneau, AK	2
Jamie Womble	National Park Service	Juneau, AK	
Mr. Ron Antaya	NMFS Office of Law Enforcement	Juneau, AK	
NMFS Pacific Islands Region			
Mr. Edward Lyman	Hawaiian Islands Humpback Whale National Marine Sanctuary, National Ocean Service	Kihei, Maui, HI	5
Dr. David Mattila	Hawaiian Islands Humpback Whale National Marine Sanctuary, National Ocean Service	Kihei, Maui, HI	5
Chris Gabriele	Hawaiian Marine Mammal Consortium	Hawaii, HI	4
Mr. Manny Andrade	Hawaii Department of Land and Natural Resources	Kauai, HI	3

Individual	Organization	Location	Responder Level
NMFS Pacific Islands Region (continued)			
Mr. Joe Arcenaux	NOAA, Pacific Islands Regional Office	Oahu, HI	3
Dr. Robert Braun	N/A	Oahu, HI	3
Mr. Brent Carman	Hawaii Department of Land and Natural Resources	Hawaii, HI	3
Mr. Mark Deakos	Hawaii Marine Mammal Research	Maui, HI	3
Mr. Skippy Hau	Hawaii Department of Land and Natural Resources	Maui, HI	3
Mr. David Johnston	NOAA, Pacific Island Fisheries Science Center	Oahu, HI	3
Mr. Greg Levine	N/A	Oahu, HI	3
Mr. Steve Lewis	Hawaiian Marine Mammal Consortium	Hawaii, HI	3
Mr. Allan Ligon	Hawaiian Islands Humpback Whale National Marine Sanctuary, National Ocean Service	Maui, HI	3
Mr. David Nichols	Hawaii Department of Land and Natural Resources	Oahu, HI	3
Mr. David Schofield	NMFS, Pacific Islands Regional Office	Oahu, HI	3
Mr. Russell Sparks	Hawaii Department of Land and Natural Resources	Maui, HI	3
Mr. Vaughan Tyndzik	Hawaii Department of Land and Natural Resources	Kauai, HI	3
Mr. Justin Viezebicke	Hawaiian Islands Humpback Whale National Marine Sanctuary, National Ocean Service	Hawaii, HI	3
Mr. Bill Walsh	Hawaii Department of Land and Natural Resources	Hawaii, HI	3
Mr. Jeff Walters	Hawaii Department of Land and Natural Resources	Oahu, HI	3
Mr. Paul Wong	Hawaiian Islands Humpback Whale National Marine Sanctuary, National Ocean Service	Oahu, HI	3
Ms. Suzanne Yin	Hawaiian Marine Mammal Consortium	Hawaii, HI	3
Mr. Chad Yoshinago	NOAA, Pacific Islands Fisheries Science Center	Oahu, HI	3
Mr. Rob Bradbury	N/A	Kauai HI	2
Mr. John Burger	Pacific Islands Missile Reserve	Kauai, HI	2
Mr. Steve Cotton	Hawaii Department of Land and Natural Resources	Hawaii, HI	2
Ms. Amanda Cummin	Hawaiian Islands Humpback Whale National Marine Sanctuary, National Ocean Service	Maui, HI	2
Ms. Debbie Ferrari	Center for Whale Studies	Maui, HI	2
Mr. Mark Ferrari	Center for Whale Studies	Maui, HI	2
Mr. Joe Fell-McDonald	Hawaii Department of Land and Natural Resources	Maui, HI	2

Individual	Organization	Location	Responder Level
NMFS Pacific Islands Region (continued)			
Mr. Norm Garon	Hawaiian Islands Humpback Whale National Marine Sanctuary, National Ocean Service	Oahu, HI	2
Siri Hakala	N/A	Oahu, HI	2
Ms. Tara Leota	N/A	Kauai, HI	2
Mr. John Mitchell	Hawaii Department of Land and Natural Resources	Maui, HI	2
Mr. Flip Nicklin	Whale Trust	Maui, HI	2
Ms. Mimi Olry	Hawaii Department of Land and Natural Resources	Kauai, HI	2
Mr. Adam Pack	The Dolphin Institute	Maui, HI	2
Ms. Susan Rickards	Hawaiian Marine Mammal Consortium	Hawaii, HI	2
Mr. Dan Salden	Hawaii Whale Research	Maui, HI	2
Ms. Jean Souza	Hawaiian Islands Humpback Whale National Marine Sanctuary, National Ocean Service	Kauai, HI	2
Mr. Kosta Stamoulis	Hawaii Department of Land and Natural Resources	Hawaii, HI	2
Mr. Don Thornburg	N/A	Kauai, HI	2
Ms. Lisa Van Atta	NMFS, Pacific Islands Regional Office	Oahu, HI	2
Mr. Lewis Van Fossen	NMFS, Pacific Islands Regional Office	Oahu, HI	2
Mr. Chris Yates	NMFS, Pacific Islands Regional Office	Oahu, HI	2
Ms. Brenda Zaun	Hawaii Fish and Wildlife Service	Kauai, HI	2

APPENDIX G

NMFS PERMIT No. 932-1489-08



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

Teri Rowles, D.V.M., Ph.D.
National Coordinator, MMHSRP
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, Maryland 20910

JUN 29 2005

Dear Dr. Rowles:

Enclosed is a major amendment to Permit No. 932-1489-07. The permit has been amended to (1) extend the expiration date from June 30, 2005, to June 30, 2007; (2) authorize aerial surveys; (3) authorize harassment of marine mammals (including endangered species) under NMFS jurisdiction incidental to other Marine Mammal Health and Stranding Response Program (MMHSRP) activities on land authorized by the permit; and (3) authorize the development of cell lines for research. The permit amendment is reflected in the new Permit No. 932-1489-08, and changes appear in bold typeface. Note that this amended permit supercedes all previous versions.

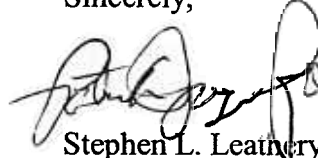
As a reminder, this permit allows the MMHSRP National Coordinator to take all species of the Orders Cetacea and Pinnipedia (except walrus) in two Projects: Project 1 authorizes collection, analyses, archival, possession and importation/exportation (worldwide) of specimens obtained from specified sources; and Project II authorizes take of live marine mammals and endangered species that are stranded, entangled, disentangled, trapped out of habitat, in peril (e.g., in vicinity of an oil spill), and nuisance animals. Please note that this permit does not authorize takes of marine mammal species under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS). However, this permit allows you to receive fluid and tissue samples of species under USFWS jurisdiction provided the samples were collected legally under permits or authorizations issued by the USFWS.

The importation and exportation of species listed on the Appendices to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) require a valid CITES Permit. For further information regarding CITES requirements please contact Ms. Lisa Lierheimer, U.S. Fish and Wildlife Service, Office of Management Authority, 4401 N. Fairfax Drive, Arlington, VA 22203 (1-800-358-2104).

Please note that this permit amendment is not valid until our office receives a signed copy of the signature page. Please review the enclosed amended permit to ensure that it accurately reflects

what you requested and that you understand what is authorized. Please sign and date both the original and the "file copy" of the signature page. Return the signature page marked "file copy" to this office. If you have any questions, please contact Ruth Johnson or Amy Sloan (301/713-2289).

Sincerely,



Stephen L. Leathers
Chief, Permits, Conservation and
Education Division
Office of Protected Resources

Enclosure



NMFS Permit No. 932-1489-08
Expiration Date: June 30, 2007

SCIENTIFIC RESEARCH and ENHANCEMENT PERMIT
TO TAKE MARINE MAMMALS
Amendment No. 8

Authorization

The Marine Mammal Health and Stranding Response Program, Office of Protected Resources, National Marine Fisheries Service (NMFS) [Coordinator and Principal Investigator (PI): Dr. Teri Rowles], is hereby authorized to take marine mammals in the manner specified below for the purpose of scientific research and enhancement, subject to the provisions of the Marine Mammal Protection Act of 1972 (16 U.S.C 1361 *et seq.*), the Regulations Governing the Taking and Importing of Marine Mammals (50 CFR part 216), the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), the Regulations Governing the Taking, Importing, and Exporting of Endangered and Threatened Fish and Wildlife (50 CFR parts 222-226), the Fur Seal Act of 1966, as amended (16 U.S.C. 1151 *et seq.*), and the Terms and Conditions hereinafter set out. **This Permit, as amended, supersedes all previous versions.**

Abstract

The purposes of the authorized activities, as stated in the application, are to: (1) collect, preserve, label, and transport all species of the Orders Cetacea, Pinnipedia (except walrus), cadavers for tissue and fluid samples for physical, chemical, or biological analyses, import, and export; (2) take stranded or distressed marine mammals and endangered or threatened species; (3) salvage specimens from dead marine mammals and endangered or threatened species; (4) **conduct aerial surveys to locate imperiled marine mammals or survey the extent of disease outbreaks or die-offs;** (5) **harass marine mammals on land incidental to other MMHSRP activities authorized by this permit;** and (6) develop and maintain cell lines from species under NMFS jurisdiction.

A. Number and Kind(s) of Marine Mammals and Location(s) [50 CFR 217.36(a)(i)]

1 PROJECT I - SPECIMEN COLLECTION: MARINE MAMMAL AND
ENDANGERED OR THREATENED SPECIES

- a. At any time of the year, the Holder/PI may, subject to the conditions herein, collect, analyze, archive, and import/export (worldwide), unlimited numbers and kinds of specimens, **including cell lines**, from the following marine mammal and endangered or threatened species:



- 1) Order Cetacea; and
 - 2) Order Pinnipedia (except walrus).
- b. The specimens authorized in A.1.a. may be taken from any of the following sources:
- 1) On-going live animal capture/release programs as authorized under Part A.2.
 - 2) Live animal capture/release as part of a disease, emergency response or die-off investigation;
 - 3) Live animals stranded or in rehabilitation (specimens may include biopsies);
 - 4) Captive animals when sampling is beyond the scope of normal husbandry;
 - 5) Directly taken in fisheries for such animals in countries and situations where such taking is legal;
 - 6) Killed during subsistence harvests by native communities;
 - 7) Killed incidental to commercial fishing operations.
 - 8) Killed incidental to other human activities (*e.g.* ship strikes, blasting, etc.);
 - 9) Found dead on the beach or at sea;

Found dead as part of NOAA investigations (*e.g.* hazmat spills, oil spills, harmful algal blooms, etc.);

Found on the beach or on land within 1/4 mile of the ocean (bones, teeth or ivory of any dead animal); or
 - 12) Soft parts sloughed, excreted, or discharged provided animals in the wild are not harassed during collection.

The Holder/PI or CIs may receive/possess samples taken from species of the Order Sirenia, polar bear (*Ursus maritimus*), sea otter (*Enhydra lutris*), and marine otter (*Lontra felina*).

PROJECT II - ENHANCEMENT ACTIVITIES: MARINE MAMMALS AND
ENDANGERED OR THREATENED SPECIES

- a. The Holder may “take”, as defined in the MMPA and ESA¹, live marine mammals that are stranded, entangled, disentangled, trapped out of habitat, in peril (e.g., in vicinity of an oil spill), extra-limital and nuisance marine mammals and endangered or threatened species by the following activities:
- 1) Capture/release or if capture is not necessary, use means available (as approved by the Holder/PI or designee) to lure trapped or nuisance animals out to sea or deter them away from an area of imminent danger;
 - 2) Treat distressed condition, including temporary captivity in an adequate treatment or rehabilitation facility;
 - 3) Disentangle from gear, ropes or other such man-made material which may be adversely affecting the animal;
 - 4) Transport for rehabilitation or return to wild;
 - 5) Attach tags to and/or biopsy stranded, entangled, disentangled, trapped out of habitat, in peril (e.g., in vicinity of an oil spill), extra-limital and nuisance animals; conduct auditory brainstem response and auditory evoked potential procedures, or
 - 6) Euthanize animals for humane or medical reasons approved by the Holder/PI or NMFS stranding coordinator (see B.2.b.).
- b. **The Holder may harass marine mammals during aerial surveys to locate imperiled marine mammals or to survey the extent of a disease outbreak or die-off.**
- c. **The Holder may harass marine mammals on land incidental to other MMHSRP activities authorized by this permit.**

3. PROJECT III - IMPORT/EXPORT OF LIVE MARINE MAMMALS (MMPA §109(h))

¹As defined in the MMPA and promulgating regulations, “take” means to harass, hunt, collect, capture, or kill, or to attempt to harass, hunt, collect capture, or kill any marine mammal; AND as defined in the ESA, “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, or collect, or attempt to engage in such conduct.

- a. At any time of the year, the Holder may, import/export (worldwide), non-listed marine mammals, for medical treatment, from the following species:
 - 1) Order Cetacea (except endangered or threatened species); and
 - 2) Order Pinnipedia (except walrus and endangered species).

B. Research/Enhancement Conditions [50 CFR 216.36(b)]

1 PROJECT I - SPECIMEN COLLECTION: MARINE MAMMALS AND ENDANGERED OR THREATENED SPECIES

- a. The Working Group on Unusual Marine Mammal Mortality Events (WGUMMME) will provide advice on any live animal investigative activities.
- b. Only experienced and trained personnel will perform any live animal investigative activities.
- c. Samples in A.1.c. may be acquired and possessed only if the samples were taken under authority of a U.S. Fish and Wildlife Service permit or authorization and samples were taken in a humane manner.
- d. Soft or hard parts authorized in A.1.b.13) may be collected/salvaged from marine mammals and endangered species provided no animals are harassed as a result of the taking, or the Holder has a scientific research permit to harass that species.

2. PROJECT II - ENHANCEMENT ACTIVITIES: MARINE MAMMALS AND ENDANGERED OR THREATENED SPECIES

- a. Tagging
 - 1) Prior to release, the Holder/PI or CIs may tag marine mammals and threatened or endangered species undergoing rehabilitation;
 - 2) Animals entangled in rope or other debris may be tagged and monitored; and
 - 3) Only experienced personnel can apply and deploy tags by an acceptable means.

- b. Euthanasia
 - 1) The NMFS National Stranding Coordinator(s) must be consulted and provide approval (verbal or written), in advance, of euthanasia for humane or medical purposes; and
 - 2) Euthanasia must only be performed by an attending, experienced, and licensed veterinarian or other qualified individual.
- 3. PROJECT III - IMPORT/EXPORT OF LIVE MARINE MAMMALS (MMPA §109(h))
 - a. The Holder/PI may only import or export non-listed marine mammals for medical treatment, rehabilitation or return to wild (including the return of extra-limital animals).
 - b. The Convention on International Trade in Endangered Species (CITES) CITES shall apply to imports and exports authorized in this Project.
- 4. PROJECTS I, II and III

The following individuals may participate in the conduct of the activities authorized herein: Teri Rowles, Ph.D./D.V.M. and Janet Whaley, D.V.M. The Holder/PI or Dr. Whaley may designate individuals to participate as co-investigators, in the conduct of the research and enhancement activities authorized herein. Each CI must receive a letter from the PI or Dr. Whaley confirming his/her status as a CI along with a copy of this Permit. Designation of co-investigators is at the sole discretion of the Holder/PI.

- b. The Holder/PI, or an identified CI with approval of the Holder/PI or designee, may designate members of the National Stranding or Disentanglement Network that holds Letters of Agreement, other network participants, and/or other federal, state or local agencies or their employees, and other qualified individuals as agents of the Holder/PI authorized under this Permit to conduct activities authorized herein.
- c. Researchers may conduct activities by the means and for the purposes described in the application, as limited by the Terms and Conditions of this Permit, and as otherwise authorized by the Holder/PI or CI(s).
- d. For marine mammal and endangered species stranding response activities (including capture/release activities), the Holder must:

- 1) Notify the Permits, Conservation and Education Division, Office of Protected Resources, prior to any capture/release activities;
 - 2) Only perform capture/release activities as advised by the WGUMMME;
 - 3) Only perform capture/release activities in conjunction with researchers and managers for that stock or species;
 - 4) Process animals in small groups;
 - 5) Minimize handling time;
 - 6) Exercise caution when approaching all animals, particularly female/pup or female/calf pairs;
 - 7) Monitor all biopsy or tagging sites for possible infection;
 - 8) Keep animals cool and wet during triage and/or transport (when appropriate);
 - 9) Use standardized, humane methods for sterilization and sample collection; and
 - 10) Use scientifically reviewed and acceptable tagging and biopsy sampling techniques that are not considered controversial. In no instance will the Holder attempt to biopsy a cetacean anywhere on the front half of the animal.
- e. For large whale disentanglements, the Holder must
- 1) Approach the whales gradually to minimize or avoid any sort of startle response;
 - 2) Use caution when approaching mothers and calves; and
 - 3) For the safety of the Researchers and whales, only use individuals that have been sufficiently trained, to the satisfaction of the Holder/PI, to disentangle animals.
- f. The Holder/PI must perform all activities and collect all samples in a humane manner.

- g. The Holder/PI must not harass or kill any animal for the express purpose of providing specimens to be obtained and/or imported/exported under this Permit.
- h. The Holder/PI will assign a permanent catalogue number, including any prior identification numbers, to all individuals or samples.

5 Import/Export Requirements

- a. The Holder/PI must not import specimens into the United States from marine mammals:
 - 1) Taken illegally in the country of origin or taken in a directed fishery, except where such taking is legal;
 - 2) Taken in any high seas driftnet fishery after December 31, 1992;
 - 3) Taken during any commercial whaling operation or any scientific whaling operation which does not meet the criteria established by the International Whaling Commission at the time of taking; or
 - 4) Deliberately killed for the purposes of fulfilling this Permit or taken through a directed take, except as noted in 1) above.
- b. Researchers must comply with the requirements of the CITES for import and export [50 CFR part 23].
- c. Marine mammal parts imported under the authority of this permit must be taken imported or exported in a humane manner, and in compliance with the Acts and any applicable foreign law. Importation of marine mammals and marine mammal parts is subject to the provisions of 50 CFR parts 14 and 216.
- d. All specimens imported into the United States must be accompanied by documentation giving a description of each animal from which specimen materials were taken including, if possible:
 - 1) Identification, age, size, sex, reproductive condition;
 - 2) Date and location of collection;
 - 3) Circumstances causing the death; and

- 4) The date and port of entry of each location.
- e. Any marine mammal part imported under the authority of this scientific research permit must not have been obtained as the result of a lethal taking that would be inconsistent with the Acts, unless specifically authorized in writing by the Office Director.
- f. The Holder must maintain records of the types, species, and numbers of specimens imported or exported, the importing or exporting country for each shipment, and circumstances surrounding the specimen acquisition (i.e., stranding, subsistence harvest, etc.).
- g. All specimen materials obtained under this authority shall be maintained according to accepted curatorial standards.
- h. Designated Ports of Entry: The following Customs ports of entry are designated for the importation or exportation of wildlife and are referred to hereafter as “designated ports” (50 CFR 14.12). Please notify the USFWS wildlife inspectors (list attached) at these ports at least 48 hours prior to import or export.

Designated Ports of Entry			
1)	Anchorage, AK	10)	Louisville, KY
2)	Atlanta, GA	11)	Memphis, TN
3)	Baltimore, MD	12)	Miami, FL
4)	Boston, MA	13)	New Orleans, LA
5)	Chicago, IL	14)	New York, NY
6)	Dallas/Fort Worth, TX,	15)	Newark, NJ
7)	Honolulu, HI	16)	Portland, OR
8)	Houston, TX	17)	San Francisco, CA
9)	Los Angeles, CA	18)	Seattle, WA

To use a port of entry other than the designated ports listed above, the Holder/PI or designee must obtain a Designated Port Exception Permit from the USFWS as required in 50 CFR 14.31 and 14.32. Additional information may be obtained from the USFWS website. <http://permits.fws.gov/>.

6. Disposition:

- a. After completion of initial research goals, the Holder must deposit any remaining samples or specimens into a *bona fide* scientific collection that

meets the minimum standards of collection, curation, and data cataloging as established by the scientific community.

- b. The Holder, PI, or designated CI's may dispose of carcasses, skeletal material, and soft parts from marine mammals and endangered species, as deemed appropriate and as limited by the MMPA, ESA, and FSA.

7. Transfer of Specimens - [50 CFR 216.37]: Marine mammal and endangered species parts taken or imported under authority of this Permit may be transferred by the Holder/PI or CI(s) provided:

Under no circumstances may any marine mammal part, **including cell lines**, be bought, sold, or used for commercial purposes.

- b. Specimens are transferred for research [including analysis, diagnostics and archival in a laboratory], maintenance in a scientific collection, or for education² purposes.

Recipients of marine mammal parts adhere to the terms and conditions of this Permit, regulations at 50 CFR 216.37, and any additional conditions required by the Holder/PI.

- d. **Recipients of cell lines are designated as Co-investigators under this Permit or are Holders of a special exception permit for scientific research and/or enhancement activities that includes development or research on cell lines, of the same species of marine mammal and /or endangered species.**

8. The authority of this Permit will extend from the date of issuance through **June 30, 2007**. The Terms and Conditions of the Permit will remain in effect as long as the Permit Holder/PI, CI(s) or designee(s) maintains the authority and responsibility of the marine mammal specimens imported hereunder. Attached is section 216.37 of the Regulations Governing the Taking and Importing of Marine Mammals that contains additional conditions applicable to maintaining marine mammal parts. These regulations are made a part hereof.

²In the case of transfers for educational purposes the recipient must be a museum or educational institution or equivalent that will ensure that the part is available to the public as part of an educational program.

C. Notifications/Coordination [50 CFR 216.36]

1. The Holder must notify the appropriate NMFS Assistant Regional Administrator for Protected Resources regarding events occurring in that Region. This notification must include (when possible) a description of the proposed activity, location, dates, and duration of activities.
2. If the events occur within the boundaries of a National Marine Sanctuary, the Holder must notify the Sanctuary Manager at the appropriate Sanctuary Office on the attached list. When possible, this notification must include specific dates, locations, and participants involved in the activities.
3. Coordination: The Holder must coordinate activities with other researchers conducting the same or similar research in locations authorized herein.

D. Reporting Conditions [50 CFR 216.38]

1 Annual Report:

Each year the permit is valid, the Holder must submit an annual report of research by March 31 of each year. The report shall cover research conducted during the previous year ending December 31 and describe the specific activities that have been conducted. For each marine mammal part taken, imported, exported or otherwise affected pursuant to permitted activities, the annual report must include the following:

a. Carcasses/Parts:

- 1) A description of the part and its assigned identification number;
- 2) Source, collector, country of origin, **and authorizing government agency (for imported samples)** for each sample reported;
- 3) A summary of the research analysis conducted on the samples; and
- 4) A description of the disposition of any marine mammal parts, including an identification of the part as required §216.37(a)(4) and the manner of disposition.

b. Live animal activities:

A description of the species, numbers of animals, locations of activities, and types of activities for:

Live captures;

- 2) Stranding response/disentanglement of marine mammals and endangered/threatened species;
- 3) Specimen collections;
- 4) Euthanasia (including reason for euthanasia, drugs used, etc.); and
- 5) **Incidental harassment during aerial surveys and land activities.**

When possible, please also describe the animals' reactions to any of the above activities.

2 Final Report:

Upon completion of the research, the Holder must submit a final report within 180 days of the last annual report. A final report should include information requested in 1 above, and:

- a. A summary of research objectives and results of research as it relates to the objectives; and
 - b. An indication as to when and where the research results will be published
3. The Holder must submit all reports and any papers or manuscripts published as a result of the research authorized herein, to the Director, Office of Protected Resources, National Marine Fisheries Service (NMFS), 1315 East-West Hwy., Silver Spring, Maryland 20910.

E. Photography/Filming Restrictions [50 CFR 216.36]

The Permit Holder and all researchers working under this Permit must obtain prior approval by the NMFS Permits, Conservation and Education Division for the following:

- a. Non-research related (**i.e., commercial**) use of photographs, video and/or film that were taken to achieve the research objectives; and
- b. All activities not essential to achieving the research objectives (*e.g.* still photography, videotaping, motion picture film making). Such activities must not influence the conduct of research in any way.

2. The Permit Holder and researchers are hereby notified that failure to obtain NMFS approval prior to conducting or facilitating such activities will be considered a violation of the Permit. The Permit Holder and researchers must agree, upon request by NMFS, to make space available on the vessel or aircraft for a NMFS observer during any trips where activities identified in E.1.b. may be conducted.
3. Any commercial/documentary film approved for use must include a credit, acknowledgment, or caption indicating that the research was conducted under a permit issued by NMFS under the authority of the MMPA and/or the ESA.

F. General Conditions [50 CFR 216.35 and 216.36]

- 1 The Permit Holder is ultimately responsible for all activities of any individual who is operating under the authority of the permit.

Co-investigators (CI): The Principal Investigator (PI) may designate additional co-investigators, provided that a copy of the letter designating the individual to conduct the activities authorized herein, and a copy of the individual's curriculum vitae is provided to the Permits Division by facsimile on the day of designation and confirmed by mail. The PI must ensure that the letter designating the individual(s) contain specific restrictions stated herein or a copy of the Permit is attached to the designation letter.

2. Research Assistants are individuals who work under the direct supervision of the PI or CI(s) and who are authorized to record data and serve as safety observers and boat tenders.
 - a. Restrictions: With the exception of professional and/or experienced photographers/videographers or licensed and/or experienced boat operators, Research Assistants are NOT authorized to carry out underwater observations and/or photography or to operate vessels. The qualifications and experience of the Research Assistant(s) must be commensurate with his/her assigned responsibilities.
 - b. Photographer/videographer: A professional and/or experienced videographer/photographer under the direct, on-site supervision of the Researchers [Holder, PI, or CI(s)], may conduct activities requiring underwater observations and/or photography. The Holder, PI, or CI(s) must be present at all times when activities is being conducted.
3. Individuals conducting activities authorized under the permit must possess qualifications commensurate with his/her duties and responsibilities, or must work under the direct supervision of the PI or CI.

4. Persons who require state, Federal, or foreign licenses to conduct activities authorized under the permit must be duly licensed when undertaking such activities.
5. The Permit Holder cannot transfer or assign the Permit to any other person. If the Holder requests authorization to add a person to this permit, the Holder cannot require compensation from the individual, in exchange for this request.
6. The Permit Holder, PI, or CI(s) must possess a copy of the permit when engaged in a permitted activity, when the marine mammal is in transit incidental to such activity, and whenever marine mammals or marine mammal parts are in the possession of the Permit Holder or agent. The Holder must affix a copy of the permit to any container, package, enclosure, or other means of containment, in which the marine mammals or marine mammal parts are placed for purposes of transit, supervision, or care. Any storage facility repositing marine mammal parts must keep a copy of the permit on file.

Activities conducted by the United States Coast Guard personnel authorized as Co-Investigators, LANTAREA will keep a copy of the Permit on file for reference landside at each of the following in Districts 1, 5, 7, and 8: General Counsel offices, OPCON, each Station/Group/Activities office; and at the Offices of Law Enforcement. LANTAREA will also advise vessels 87' and greater to keep a copy of the Permit on board.

7. Inspection: Upon request by NMFS personnel or agents designated by the Director, Office of Protected Resources, the Permit Holder must make available for inspection, any records collected under authority of this permit.
8. Permit Amendments: The Director, Office of Protected Resources, NMFS, may amend the provisions of this Permit upon reasonable notice.
9. Transferability: The PI and CI(s) cannot transfer or assign the Permit to any other person. The PI may request authorization to add a person to this Permit, but the PI cannot accept any direct or indirect compensation from the individual, in exchange for doing so.
10. No remuneration, either financial or in-kind, may be offered for the taking of animals from the wild. This does not preclude the payment of legitimate collection and transportation expenses (e.g., hiring staff, freight costs). It does, however, apply to paying bounties or incentive pay for the removal of animals from the wild.

- 11 Any falsification of information pertaining to the permitted activities, including information provided to NOAA personnel, will be considered a violation of the permit.
12. The Permit Holder, in signing this Permit, has accepted and will comply with the provisions of this Permit, applicable Regulations (50 CFR parts 216 and 222-226), and the MMPA, ESA, and FSA.

G. Penalties and Permit Sanctions (50 CFR 216.40)

- 1 Any person who violates any provision of this permit is subject to civil and criminal penalties, permit sanctions, and forfeiture as authorized under the MMPA, ESA and 15 CFR part 904 [Civil Procedures] and 50 CFR part 11.
- 2 All permits are subject to suspension, revocation, modification, and denial in accordance with the provisions of subpart D [Permit Sanctions and Denials] of 15 CFR part 904 and 50 CFR part 13.



James H. Lecky
Director
Office of Protected Resources
National Marine Fisheries Service

JUN 29 2005

Date



Teri Rowles, Ph.D., D.V.M.
Holder/Principal Investigator
Marine Mammal Health and Stranding
Response Program
Office of Protected Resources
National Marine Fisheries Service

JUL 05 2005


Date

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G. Penalties and Permit Sanctions (50 CFR 216.40)

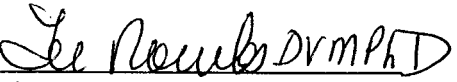
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All permits are subject to suspension, revocation, modification, and denial in accordance with the provisions of subpart D [Permit Sanctions and Denials] of 15 CFR part 904 and 50 CFR part 13.


James H. Lecky
Director
Office of Protected Resources
National Marine Fisheries Service

JUN 29 2005

Date


Teri Rowles, Ph.D., D.V.M.
Holder/Principal Investigator
Marine Mammal Health and Stranding
Response Program
Office of Protected Resources
National Marine Fisheries Service

JUL 05 2005

Date

FILE COPY

Attachment A

RELEVANT ADDRESSES

NMFS Regional Offices

Brent Norberg, Northwest Region, NMFS, 7600 Sand Point Way NE, BIN C15700, Bldg. 1, Seattle, WA 98115-0700; phone (206)526-6150; fax (206)526-6426;

Assistant Regional Administrator for Protected Resources, Alaska Region, NMFS, P.O. Box 21668, Juneau, AK 99802-1668; phone (907)586-7235; fax (907)586-7012;

Assistant Regional Administrator for Protected Resources, Southwest Region, NMFS, 501 West Ocean Blvd., Suite 4200, Long Beach, CA 90802-4213; phone (562)980-4020; fax (562)980-4027;

Tamra Farris, Assistant Administrator, Pacific Islands Regional Office, NMFS, 1601 Kapiolani Blvd., Suite 1110, Honolulu, HI 96814-4700; phone (808)973-2935; fax (808)973-2941;

Assistant Regional Administrator for Protected Resources, Northeast Region, NMFS, One Blackburn Drive, Gloucester, MA 01930-2298; phone (508)281-9346; fax (508)281-9371; and

Assistant Regional Administrator for Protected Resources, Southeast Region, NMFS, 9721 Executive Center Drive North, St. Petersburg, FL 33702-2432; phone (813)570-5301; fax (813)570-5517.

NOS National Marine Sanctuaries

Channel Islands National Marine Sanctuary, 113 Harbor Way, Santa Barbara, CA 93109 (805/966-7107)

Cordell Bank National Marine Sanctuary, Fort Mason, Building #201, San Francisco, CA 94123 (415/561-6622)

Fagatele Bay National Marine Sanctuary, P.O. Box 4318, Pago Pago, AS 96799 (011-684-633-7354)

Florida Keys National Marine Sanctuary, P.O. Box 500368, Marathon, FL 33050 (305/743-2437)

Florida Keys National Marine Sanctuary (Lower Region), 216 Ann Street, Key West, FL 33040 (305/292-0311)

Florida Keys National Marine Sanctuary (Upper Region), P.O. Box 1083, Key Largo, FL 33037 (305/852-7717)

Flower Garden Banks National Marine Sanctuary, 216 W. 26th Street, Suite 104, Bryan, TX 77803 (409/779-2705)

Gray's Reef National Marine Sanctuary, 10 Ocean Science Circle, Savannah, GA 3141 (912/598-2345)

Gulf of the Farallones and Cordell Bank National Marine Sanctuaries, Fort Mason, Building 201, San Francisco, CA 94123 (415/561-6622)

Hawaiian Islands Humpback Whale National Marine Sanctuary, 726 South Kihei Road, Kihei, HI 96753 (808/879-2818)

Monitor National Marine Sanctuary, The Mariners' Museum, 100 Museum Drive, Newport News, VA 23606-3759 (757/599-3122)

Monterey Bay National Marine Sanctuary, 299 Foam Street, Suite D, Monterey, CA 93940 (408/647-4258)

Olympic Coast National Marine Sanctuary, 138 W. 1st Street, Port Angeles, WA 98362 (360/457-6622)

Stellwagen Bank National Marine Sanctuary, 14 Union Street, Plymouth, MA 02360 (508/747-1691)

US Fish and Wildlife Service

Sirenia (other than Florida manatee) - Office of Management Authority, 4401 N. Fairfax Drive, Arlington, VA 22203 (1-800-358-2104);

Florida manatee - Field Supervisor, Jacksonville Field Office, 6620 South Point Drive South, Suite 310, Jacksonville, FL 32216-0312 [904-232-2580, Fax: 904-232-2404];

Southern sea otter - Field Supervisor, Ventura Field Office, 2493 Portola Road, Suite B, Ventura, CA 93003 [805-644-1766, Fax: 805-644-3958]; and

Northern sea otter, walrus, polar bear - Marine Mammals Management, 1101 E. Tudor Road, Anchorage, AK 99503-6199 [907-786-3800, Fax: 907-786-3816].

U.S. Fish and Wildlife Service
Wildlife Inspectors, Division of Law Enforcement

DESIGNATED PORTS

<p><u>Anchorage - Designated</u> P.O. Box 190045 Anchorage, Alaska, USA 99519 Phone: (907) 271-6198 Fax: (907) 271-6199</p>	<p><u>Los Angeles - Designated</u> 370 Amapola Ave. #114 Torrance, California 90501 Phone: (310)328-6307 Fax: (310)328-6399</p>
<p><u>Atlanta - Designated</u> P.O. Box 45287 Atlanta, Georgia 30320 Phone: (404)763-7959 Fax: (404)763-7560</p>	<p><u>Miami - Designated</u> 10426 N.W. 31st Terrace Miami, Florida 33172 Phone: (305)526-2610 Fax: (305)526-2695</p>
<p><u>Baltimore - Designated</u> 40 S. Gay Street, #223 Baltimore, Maryland 21202 Phone: (410)865-2127 Fax: (410)865-2129</p>	<p><u>New Orleans - Designated</u> 2424 Edenborn, Room 100 Metairie, Louisiana 70001 Phone: (504)219-8870 Fax: (504)219-8868</p>
<p><u>Boston - Designated</u> 70 Everett Avenue, Suite 315 Chelsea, Massachusetts 02150 Phone: (617)892-6616 Fax: (617)889-1980</p>	<p><u>New York - Designated</u> 70 E. Sunrise Hwy. #419 Valley Stream, New York 11580 Phone: (516)825-3950 Fax: (516)825-1929 - Inspectors Fax: (516)825-3597 - Special Agents</p>
<p><u>Chicago - Designated</u> Wildlife Inspection Program P.O. Box 66726 Chicago, Illinois 60666-0726 Phone: (773)894-2910 Fax: (773)894-2916</p>	<p><u>Newark - Designated</u> 1210 Corbin St. SeaLand Bldg., 2nd Fl. Elizabeth, New Jersey 07201 Phone: (973)645-6171 Fax: (973)645-6533</p>
<p><u>Dallas/Ft. Worth - Designated</u> 1717 West 23rd, Suite 104 DFW Airport, Texas 75261 Phone: (972)574-3254 Fax: (972)574-4669</p>	<p><u>Portland - Designated</u> 7000 NE Airport Way, Rm. C2732 Portland, Oregon 97238 Phone: (503)231-6135 Fax: (503)231-6133</p>

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50 CFR §216.37 Marine mammal parts

With respect to marine mammal parts acquired by take or import authorized under a permit issued under this subpart:

(a) Marine mammal parts are transferrable if:

(1) The person transferring the part receives no remuneration of any kind for the marine mammal part;

(2) The person receiving the marine mammal part is:

(i) An employee of NMFS, the U.S. Fish and Wildlife Service, or any other governmental agency with conservation and management responsibilities, who receives the part in the course of their official duties;

(ii) A holder of a special exception permit which authorizes the take, import, or other activity involving the possession of a marine mammal part of the same species as the subject part; or

(iii) In the case of marine mammal parts from a species that is not depleted, endangered or threatened, a person who is authorized under section 112(c) of the MMPA and subpart C of this part to take or import marine mammals or marine mammal parts;

(iv) Any other person specifically authorized by the Regional Director, consistent with the requirements of paragraphs (a)(1) and (a)(3) through (6) of this section.

(3) The marine mammal part is transferred for the purpose of scientific research, maintenance in a properly curated, professionally accredited scientific collection, or education, provided that, for transfers for educational purposes, the recipient is a museum, educational institution or equivalent that will ensure that the part is available to the public as part of an educational program;

(4) A unique number assigned by the permit holder is marked on or affixed to the marine mammal part or container;

(5) The person receiving the marine mammal part agrees that, as a condition of receipt, subsequent transfers may only occur subject to the provisions of paragraph (a) of this section; and

(6) Within 30 days after the transfer, the person transferring the marine mammal part notifies the Regional Director of the transfer, including a description of the part, the person to whom the part was transferred, the purpose of the transfer, certification that the recipient

has agreed to comply with the requirements of paragraph (a) of this section for subsequent transfers, and, if applicable, the recipient's permit number.

(b) Marine mammal parts may be loaned to another person for a purpose described in paragraph (a)(3) of this section and without the agreement and notification required under paragraphs (a)(5) and (6) of this section, if:

(1) A record of the loan is maintained; and

(2) The loan is for not more than one year. Loans for a period greater than 12 months, including loan extensions or renewals, require notification of the Regional Director under paragraph (a)(6).

(c) Unless other disposition is specified in the permit, a holder of a special exception permit may retain marine mammal parts not destroyed or otherwise disposed of during or after a scientific research or enhancement activity, if such marine mammal parts are:

(1) Maintained as part of a properly curated, professionally accredited collection; or

(2) Made available for purposes of scientific research or enhancement at the request of the Office Director.

(d) Marine mammal parts may be exported and subsequently reimported by a permit holder or subsequent authorized recipient, for the purpose of scientific research, maintenance in a properly curated, professionally accredited scientific collection, or education, provided that:

(1) The permit holder or other person receives no remuneration for the marine mammal part;

(2) A unique number assigned by the permit holder is marked on or affixed to the marine mammal specimen or container;

(3) The marine mammal part is exported or reimported in compliance with all applicable domestic and foreign laws;

(4) If exported or reimported for educational purposes, the recipient is a museum, educational institution, or equivalent that will ensure that the part is available to the public as part of an educational program; and

(5) Special reports are submitted within 30 days after both export and reimport as required by the Office Director under §216.38.

APPENDIX H

GENERAL DESCRIPTIONS OF RESEARCH METHODOLOGIES UNDER THE ESA/MMPA PERMIT

1. Current ESA/MMPA Permit Activities

1.1.1 Close Approach

Animals may be taken through close approaches by aircraft for disentanglement, photo-identification, behavioral observation, hazing (during emergency response), and incidental harassment. Animals may be taken through close approaches by vessel for disentanglement, photo-identification, behavioral observation, capture, tagging, marking, biopsy sampling, skin scrapes, swabs, collection of sloughed skin and feces, breath sampling, blood sampling, administration of drugs, video recording, hazing (during emergency response), and incidental harassment. More than one vessel may be involved in close approaches and vessels may approach an animal more than once, in order to complete research tasks. Incidental harassment of non-target animals may occur during close approaches by aircraft or vessel.

1.1.2 Aerial Surveys

Aerial surveys are used to locate imperiled marine mammals; to monitor behavior or disease in a given population or individual; and to survey the extent of disease outbreaks or die-offs. The aircraft type used during emergency response activities depends upon the aircraft available at the time of the response and the logistics of the activity. Aircraft type includes helicopters and fixed-wing aircraft. The frequency of surveys is dependent on the circumstances of the involved stranded or entangled animals, the disease, or the occurrence of a Unusual Mortality Event (UME). Aerial surveys are flown along predetermined transect lines at a set altitude and air speed while observers scan the water for signs of marine mammals. When an animal or group of animals is sighted, the survey aircraft descends and circles over the animal or animals to obtain photographs. The time and altitude of the aircraft depends on the aircraft and the response or research situation. All aerial surveys will be flown according to the National Oceanic and Atmospheric Administration's (NOAA) Aviation Safety Policy (NOAA Administrative Order 209-124), with trained observers and pilots.

1.1.3 Vessel Surveys

Vessel surveys may be conducted to: collect data on animal abundance, to assess animals; locate animals for research activities; and collect research samples. The vessels themselves may be used as a platform for conducting animal sampling. Vessel surveys may be used to monitor animals subsequent to capture-release sampling for assessment, photo-identification, and tracking. For small cetaceans, inshore monitoring surveys are conducted using small (5-7 m) outboard motor powered

boats. Animals are located by having crew members visually search waters as the boat proceeds along a specified route at slow speeds (8-16 km/hr). Animals outfitted with Very High Frequency (VHF) radio tags are located by listening for the appropriate frequency and, after detecting a signal, maneuvering the boat towards the animal using a combination of signal strength and directional bearings. Frequencies and remote sensors may also be monitored. Once a group of animals is located, the boat approaches the group so that crew members can assess their physical and medical condition. Photographs of the dorsal fins of individual animals are taken for later identification and matching to existing dorsal fin catalogs. When an animal is located that has been recently caught for a health evaluation, an attempt is made to photograph the dorsal fin and body to confirm identification, health, position, and behavior. A photography of the dorsal fin would also be used to assess wound healing from tag attachment. The area behind and below the posterior aspect of the dorsal fin may also be photographed to assess biopsy wound healing. A telephoto lens would be used for photographs, so vessels would not need to be too close to animals.

Multiple approaches may be required to obtain appropriate quality photographs, particularly if there are multiple individuals within a group. Close approach is terminated and the boat moves away from the group if animals begin to display behavior that indicates undue stress (e.g., significant avoidance behavior such as chuffing [forced exhalation], tail slapping, or erratic surfacing).

1.1.4 Capture and Restraint

Capture of marine mammals may be necessary during research activities to collect specimens, perform an examination, or attach tags or scientific instruments. Capture methods include, but are not limited to, nets, traps, conditioning, anesthesia, and immobilization. For land captures of pinnipeds, net types may include, but are not limited to, circle, hoop, dip, stretcher, and throw nets. Net guns and pole nooses may be used for capture. Typically seals resting onshore are stalked and placed in individual hoop nets. An injectible immobilizing agent, administered remotely by a dart, may be used to subdue older animals. Young pups may be caught and picked up by researchers. Herding boards may be used to maneuver animals into cages. For water captures of pinnipeds, dip nets, large nets, modified gill nets, floating or water nets, and platform traps may be used. Purse seine nets may be used offshore of haul-out sites to capture animals when they stampede into the water (Jeffries *et al.* 1993). Animals become entangled by the net as it is pulled ashore. Once removed from the net, animals are placed head first into individual hoop nets. Pups may be restrained by hand, in a hoop net, or with the inhalation of a gas anesthesia (administered through a mask over their nose). Older

animals may be restrained using gas anesthesia (administered through an endotracheal tube), a fabric restraining wrap, a restraining net, or through sedation.

Capture and restraint of cetaceans occurs during health assessment studies, emergency response, and disentanglement activities. Typical methods currently used during health assessment studies are described below. However, these methods may vary depending on the species and location. All capture and restraint protocols would be approved by NMFS PR1 before their use. The number of animals to be captured and sampled for health evaluations is determined from the sample size analyses that are based on the expected variance in values of designated health endpoints (*e.g.*, contaminant concentrations, seroprevalence of viral titers, prevalence of a given disease state) and information as to what are clinically relevant differences to be detected. Expected variance of endpoint measures are often estimated from available literature, but a pilot study (dart biopsy or small-scale health evaluations) are sometimes required for obtaining the variance estimates needed for determining sample size.

For health assessment studies of small cetaceans, small schools of animals are approached for identification (see description under vessel surveys). If the school contains animals desired for capture, the school is followed until it is in waters that facilitate safe captures (waters outside of boating channels, equal to or less than 1.5 m deep, where currents are minimal). Typically no more than three animals are captured at one time. The animals are encircled with a 600 m long by 4 m deep seine net, deployed at high speed from an 8 m long commercial fishing motor boat. Small (5-7 m) outboard-powered vessels are used to help contain the animals until the net circle is complete. These boats make small, high-speed circles, creating acoustic barriers.

Once the net is completed, about 15-25 handlers are deployed around the outside of the corral to correct net overlays and aid any animals that may become entangled in the net. The remaining 10-20 or more team members prepare for sampling and data collection and begin the process of isolating the first individual. Isolation is accomplished by pinching the net corral into several smaller corrals. Handlers are usually able to put their arms around the selected animal as it bobs in place or swims slowly around the restricted enclosure. However, a few animals may strike the net and become entangled. After animals are restrained by handlers, an initial evaluation is performed by a trained veterinarian. Once cleared by the veterinarian, the animal is transported to the processing boat via a navy mat and/or a sling. A sling is also used to place an animal back in the water for release.

In some cases, animals may need to be captured in deep waters. A break-away hoop-net is used to capture individuals as they ride at the bow of the boat. When they surface to breathe, the hoop is placed over their head and they move through the hoop, releasing the net. The additional drag of the net slows the animals substantially, but the design allows the animal to still use its flukes to reach the surface to breathe. The net is attached to a tether and large float, and the animal is retrieved, maneuvered into a sling and brought onboard the capture boat. All other procedures are the same for animals capture using either technique.

With both capture techniques, following restraint, animals are generally placed on foam pads on the deck of a boat, either solid hulled or inflatable, or another safe platform. The animal is shaded by a canvas top. The animal's respirations and behavior are monitored and recorded by one researcher. Another team member is responsible for ensuring that the animal's eyes are shaded from direct sunlight. Two to four personnel are positioned around the animal for restraint, as necessary, and to keep the animal wet and cool using buckets of water and sponges.

There are animals that do not acclimate well to being on the platform; for these individuals the assessment is conducted in the water. Animals that appear to be pregnant (but not in the late 2nd or 3rd trimester) and young animals may also be worked up in the water when this is considered to be in the dolphin's best interest. In addition, for animals that have been caught in previous years a reduced sampling protocol may be employed, reducing the need for the animal to be removed from the water.

For emergency response, small cetaceans in shallow water may be caught using a net deployed from a boat with methods similar to those described above. In rivers and canals, responders may use their bodies to herd an animal and then hand catch it. In deep water, hoop net may be used to capture animals.

For large whale disentanglement activities, the animal may be either physically or chemically restrained. Physical restraint of the animal is accomplished by attaching control lines, floats, and buoys to the entangling gear with a grappling hook or by attaching new gear to the animal to hold it. Responders use control lines to pull themselves up to the whale. Floats and buoys are used to slow the animal down by increasing drag. Response to entangled small cetaceans typically requires in-water capture of free-swimming animals. Entangled pinnipeds are typically captured on land when they are hauled out. These capture methods are described above.

1.1.5 Transport

Vehicles, boats, or aircraft are used to transport marine mammals to rehabilitation facilities or release sites. Cetaceans may be transported on stretchers, foam pads, or air mattresses. For short-term transport, closed-cell foam pads are preferred because they are rigid and do not absorb water. Open cell foam is typically used for long-term transport of cetaceans because it can contour to the animal's form. Boxes may be constructed to transport the animal upright in a stretcher. Cetaceans must be protected from exhaust fumes, sun, heat, cold, and wind, as transport often occurs on the flatbed of a truck. Animals are kept moist and cool, to avoid overheating (Geraci and Lounsbury 2005).

Small pinnipeds are typically transported in plastic kennel cages. Cages are large enough for animals to turn around, stretch out, and raise their heads. Cages should prevent animal contact with waste and allow proper air circulation. As with cetaceans, pinnipeds traveling by vehicle must be protected from the sun, heat, cold, wind, and exhaust fumes. Pinnipeds may overheat during transit and wetting the animal helps to prevent hyperthermia (Geraci and Lounsbury 2005). Large pinnipeds may need to be sedated during transport.

Commercial vehicle transport procedures for marine mammals under U.S. jurisdiction should comply with the Animal and Plant Health Inspection Service's "Specifications for the Humane Handling, Care, Treatment, and Transportation of Marine Mammals" (9 CFR Ch 1, Subpart E). The "Live Animal Regulations" published by the International Air Transport Association (IATA), and accepted by the Convention on International Trade in Endangered Species of Wild Fauna and Flora, are followed for the air transport of animals under foreign jurisdiction (IATA 2006). Both sets of standards have specifications for containers, food and water requirements, methods of handling, and care during transit.

1.1.6 Tagging/Attachment of Scientific Instruments

Tagging of marine mammals may be used to monitor an animal's movements after immediate release (from a stranding site), release after rehabilitation, or release after research activities. Other tags or scientific instruments may be used to obtain data on dive depth, dive time, water temperature, light levels, and animal and other underwater sounds. A variety tags (including scientific instruments) may be attached to or implanted in an animal. The type of tag and method of attachment depends on the species being tagged and the research or question being addressed. Types of tags that are used include, but are not limited to: roto-tags (cattle tags), button tags, VHF radio tags, satellite tags, Passive Integrated Transponder (PIT) tags, D-tags, code division multiple access tags, pill, time-depth

recorders (TDRs), life history transmitters (LHX tags), and crittercams (video cameras). Tag attachment methods vary with tag type, species, and circumstances. Attachment methods for cetaceans include, but are not limited to: bolt, buoy, punch, harness, suction cup, implant, or ingestion. Pinniped attachment methods include, but are not limited to: glue, bolt, punch, harness, suction cup, surgical implant, or ingestion. Specific tags and methods of attachment will be evaluated for each situation.

Tags are generally attached to free-swimming cetaceans by crossbow, compound bow, rifles, spear guns, slingshot (or throwing device), pole or jab spears. Attachments are temporary and occur via a suction cup device or implant. Scientific instruments attached to suction cups include, but are not limited to D-tags, TDRs, VHF tags, satellite tags, and crittercams. Large, slow moving whales may be tagged via suction cups using a pole delivery system, cantilevered on the bow of a boat. Bow-riding animals may be tagged using a hand held pole. Crossbows are the preferred method for tagging fast-moving toothed whales. Tags are attached on the dorsal surface of the animal behind the blowhole, closer to the dorsal fin. Tag placement ensures that the tag will not cover or obstruct the whale's blowhole, even if the cup migrates after placement (movement would be toward the tail).

Implantable tags may be attached in free-swimming animals by mounting the instrument on an arrow tip or other device designed to penetrate the skin of the animal. Tags would typically be attached by crossbow and may include, but not limited to satellite tags, VHF tags, and TDRs. Buoys are used to attach VHF or satellite tags to gear on entangled whales. Buoys may also be attached to increase drag in an attempt to slow the whale for disentanglement.

For animals in hand, tags may be attached for longer deployments. Roto-tags may be attached to cetaceans with a plastic pin to the trailing edge of the dorsal fin. Button tags are plastic disks attached with a bolt through the dorsal fin. VHF tags (roto-radio tags) may also be bolted through the trailing edge of the dorsal fin. The bolts on each type of tag are held in place by corrodible nuts, so that the tag will eventually be released.

Satellite or VHF tags can be mounted on a molded plastic or fabric saddle that would be bolted through the dorsal fin (Geraci and Lounsbury 2005) or dorsal ridge. Plastic saddles would be padded on the inside to reduce skin irritation. Saddles would be attached to the dorsal fin with two or three Delrin pins secured with magnesium nuts. The nuts would corrode in seawater, allowing the package to be released within a few days or weeks.

Dorsal ridge “spider tags” are currently used on beluga whales (NMFS Permit No. 782-1719) (Litzky et al. 2001). Up to four holes are bored in the region of the anterior terminus of the dorsal ridge using a coring device (trochar) with a diameter of no more than 1 cm. Each insertion and exit point for the trochars would be prepared by cleaning with an antiseptic wipe, or equivalent. Rods of nylon or other non-reactive material, not greater than 1 cm in diameter and 50 cm in length, would then be pushed through the holes and attached to the wire cables or fabric flange or straps of the satellite tags or through bolt holes in the tag. The wire cables would be tightened to hold the tag against the back of the animal to minimize tag movement and drag, but would not be put under significant tension to avoid pressure necrosis around the pin insertion points. The other attachment systems would be manipulated to achieve the best possible fit depending on their design. Excess rod would then be cut off. All equipment would be sterilized in cold sterile solution, alcohol, or equivalent, and kept in air- and water-tight containers prior to use. Trochars and rods would be coated with antiseptic gel prior to insertion and each trochar would only be used for one hole before it is cleaned, sharpened, and re-sterilized. Where more than one instrument is to be attached, the number of pins would be limited to four.

A fast drying epoxy adhesive is used to glue scientific instruments to pinnipeds. Instruments may be attached to the dorsal surface, head, or flippers and will release when the animal molts. A harness can be used to attach scientific instruments. Roto-tags can be attached to flippers using a single plastic pin. Tags can also be surgically implanted into the body cavity or muscle of pinnipeds. Implanted tags include PIT and LHX tags.

A PIT tag is a glass-encapsulated microchip, which is programmed with a unique identification code. When scanned with an appropriate device, the microchip transmits the code to the scanner, enabling the used to determine the exact identity of the tagged animal. PIT tags are biologically inert and are designed for SQ injection using a syringe or similar injecting device. The technology is well established for use in fish and is being used successfully on sea otters (Thomas et al. 1987), manatees (Wright et al. 1997), and southern elephant seals (Galimberti et al. 2000). PIT tags are also commonly used to identify domestic animals. PIT tags may be injected just below the blubber in the lumbar area, approximately 5 inches lateral to the dorsal midline and approximately 5 inches anterior to the base of the tail. Tags may also be injected at alternative sites on a pinniped’s posterior, but only after veterinary consultation. The injection area would be cleansed with Betadine (or equivalent) and alcohol prior to PIT tag injection. PIT tags are currently being used in Hawaiian monk seals (NMFS Permit No. 848-1695).

LHX tags are satellite linked, delayed transmission life history transmitters. The tag allows continuous monitoring from up to five built in sensors. The tag is implanted into the abdominal cavity of a pinniped. When the animal dies, the tag is released from the body and transmits the data to a satellite. The battery life of an LHX tag is well over five years. LHX tags are being evaluated under current NMFS PR1 research permits (Permit No.1034-1685 [California sea lions] and No. 881-1668 [Steller sea lions]).

1.1.7 Marking

Marking methods for marine mammals during research activities include, but are not limited to: bleach, crayon, zinc oxide, paint ball, notching, and freeze branding. Crayons, zinc oxide, and paint balls can be used on cetaceans and pinnipeds for temporary, short-term marking. Bleach or dye (human hair dye) markings can be used on pinnipeds. The marks are temporary, with the length of time dependent on molting. Notching can be used to permanently mark cetaceans by cutting a piece from the trailing edge of the dorsal fin. Notching in pinnipeds removes a piece of skin from the hind flipper of phocids (true or earless seals) and the foreflipper of otariids (sea lions and fur seals).

Cetaceans can be marked using freeze branding, typically on both sides of the dorsal fin or just below the dorsal fin. Freeze branding is used during health assessment studies to mark all animals for post-release monitoring. Freeze branding uses liquid nitrogen to destroy the pigment producing cells in skin. Each brand (typically 2" numerals) is supercooled in liquid nitrogen and applied to the dorsal fin for 15-20 seconds. After the brand is removed, the area is wetted to return the skin temperature to normal. Brands will eventually re-pigment, but may remain readable for five years or more. Freeze brands provide long-term markings that may be important during subsequent observations for distinguishing between two animals with similar fin shapes of natural markings. Freeze branding may be used to produce two types of marks on pinnipeds. Short contact by the branding iron destroys pigment producing cells, leaving an unpigmented brand. Longer contact with the brand destroys these cells and the hair, leaving a bald brand (Merrick *et al.* 1996). During health assessments, each animal is photographed and videotaped to record the locations of freeze brands. Freeze brands are photographed as they are applied, as they rapidly disappear following application.

1.1.8 Sample Collection and Analysis

Specimens would be taken from the Order Cetacea and the Order Pinnipedia (except walrus), this includes threatened and endangered species. Specimen materials may include, but are not necessarily limited to: earplugs, teeth, bone, tympanic bullae, ear ossicles, baleen, eyes, muscle, skin, blubber,

internal organs and tissues, reproductive organs, mammary glands, milk or colostrums, serum or plasma, urine, tears, blood or blood cells, cells for culture, bile, fetuses, internal and external parasites, stomach and/ or intestines and their contents, feces, air exhalate, flippers, fins, flukes, head and skull, and whole carcasses. Specimens may be acquired opportunistically with ongoing studies or prospective design plans; therefore specific numbers and kinds of specimens cannot be predetermined. Because all specimens will be acquired opportunistically, the MMHSRP will have minimal control over the age, size, sex, or reproductive condition of any animals that are sampled. Specific methods for biopsies, blood, breath, ultrasound, and other sampling are described below under the corresponding section.

Marine mammal specimens collected for analysis or archiving would be legally obtained from the following sources:

1. On-going live animal capture/release programs;
2. Live animal capture/release as part of a disease, emergency response, or die-off investigation;
3. Live animals stranded or in rehabilitation;
4. Captive animals, when sampling is beyond the scope of normal husbandry
5. Animals found dead on the beach or at sea;
6. Animals directly taken in fisheries in countries where taking of such animals is legal;
7. Animals killed during subsistence harvests by native communities;
8. Animals killed incidental to recreational and commercial fishing operations;
9. Animals killed incidental to other human activities;
10. Animals found dead as part of NOAA investigations (*e.g.* harmful algal blooms, oil spills, etc.);
11. Soft parts sloughed, excreted, or discharged by live animals (including blowhole exudate);
12. Live animals during surveillance
13. Bones, teeth, or ivory found on the beach or on land within ¼ mile of the ocean;
14. Confiscated animals (*e.g.*, as part of enforcement action); or
15. Animals legally taken in other permitted research activities in the U.S. or abroad.

Specimen and data collection from marine mammal carcasses may follow the necropsy protocols for pinnipeds (Dierauf 1994), right whales (and other large cetaceans) (McLellan *et al.* 2004), and killer whales (Raverty and Gaydos 2004). These include how samples would be stored, transported, and

analyzed. During live animal response or research, specimen and data collection protocols would depend on the samples being collected and the intended analyses.

1.1.9 Biopsy Sampling

Biopsy sampling would be conducted to collect skin, blubber, or other tissue samples. Sampling may occur on free ranging animals, animals captured for health assessment studies, and animals in rehabilitation. Skin and blubber biopsy sampling from a vessel may be conducted using crossbows, compound bows, dart guns, or pole spears. A crossbow would be used to collect a sample from animals within approximately 5 to 30 m of the bow of the vessel. The depth of the biopsy tip penetration would vary depending on the species being sampled and the depth of their blubber layer. For small cetaceans, such as bottlenose dolphins, the biopsy tip used to collect blubber for contaminant analysis penetrates to a depth of approximately 1.0-2.5 cm. Shorter tips may be used when only skin sampling is required. Sloughed skin can aggregate in the wake behind a moving animal, the slick “footprint” after a whale submerges, or in the water following surface active behaviors, such as breaching. This skin may be collected for analyses. Skin may also be collected from the suction cup used to temporarily attach scientific instruments to cetaceans.

Blubber biopsy samples may be taken during health assessment studies. These samples are necessary for the analyses of environmental contaminants, biotoxins, and fatty acids. An elliptical wedge biopsy is obtained from each animal. The sampling site is located on the left side of the dolphin, just below the posterior insertion of the dorsal fin. Local anesthetic (typically Lidocaine) is injected in an L-block at the biopsy site. A veterinarian then uses a clean scalpel to obtain a sample that is approximately 5 cm long and 3 cm wide, through nearly the full depth of blubber (approximately 1.5-2.0 cm). A cotton plug soaked with ferric subsulfate is inserted into the site once the sample is removed in order to stop bleeding. The sample is then partitioned into separate containers for each project. Skin obtained with the blubber biopsy is used for genetic analyses. Skin scrapings, biopsy samples, or needle aspirates will be collected for clinical diagnoses from sites of suspected lesion. These samples are processed by various diagnostic laboratories and a subsample is sent to the National Marine Mammal Tissue Bank (NMMTB).

1.1.10 Blood Sampling

Blood sampling in cetaceans may be collected from the dorsal fin, caudal peduncle, pectoral flipper, or flukes. Sampling at any of these sites would be done using an 18- gauge 4-cm needle, with a scaled down needle bore for calves, Dall’s porpoise, and harbor porpoise. Blood samples in both phocids

and otariids may be collected through the bilaterally divided extradural vein, which overlies the spinal cord. Otariids may also be sampled using the caudal gluteal vein. Sampling would be done with a 20-gauge, 4-cm needle for small animals and an 18-gauge, 4-cm needle for larger animals. Phocids may be sampled by inserting a needle into the metatarsal region of the hind flipper (Geraci and Lounsbury 2005).

Blood sampling during health assessment studies may occur in the water prior to coming aboard the vessel, or once aboard the vessel. Typically, the blood sample is drawn from a blood vessel on the ventral side of the fluke, using an 18-20 gauge ¾" catheter. Approximately 200-350 cubic centimeters (cc) of blood are removed from each individual. The samples are placed in a variety of Vacutainers and other containers specific to the analyses, and are stored in a cooler until they are transported to a laboratory. Some samples may be processed on deck with a portable centrifuge system. Samples are separated and prepared for: standard chemistry, hematology, and hormonal analysis; contaminant analyses; immune function studies; aliquots for culturing for assessment of pathogens; and other preparations as necessary. All sample analyses occur at various diagnostic laboratories.

1.1.11 Breath Sampling

Breath sampling would be conducted on cetaceans or pinnipeds to assess their nutritional status and health. A specially designed vacuum cylinder would be used to collect breath samples. The system has previously been used on several cetacean species and elephants. Samples would be collected from free ranging cetaceans by positioning a funnel at the end of a pole (which is connected to the vacuum cylinder via plastic tubing) over the blowhole of the surfacing animal. The cylinder valve would be manually opened during exhalation. An algal culture plate inside the funnel would be used for bacterial cultures of the breath. The culture plate would be sealed and transported to a laboratory for analysis. The equipment typically would not touch the animal, although in some instances there may be brief (less than 10 seconds) contact. An individual animal may be approached up to three times to obtain a sample. Samples may also be collected during health assessments or on any live captured animal. The samples will then be examined using gas chromatography-mass spectrometry for volatile compounds to evaluate respiratory disease, nutritional status, and physical condition.

1.1.12 Ultrasound Sampling

Ultrasound sampling may be conducted on free ranging animals and animals captured during emergency response or research studies. Ultrasound may be used to evaluate blubber thickness, wounds, lesions, the presence of lesions, pregnancy, reproductive organs, and blood vessels.

During health assessment studies, a diagnostic ultrasound is used to examine the condition of the internal organs and to measure testis length and diameter to assess male maturity. Females are also examined by a veterinarian during the initial evaluation for pregnancy and the presence of developing follicles. Females determined to be in late-term pregnancy (late 2nd and 3rd trimester) are tagged with a roto-tag so they can be avoided in subsequent sets, and then immediately released. The ultrasound operates at a frequency of about 2.5-5.0 MHz, well above the dolphin's hearing. The examinations are recorded on video and audio tape, and thermal prints are made of features of interest. In addition, digital video thermography is used to measure skin temperature.

1.1.13 Other Sampling

Other sampling includes tooth extraction, urine, blowhole, fecal, milk, and sperm. Colonic temperature measurements may also be conducted. Most of these samples are collected during health assessment studies.

During health assessment studies, the age determination of animals is conducted using the deposition of growth layer groups in teeth. A tooth is extracted from the animal by a veterinarian trained in this procedure. The tissue surrounding the tooth (usually #15 in the lower left jaw) is infiltrated with Lidocaine without epinephrine (or equivalent local anesthetic), applied through a standard, high-pressure, 30 gauge needle dental injection system. Once the area is anesthetized, the tooth is elevated and extracted using dental extraction tools. A cotton plug soaked in Betadine, or equivalent, solution is inserted into the alveolus (pit where the tooth was) as a local antibiotic and to stop bleeding. This plug is removed prior to release. This procedure is modified from that described by Ridgway *et al.* (1975), wherein the entire mandible was anesthetized. The revised procedure has been used in captivity and in live capture and release sampling for many years. Extracted teeth are sectioned, stained, and growth layer groups are counted.

Urine analyses are diagnostically useful to evaluate the urinary system (kidneys, ureters, bladder, and urethra). Important diagnoses can be made by determining the color, pH, turbidity, chemical constituents, presence or absence of blood, and by identifying any bacteria or yeast present in the

urine. These diagnoses would likely be missed without such an examination. During health assessment studies, urine may be collected opportunistically, by holding an open sterile container in the urine stream. Samples may also be collected using urinary catheterization. A veterinarian experienced with cetaceans and a qualified veterinary technician perform the catheterization procedure. The dolphin would be lying on its side on the foam-covered deck of the boat serving as the veterinary laboratory. Wearing sterile surgical gloves, the assistant gently retracts the folds of the genital slit to allow visualization of the urethral orifice. The veterinarian (wearing sterile gloves) carefully inserts a sterile urinary catheter, lubricated with sterile lubricating gel, into the bladder via the urethra. A 50 ml collection tube without additive is used to aseptically collect the urine as it flows from the catheter. The catheter is removed after the urine is collected.

Swab samples from the blowhole and rectum are collected from each individual. A sterile swab is inserted into the blowhole during a breath, gently swabbed along the wall of the blowhole, and removed during the next breath. Fecal samples are obtained either from a small catheter inserted about 10 cm into the colon or from a sterile swab of the rectum. Cetacean feces may also be collected in the water column either from a vessel or a diver in the water. Pinniped feces may be collected directly from haul-out or rookery sites. The samples are sent to a diagnostic laboratory for culturing and species identification.

Milk samples are collected to measure the levels of lipophilic organic contaminants and to determine composition. All adult females are checked for lactation and milk samples are collected from all lactating females. A “breast-pump” apparatus is used to obtain the sample. Milk is expressed with gentle manual pressure exerted on the mammary gland while suction is provided by a 60 cc syringe attached by tubing to another 12 cc syringe placed over the nipple. Samples of up to 30-50 ml may be collected.

A potential impact of environmental contaminants on animal health is the reduction of reproductive capabilities. This may be measured indirectly in males through ultrasonic examination, measurement of testes, and measurement of testosterone concentrations. Collection and examination of sperm samples would be a more direct measurement of male reproductive function. If possible, ejaculate samples would be collected through manual manipulation of the penis. Samples are examined for sperm count, motility, and condition.

Colonic temperature is collected to understand vascular cooling and reproductive status (Rommel *et al.* 1992, 1994). Temperature measurements are obtained with a linear array of thermal probes

interfaced to a laptop computer. The probes are housed in a 3 mm flexible plastic tube. The probe is sterilized, lubricated, and then inserted into the colon through the anus to a depth of 0.25-0.40 m, depending on the size of the animal. Temperature is continuously monitored.

Skin biopsies may be obtained from individuals displaying indications of skin disease. Gastric samples may be obtained using a standard stomach tube to evaluate health and evidence of brevetoxin exposure. Standard length and girth measurements may be taken and a series of ultrasonic measurements of blubber layer thickness may be obtained (the larger the animal, the more measurements).

1.1.14 Administration of Drugs and Euthanasia

Drugs may be administered for sedation/chemical restraint during stranding response and disentanglement activities. Anesthetics and analgesics may be used during research before performing biopsies, tooth extractions, and other procedures. Antibiotics, antifungals, and other medicines may be administered during response and rehabilitation. Drugs may be administered orally or through injection, intubation, or inhalation. Orally administered medications are typically hidden in fish but may also be given via stomach tube.

Subcutaneous (SQ), intravenous (IV), intramuscular (IM), and intraperitoneal (IP) injections may be used to deliver drugs. All of these methods would require some level of animal restraint. SQ injections are made in the interface between the blubber layer and the skeletal muscle layer. Animals must be maintained in a certain position for prolonged periods of time. The most common site for SQ injections in pinnipeds is the craniodorsal thorax between the scapulae. SQ injections would not be used in cetaceans.

In general, IV injections are complicated and rarely used in marine mammals. In cetaceans, medications may be injected in the fluke vessel if the volume is low and the medicine is not harmful if delivered perivascularly. An indwelling catheter may be used if repeated administration or slow infusion occurs (McBain 2001).

IM drug injections require longer needles because of the thickness of skin and blubber. Caution is taken to avoid accidental injection into the blubber, which may cause sterile abscess formation or poor absorption (Gulland *et al.* 2001). Injection into the blubber also has different drug-partitioning properties than muscle. This may result in the failure to activate a systemic distribution of highly lipid soluble medications (Stoskopf *et al.* 2001). Injection sites for phocids are the muscles

surrounding the pelvis, femur, and tibia. These sites, as well as the large muscles overlying the scapulae, are appropriate for otariids (Gulland *et al.* 2001). IM injections in cetaceans may be made off the midline, slightly anterior to, parallel to, or just posterior to the dorsal fin. Caution is taken to avoid the thoracic cavity if the injection is anterior to the dorsal fin (McBain 2001). Multiple injection sites may be used and the volume per site should be reasonable depending on the animal.

IP injections deliver medications into the abdominal cavity. Non-irritating drugs may be delivered by this method. During injection, caution must be taken to avoid damaging major organs. A contaminated needle or puncturing the gastrointestinal tract could introduce bacteria into the abdominal cavity (Gulland *et al.* 2001).

Euthanasia may be conducted if: an animal had an irreversibly poor condition and rehabilitation would not be possible; rescue would be impossible; or no rehabilitation facility is available. Euthanasia may occur at a rehabilitation facility when an animal is deemed unreleasable and cannot be placed in permanent captivity. Humane euthanasia procedures would only be carried out by an attending, experienced, and licensed veterinarian or other qualified individual. Sedation may precede the administration of euthanasia drugs. Pinnipeds are typically euthanized using a lethal injection of barbiturates or other agent normally used to euthanize domestic species. Smaller cetaceans can be euthanized by injecting barbiturates or other lethal agent into a vein of the flippers, dorsal fin, flukes, or caudal peduncle. It may also be injected directly into the heart of abdominal cavity using an indwelling catheter. A small cetacean may be sedated before injection occurred. For large cetaceans, a method is currently being developed to sedate the animal via IM injection and then deliver euthanasia agents via IV. Large cetaceans may be euthanized by lethal injection directly into the heart. Injection into a vein of the flippers or flukes would likely be unsuccessful. Large whales may also be euthanized by using ballistics (shooting) or by exsanguination (Geraci and Lounsbury 2005).

1.1.15 Auditory Brainstem Response /Auditory Evoked Potential

Auditory Brainstem Response (ABR) and Auditory Evoked Potential (AEP) procedures may be conducted as a method to evaluate the hearing abilities of individual animals or species. Procedures may be conducted on stranded animals, animals in rehabilitation, or on animals captured during studies. SQ electrodes are used for obtaining evoked potential signals in pinnipeds. Procedures on odontocetes are non-invasive and can be conducted in short time frames. An animal may be resting at the surface or may be physically restrained (held by researchers) during the procedure. For odontocetes, sounds are presented through a jawphone attached to the lower jaw via suction cup.

Recording, ground, and reference suction cup electrodes are attached along the dorsal midline, starting approximately 6 cm behind the blowhole. Evoked potentials are recorded from the electrodes. Frequencies used for testing range from 5 to 120 kHz and the maximum sound pressure level is less than 160 decibels re μPa . Procedures would only be conducted on odontocetes and pinnipeds. NMFS PR1 currently does not permit the use of AEP procedures on any mysticetes. All AEP procedures performed on stranded and rehabilitating odontocetes and pinnipeds will follow NMFS PR1 policies and protocols.

1.1.16 Import and Export of Marine Mammals or Marine Mammal Parts

Export of marine mammal parts is necessary for the MMHSRP to provide specimens to the international scientific community for analyses or as control/standard reference materials. The MMHSRP imports specimens legally obtained outside the U.S. for archival in the NMMTB or for real time analyses. Imported samples would be legally obtained from:

- Any marine mammal directly taken in fisheries for such animals in countries and situations where such taking is legal;
- Any marine mammal killed in subsistence harvest by native communities;
- Any marine mammal killed incidental to commercial fishing operations;
- Any marine mammal stranded live; and
- Captive animals, when sampling is beyond the scope of normal husbandry practices.

An unlimited number and kinds of marine mammal specimens, including cell lines, would be imported and/or exported (worldwide) at any time during the year. Specimens would be taken from the Order Cetacean and the Order Pinnipedia (except walrus), including threatened and endangered species. Specimen materials may include, but are not limited to: earplugs; teeth; bone; tympanic bullae; ear ossicles; baleen; eyes; muscle; skin; blubber; internal organs and tissues; reproductive organs; mammary glands; milk or colostrums; serum or plasma; urine; tears; blood or blood cells; cells for culture; bile; fetuses; internal and external parasites; stomach and/or intestines and their contents; feces; flippers; fins; flukes; head and skull; and whole carcasses. Specimens are acquired opportunistically; therefore specific numbers and kinds of specimens, the countries of exportation, and the countries of origin cannot be predetermined.

All marine mammals under NMFS jurisdiction, including ESA-listed species, may be imported or exported for medical treatment. Transport methods would be the same as those described in Section 1.1.5.

2. Future ESA/MMPA Permit Activities

2.1.1 Blood Sampling

Currently, no procedures exist to remotely collect blood from free-swimming animals. However, if blood sampling procedures are developed and approved within the timeframe of the permit (five years), the MMHSRP would use these to conduct research. All protocols (including species) would be provided to NMFS PR1 for approval prior to any research activity.

2.1.2 Health Assessment Studies

In addition to the current health assessment studies on bottlenose dolphins, future studies would be conducted on other cetacean species. New tagging, tracking, and telemetry packages would also be used. All species and methods would be provided to NMFS PR1 for approval before any activities occurred.

2.1.3 Acoustics

Currently, the use of AEP procedures on any mysticete is not permitted by NMFS PR1. However, if mysticete procedures are approved within the timeframe of the permit (five years), the MMHSRP would use these to conduct research. All protocols (including species) would be provided to NMFS PR1 for approval prior to any research activity.

Passive acoustic recording would involve the used of a hydrophone (underwater microphone). A hydrophone would be placed in the water directly off of a vessel, and sounds would be recorded and taped via an apparatus on the vessel.

Active acoustic playbacks would be used to expose cetaceans and pinnipeds to playbacks of pre-recorded songs, social sounds, and feeding calls of that species. Sounds and songs would be projected from an underwater speaker hung over the side of a small vessel. Sounds or songs would be projected from the speaker at a volume and quality as close to a real sound/song as possible. The playback system would be calibrated so precise levels of sound can be projected. The reaction of the animals to the sounds and songs would be measured, often through behavioral observation and photo-identification/video recording of the subject animal(s) from a second vessel.

2.1.4 Vaccination Program

[Section not completed.]

The pinniped vaccination program would use information from the Final Report of the Workshop to Evaluate the Potential for Use of *Morbillivirus* Vaccination in Hawaiian Monk Seals and from the vaccine trial subcommittee that was started at this workshop (HSWRI 2006). The pinniped vaccine study would include the use of harbor seals, northern elephant seals, and Hawaiian monk seals. The vaccine would be used to protect individual monk seals and prevent the spread of *Morbillivirus*. A vaccine would only be used if there was a threat of an epidemic.

A vaccination program would include a plan for vaccine trials in a laboratory and field setting and a vaccination plan for wild seals. Vaccine testing and implementation would proceed slowly and in a stepwise fashion. Laboratory and field trials with Hawaiian monk seals would not be conducted until protocols and safety and efficacy concerns have been addressed in at least one model species (see below for description). Trials in model species would provide more information on safety than efficacy. Some in vitro measures may be developed, but there would be no way to evaluate efficacy without a disease challenge.

Before beginning a vaccine trial, a method would be in place to allow expert review of the results at each testing stage and to ensure that the review occurs before continuing with the next stage. Samples sizes for vaccine trials would be constrained by the availability of animals for testing. Drug companies that produce vaccines could be contacted to provide guidance on ideal or recommended sample sizes for vaccine trials.

Harbor seals would be used as a model for Hawaiian monk seals. There is a relatively large sample size of harbor seals in captivity that could be considered for vaccine trials. Vaccine trials have already been conducted in the United Kingdom (UK) on harbor seals. Some information from these trials is available with regard to issues such as post-vaccination monitoring protocols. Harbor seals have also shown susceptibility to wild strains of the virus and some protection from a vaccine in limited UK trials.

Elephant seals may also be used as a model species because they are more closely related to Hawaiian monk seals. If elephant seals in rehabilitation are used as trial subjects, they could be declared non-releasable (e.g., if they are shedding a virus) after a vaccine trial. Animals that are likely to be euthanized for other reasons could be possible trial subjects. Post-mortem exams could be conducted on the animals that were vaccinated and then euthanized, allowing for careful examination of the lymph nodes (for evidence of immunosuppression) and target organs like the brain.

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4. Acronyms

ABR	Auditory Brainstem Response
AEP	Auditory Evoked Potential
APHIS	Animal and Plant Health Inspection Service
cc	Cubic centimeter
ESA	Endangered Species Act
HSWRI	Hubbs-SeaWorld Research Institute
IATA	International Air Transport Association
IM	Intramuscular
IP	Intraperitoneal
IV	Intravenous
LHX	Life History transmitter
m	Meter
MMHSRP	Marine Mammal Health and Stranding Response Program
MMPA	Marine Mammal Protection Act
NMFS PR1	National Marine Fisheries Service, Office of Protected Resources, Permits, Conservation and Education Division
NMMTB	National Marine Mammal Tissue Bank
NOAA	National Oceanic and Atmospheric Administration
PIT	Passive Integrated Transponder
SQ	Subcutaneous
TDR	Time-depth Recorder
UME	Unusual Mortality Event
VHF	Very High Frequency

APPENDIX I

REQUIRED TAKE TABLES FOR THE ESA/MMPA PERMIT APPLICATION

Table 1. Proposed activities over a specified period								
Species	Life Stage	Sex	Expected Take or Import/Export	Number of Takes per Individual	Take Action	Transport	Location	Dates/Time Period
Project 1: Emergency Response Activities								
All Cetacea, all Pinnipedia, sea otter, manatee, polar bear	All	M/F	Unlimited	Unlimited	Close approach, aerial and vessel surveys, disentanglement, capture, restraint, handling, tagging, sample collection, sample analysis, import/export of samples or animals, transport, relocation, rehabilitation, release, necropsy, carcass disposal	Live animals may be transported to rehabilitation facilities; carcasses may be transported to disposal sites or laboratories; analytical and diagnostic samples may be transported, imported or exported as needed to laboratories	Beaches and Coastal waters of the US, US EEZ, international (for import/export)	All/continuous
Project 2: Prospective Health Assessment Activities								
Pinnipedia	All except YOY	M/F	Up to 100 annually	5	Close approach, aerial and vessel surveys, capture (net or hand), restraint, handling, tagging, sample collection, release		Coastal waters of the US, US EEZ, international waters	All
Pinnipedia	All except YOY	M/F	3 annually	1	Accidental mortality during capture activities		Coastal waters of the US, US EEZ, international waters	All
Small Cetacea (<i>Tursiops</i> , <i>Stenella</i> , <i>Steno</i> , <i>Delphinus</i> , <i>Lagenorhynchus</i> , <i>Lagenodelphis</i> , <i>Lissodelphis</i> , <i>Grampus</i> , <i>Peponocephala</i> , <i>Feresa</i> , <i>Pseudorca</i> , <i>Orcinus</i> , <i>Globicephala</i> , <i>Phocoena</i> , <i>Phocoenoides</i>)	All except YOY	M/F	Up to 50 annually	5	Close approach, aerial and vessel surveys, capture (net or hand), restraint, handling, tagging, sample collection, release		Coastal waters of the US, US EEZ, international waters	All

Table 1. Proposed activities over a specified period (continued)								
Species	Life Stage	Sex	Expected Take or Import/Export	Number of Takes per Individual	Take Action	Transport	Location	Dates/Time Period
Project 2: Prospective Health Assessment Activities (continued)								
Small Cetacea (see above)	All except YOY	M/F	3 annually	1	Accidental mortality during capture activities		Coastal waters of the US, US EEZ, international waters	All
Large Whales (gray, right, humpback, fin, blue, Bryde's, minke, sperm, and all beaked whales)	All except YOY	M/F	Up to 50 annually	5	Close approach, aerial and vessel surveys, tagging, sample collection	None	Coastal waters of the US, US EEZ, international waters	All
Large Whales (gray, right, humpback, fin, blue, Bryde's, minke, sperm, and all beaked whales)	All except YOY	M/F	1 annually	1	Accidental mortality during research activities			
Project 3: Pinniped Vaccine Study								
<i>Phoca vitulina</i>	Adult/ Juvenile	M/F	Up to 50	5	Restraint, handling, sample collection	none	Animals currently in permanent captivity (public display or research) or in a rehabilitation facility	Over 2 years
<i>Mirounga angustirostris</i>	Adult/ Juvenile	M/F	Up to 50	5	Restraint, handling, sample collection	None	Animals currently in permanent captivity (public display or research) or in a rehabilitation facility	Over 3 years
<i>Monachus schauinslandi</i>	All	M/F	Up to 50	5	Capture, restraint, handling, sample collection	None	Captive animals throughout the US, wild animals from Hawaii	Over 5 years

Table 1. Proposed activities over a specified period (continued)								
Species	Life Stage	Sex	Expected Take or Import/Export	Number of Takes per Individual	Take Action	Transport	Location	Dates/Time Period
Project 3: Pinniped Vaccine Study (continued)								
All species	All	M/F	10	1	Accidental mortality during research activities.	None	All	Over 5 years

APPENDIX J

CARCASS DISPOSAL INFORMATION

PERSISTENT CONTAMINANTS IN SELECTED SPECIES OF MARINE
MAMMALS IN US WATERS:
A REVIEW OF THE LITERATURE FROM 1995 THROUGH 2005

A report prepared for the
National Oceanic and Atmospheric Administration,
National Marine Fisheries Service, Office of Protected Resources
Marine Mammal Health and Stranding Response Program
Purchase Order: DG133F03SE1139

by
Victoria M. Woshner, DVM, PhD

August 21, 2006

REPORT OUTLINE:

I. INTRODUCTION

II. ENVIRONMENTAL CONTAMINANTS IN SELECTED MARINE MAMMAL SPECIES IN US WATERS

A. Contaminant classes—background information

1. Persistent organic pollutants (POPs)
 1. *Polychlorinated biphenyls (PCBs)*
 2. *Polychlorinated dibenzo-p-dioxins and furans (PCDD/Fs)*
 3. *DDT (1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane)*
 4. *Chlordanes (including heptachlor and heptachlor epoxide)*
 5. *Hexachlorobenzene (HCB)*
 6. *Hexachlorocyclohexanes (HCHs)*
2. Toxic metals
 1. *Cadmium*
 2. *Lead*
 3. *Mercury*
 4. *Organotins*
3. Miscellaneous contaminants
 1. *Polybrominated diphenyl ethers (PBDEs)*
 2. *Polyfluoroalkyls (PFAs)*

B. Concentrations of environmental contaminants in selected species of marine mammals in US waters

1. Species addressed
2. Databases reviewed, including time period examined and search terms used.
3. Overview of tissue contaminant concentrations: Literature review summary
 0. *General comments upon format of tables and appendices*
 1. *Persistent organic pollutants (POPs)*
 2. *Toxic metals*
 3. *Miscellaneous contaminants*

C. Conclusions and comments regarding the nature and adequacy of the available literature database

III. LITERATURE CITED

IV. TABLES AND APPENDICES (ACCOMPANYING EXCEL FILE)

Table 1. Summary Data for Some Persistent Organic Pollutants, Including PCBs, DDTs, Chlordanes, Mirex, Dieldrin, HCHs and HCB in Blubber of Selected Marine Mammal Species from US Waters, Reported 1994 through 2005.

Table 2. Metadata for Persistent Organic Pollutants, Including PCBs, DDTs, Chlordanes, HCHs and HDB in Selected Marine Mammal Species from US Waters, Reported 1994 through 2005.

Table 3. Polychlorinated dibenzo-p-dioxins and -furans (PCDD/Fs) Contaminants in Tissues of Selected Marine Mammal Species from US Waters, Reported 1995 through 2005.

Table 4. Metadata for Toxic Metal Pollutants, Including Mercury (Hg), Cadmium (Cd), Lead (Pb) and Tin (Sn) in Selected Marine Mammal Species from US Waters, Reported 1994 through 2005.

Table 5. Polybrominated Diphenyl Ether (PBDE) Contaminants in Blubber of Selected Marine Mammal Species from US Waters, Reported 1995 through 2005.

Table 6. Polyfluoroalkyl (PFA) Contaminants in Selected Marine Mammal Species in US waters, Reported 1995 through 2005.

Appendix I. Persistent Organic Pollutants, Including Polychlorinated Biphenyls (PCB) and Organochlorine Pesticide Contaminants in Selected Cetacean Species in US Waters, Reported from 1994 through 2005.

Appendix II. Persistent Organic Pollutants, Including Polychlorinated Biphenyls (PCB) and Organochlorine Pesticide Contaminants in Selected Pinniped Species in US Waters, Reported from 1995 through 2005.

Appendix III. Mercury, Cadmium, Lead and Tin in Tissues of Selected Marine Mammal Species from US Waters, Reported 1994 through 2005.

I. INTRODUCTION

As charismatic megafauna, marine mammals are beloved and revered by people around the world. Consequently, mortality events and scientific research involving marine mammals are often of a high public profile. Widely publicized reports of high levels of anthropogenic contaminants in some whale species have incited concern that the carcasses of the whales themselves may constitute a toxicological hazard. This literature review was initiated with a view to gathering the collective data pertaining to levels of persistent contaminants in that subset of marine mammal species in US waters that tends to strand most frequently, so that the potential toxicological hazard generated by carcasses of these animals might be assessed.

II. ENVIRONMENTAL CONTAMINANTS IN SELECTED MARINE MAMMAL SPECIES IN US WATERS

A. Contaminant classes—background information

II.A.1. Persistent organic pollutants (POPs)

II.A.1.1. Polychlorinated biphenyls (PCBs) are complex mixtures of synthetic chlorinated compounds produced in the US until 1977 for use as insulators, coolants and lubricants, particularly in transformers and other electrical equipment (ATSDR, 2000). The basic structure of PCBs consists of a biphenyl backbone with 1 to 10 chlorine atoms, yielding 209 possible PCB congeners. Position and degree of chlorination are important determinants of congener toxicity, with more highly chlorinated and coplanar (dioxin-like) PCBs exhibiting greater toxicity than less chlorinated and non-planar congeners. A greater degree of chlorination also confers longer environmental persistence, which can range from months to years (ATSDR, 2000). The highly lipophilic nature of PCBs allows them to accumulate in fatty tissues of organisms or to associate with organic components of sediments in environmental samples. In animals and humans, PCBs are toxic to integumentary, immune, endocrine, reproductive, and nervous systems. At high doses, PCBs have been associated with liver and kidney damage in laboratory animals. PCBs are a known animal carcinogen and considered a probable human carcinogen by the US Environmental Protection Agency (USEPA) and other agencies (ATSDR, 2000), although no increased risk of cancer has been detected in studies of individuals occupationally exposed to PCBs (Ross, 2004). PCBs also have been implicated as environmental endocrine disruptors in wildlife species (Chiu et al., 2000), although this link is controversial (Ross, 2004). While PCBs can persist in the environment for many years, they are susceptible to both anaerobic and aerobic microbial degradation via metabolism of congeners with higher or lower degrees of chlorination, respectively (Abraham et al., 2002).

II.A.1.2. Polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzo-p-furans (PCDFs) are chlorinated hydrocarbon compounds produced by combustion of waste and organic materials, or as contaminants in chemical manufacturing processes. Both compound classes consist of two benzene rings joined by either one (PCDFs) or two

(PCDDs) oxygen atoms. Like PCBs, PCDDs/PCDFs are environmentally persistent compounds that associate with particulate matter and that are highly lipophilic and prone to biomagnify in the food chain. The most toxic PCDD, 2,3,7,8 tetrachlorodibenzo-*p*-dioxin (TCDD) serves as a standard for comparison of other dioxins and dioxin-like PCBs, the toxicity of which is sometimes expressed in “toxic equivalency factors” (TEQs) of TCDD (ATSDR, 1998). TCDD can cause dermal and hepatic toxicity, and is classified as a human carcinogen. Other PCDDs/PCDFs may cause similar effects, depending upon their structure (ATSDR, 1998).

II.A.1.3. DDT (1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane) is an organochlorine pesticide banned in the US in 1972, but still used in many parts of the world for control of malaria-transmitting mosquitoes. Technical grade DDT is a mixture of *p,p'*-, *o,p'*-D, and *o,o'*-DDT isomers and may also contain DDE (1,1-dichloro-2,2-bis(p-chlorophenyl)ethylene) and DDD (1,1-dichloro-2,2-bis(p-chlorophenyl)ethane) as contaminants. The latter two compounds may also be produced via metabolism by some organisms, including microbes in the environment. In temperate regions, soil half-life of DDT is approximately 5 years, but may be up to 4 to 6 times as long, depending on the environmental conditions (ATSDR, 2002a). Like other organochlorines, DDT, DDE and DDD are extremely lipid soluble, tending to biomagnify and to associate with organic matter (soils and sediments) in the environment. At extremely high doses, DDT may be neurotoxic (ATSDR, 2002a). DDT and its metabolites are carcinogens and may also act as endocrine disruptors, although studies on estrogenic effects of DDT have been equivocal (Turusov et al., 2002).

II.A.1.4. Chlordane is an organochlorine pesticide used in the US until 1988 (ATSDR, 1994). It is a complex mixture of various chlordane isomers and other compounds, the fractions of which vary depending upon the purity of the preparation. The predominant components identified in technical chlordane were *cis*-chlordane, *trans*-chlordane, *trans*-nonachlor, octachlordane, heptachlor, and *cis*-nonachlor (Dearth and Hites, 1991). Chlordane may persist for decades in the environment and is highly lipid soluble, with oxychlordane comprising the major metabolite that bioaccumulates in fatty tissues (USEPA, 1997). A component of chlordane, heptachlor was also produced and used as a pesticide in its own right. Heptachlor epoxide may be produced by degradation or metabolism of heptachlor (ATSDR, 1993). Chlordane and the related compounds heptachlor and heptachlor epoxide are lipophilic and environmentally persistent (ATSDR, 1994 and 1993). At high doses, chlordane may cause toxic effects in the liver, digestive tract and nervous system (ATSDR, 1994). While data are limited, heptachlor and heptachlor epoxide also have been associated with toxic effects to the nervous and reproductive systems, as well as to liver and kidney in humans or animals, with the epoxide metabolite being more toxic than its parent compound (ATSDR, 1993). Evidence as to carcinogenicity of chlordane is inconclusive (ATSDR, 1994; USEPA, 1997). Heptachlor and heptachlor epoxide are considered possible human carcinogens by the USEPA, while the International Agency for Research on Cancer (IARC) determined that the two compounds are not classifiable with respect to human carcinogenicity (ATSDR, 1993).

II.A.1.5. Hexachlorobenzene (HCB) was produced in the US until 1970s, although it continued to be used as a fungicide until 1984. Also, some HCB is formed as a by-product in the manufacture of other chlorinated compounds as well as during incineration of garbage (McGovern, 2004). HCB is ubiquitous and persistent in the environment, with a half-life of up to approximately 6 years in soil, air and surface water, while in groundwater the half-life may be almost twice as long. Like other organochlorines, HCB is insoluble in water, but highly soluble in organic solvents and lipid allowing it to bioaccumulate readily in fatty tissues. HCB is toxic to virtually all organ systems, with the central nervous system, ovary and liver comprising the most vulnerable target organs. The USEPA classifies HCB as a probable human carcinogen based on data from animal studies (ATSDR, 2002b).

II.A.1.6. Technical grade hexachlorocyclohexane (HCH), which contains α , β , γ , δ , and ϵ isomers, was produced in the US until 1983 for use as an insecticide. While other forms of HCH are now banned, γ -HCH (also known as lindane) is still imported for use as an insecticide and topical treatment for lice (Research Triangle Institute, 1999). At high doses, HCHs can result in neural, musculoskeletal and reproductive toxicity. Abnormalities in developmental, endocrine, hepatic, renal, immunologic and hematopoietic indices associated with HCH exposure also have been documented in humans or animals. Some animal studies have found increased incidence of liver cancer in rodents following chronic oral exposure to HCHs, leading the Department of Health and Human Services to extrapolate that HCHs may be a possible human carcinogen (Research Triangle Institute, 1999).

II.A.2. Toxic metals

1. *Cadmium*
2. *Lead*
3. *Mercury*
4. *Organotins*

Toxic metals are a unique class of environmental contaminants in that they occur naturally, although human activities have allowed them to become more pervasive and accessible to biotic cycles. However, because they are innate to the environment, it is difficult to distinguish “pollutant” from “natural” sources. Moreover, metals are not degraded via microbial or physical action, but may merely metamorphose by alterations in oxidation state and/or in the other elements to which they are bound in compounds.

II.A.2.1. Cadmium is a heavy metal often released as a by-product during refining of zinc, copper and lead, and has some industrial uses, such as in batteries and electrical components. There also are natural releases of cadmium to the environment through events such as volcanic eruptions and forest fires. Compared to other metals, cadmium is somewhat unique in that it is taken up and may accumulate to appreciable levels in some plants. In animals, cadmium is sequestered in the kidney and liver. The target organ of cadmium is the kidney; in addition, it is toxic to a number of other organs, including liver, bone and blood vessels. While data are scant, cadmium may be carcinogenic as well (ATSDR, 1999a). Various marine mammals are exposed to or bioaccumulate high levels of cadmium compared to terrestrial species (Woshner et al., 2001a; 2001b).

Although no physiologic requirement can be demonstrated for cadmium in the majority of organisms, some researchers recently have characterized a cadmium-containing enzyme in a marine diatom, refuting the long-held belief that cadmium was not only universally toxic but also functionless in living creatures (Lane et al., 2005).

II.A.2.2. Lead is ubiquitous in the environment, both as a result of natural geologic distribution and because of wide industrial applications, including former usage as a gasoline and paint additive. It is also released by combustion of fossil fuels and waste incineration. Lead is believed to be universally toxic, even at very low levels, with no organisms known to date demonstrating a physiologic requirement for lead. Generally, ingested lead is not well absorbed; however, because it is chemically similar to calcium, it may be assimilated and accumulated in tissues in lieu of calcium, particularly in growing organisms that are calcium limited. Although the nervous system (particularly the developing brain) is considered the “target organ” of lead, this metal is toxic to virtually all body systems, including the hematopoietic, cardiovascular, reproductive, immune, gastrointestinal, and musculoskeletal systems. Lead is carcinogenic in laboratory species, but has not been established as a human carcinogen (ATSDR, 1999b).

II.A.2.3. Mercury (Hg) is another metal that is apparently toxic to all organisms, even at low levels. Relative toxicity of mercury depends largely on the form of the metal (organic versus inorganic), and as is the case for all toxicants, the route by which exposure occurs. Ingested elemental mercury is not well-absorbed and hence of low toxicity, while exposure to methylmercury by this route is highly toxic, as it is almost completely absorbed. Like other toxic metals, mercury enters the environment from natural sources, such as volcanoes and degassing of the earth’s crust. However, anthropogenic activity has dramatically increased mercury emissions, primarily through burning of fossil fuels, as well as through mining and other industrial applications. While mercury is toxic to virtually all body systems, the nervous system and kidney are the primary target organs for organic and inorganic mercury, respectively (ATSDR, 1999c).

II.A.2.4. In its inorganic form, tin (Sn) is non-toxic. However, organic forms of tin may be highly toxic. Organotins have a variety of industrial applications, including use of mono- and di-substituted organotins as catalysts and stabilizers in PVC plastics (Appel, 2004). Tributyl tin (TBT) compounds have been widely used as pesticides, particularly in antifouling paints on ships. As such, TBTs are ubiquitous in the aquatic environment, even as their use is being phased out due to concerns with respect to their ecotoxicity (Rüdel, 2003). As with many other toxicants, organotins adsorb onto organic particulates, such that an increase in dissolved organic matter decreases bioavailability of organotins. Also, speciation of organotins is pH-dependent; hence, increasing pH is associated with formation of organotin hydroxides, which are lipophilic and therefore predisposed to bioaccumulate (Fent, 2003). Organotins, especially TBT and triphenyltin (TPT) have been associated with tumorigenicity of the adenohypophysis, developmental toxicity, reproductive toxicity, neurotoxicity and most especially immunotoxicity, with thyrotoxicity apparently constituting the most sensitive toxic endpoint in mammals (Rüdel, 2003). Gastropods are exceptionally vulnerable to toxic effects of TBT, which disrupts steroid metabolism leading to development of imposex at even minute

concentrations. In the environment, organotins undergo aerobic degradation, but can persist for years in anoxic sediments (Fent, 2004).

II.A.3. Miscellaneous contaminants

1. *Polybrominated diphenyl ethers (PBDEs)*
2. *Polyfluoroalkyls (PFAs)*

II.A.3.1. Polybrominated diphenyl ethers (PBDEs) are one group of brominated flame retardants that are currently in wide usage. These compounds are added to plastics, particularly those comprising plastic components of computers and televisions as well as to plastic foams and textiles (ATSDR, 2002c; Darnerud et al., 2001). While over 200 PBDE congeners are possible, forms with fewer than four bromine atoms generally are not employed in commercial applications. Release of PBDEs into the environment is believed to occur primarily through incineration and volatilization; leaching from landfills may also serve as a source of PBDE contamination, although studies are lacking to verify this (Darnerud et al., 2001). Like other persistent organic pollutants, PBDEs are resistant to environmental and biotic degradation. Although research is limited, uptake from the environment appears to occur mainly through oral exposure, with absorption efficiency inversely related to degree of bromination (ATSDR, 2002c). PBDEs are lipophilic, and appear to have potential for both bioaccumulation and biomagnification (ATSDR, 2002c). The extent to which PBDEs are metabolized and excreted appears to vary with species and degree of congener bromination (Darnerud et al., 2001). In laboratory studies, effects of PBDEs range from immunotoxicity and thyrotoxicity, to hormone disruption, neurobehavioral abnormalities and developmental toxicity. The limited evidence available to date suggests that PBDEs do not have teratogenic or genotoxic potential. (ATSDR, 2002c).

II.A.3.2. Polyfluoroalkyls (PFAs) are a group of compounds comprised chiefly by fluorotelomer alcohols and perfluoroalkyl sulfonamide alcohols (as well as their breakdown products), that were used in a variety of commodities, including surface protectants, paper, insecticides, surfactants, and fire-retardants (Olsen et al., 2003; Seacat et al., 2002). Because of their toxicity and environmental persistence, some PFAs have been banned (Olsen et al., 2003; Seacat et al., 2002). Through metabolism or environmental degradation, fluorotelomer alcohols appear to form carboxylic acids, fluorotelomer carboxylic acids (FTCA), and fluorotelomer unsaturated carboxylic acids (FTUCA) (Houde et al., 2005). Degradation of perfluoroalkyl sulfonamide alcohols yields sulfonic acids (PFSAs) such as perfluorooctane sulfonate (PFOS)—a stable, bioaccumulative, toxic end product that has been found among diverse species from widely different environments (Giesy and Kannan, 2001). Toxicity of PFOS is related primarily to effects on the liver, including hepatocellular hypertrophy and altered lipid metabolism, including decreased cholesterol (Olsen et al., 2003). Some PFAs have been found to act as hepatic peroxisome proliferators or to provoke developmental and neuroendocrine toxicity (Houde et al., 2005).

II.B. Concentrations of environmental contaminants in selected species of marine mammals in US waters

II.B.1. Species addressed

Twelve species of marine mammals are included in this review, based upon the frequency and patterns with which they strand (T. Rowles and J. Whaley, pers. comm.). Species that tend to strand as individuals include: pygmy and dwarf sperm whales (*Kogia breviceps* and *K. simus*, respectively); common bottlenose dolphin (*Tursiops truncatus*); California sea lion (*Zalophus californianus*); harbor seal (*Phoca vitulina*); and elephant seal (*Mirounga angustirostris*). Species that tend to strand *en masse* are represented by: long and short-finned pilot whales (*Globicephala melas* and *G. macrorhynchus*, respectively); rough-toothed dolphin (*Steno bredanensis*); and white-sided dolphin (*Lagenorhynchus acutus*). Large whale species considered are the gray and humpback whales (*Eschrichtius robustus* and *Megaptera novaeangliae*, respectively).

II.B.2. Databases reviewed, including time period examined and search terms used

The online databases Biological Abstracts, PubMed, and Toxline were searched, using an exhaustive list of key words, including (but not limited to): *Kogia*, *Tursiops*, *Zalophus*, *Phoca*, *Mirounga*, *Globicephala*, *Steno*, *Lagenorhynchus*, *Eschrichtius robustus*, *Megaptera*, elephant seal, dolphin, marine mammal, pinniped, whale, cetacean, polychlorinated biphenyls, PCB, DDT, persistent organic pollutants, pollutant, contaminant, heavy metal, mercury, hexachlorocyclohexane, HCB, chlordane, heptachlor, dieldrin, aldrin, and organochlorine(s). Reports on marine mammals considered for inclusion in this review were confined to those published in peer-reviewed journals from 1995 through 2005 that addressed any of the twelve species designated above in US waters. A few ancillary studies that were either published prior to 1995, or that dealt with marine mammals in non-US waters, were included when those waters were contiguous with US waters, and when other US-based studies for those particular species were lacking. For example, Varanasi et al., 1994, was published outside of the timeframe used as a criterion for inclusion in this review. Nevertheless, I incorporated this study, as well as a few other studies (Tilbury et al., 2002; De Luna and Rosales-Hoz, 2004; Ruelas-Inzunza et al., 2002; Mendez et al., 2002) that addressed contaminants in *E. robustus* from Russian (Bering Sea) and Mexican waters, because contaminant studies for gray whales were limited. Also, because gray whales migrate long distances, whales studied in Mexican or Russian waters likely navigate US waters as well, where they may strand or die and present a carcass disposal problem.

II.B.3. Overview of tissue contaminant concentrations: Literature review summary

II.B.3.0. *General comments upon format of tables and appendices*

This review covers studies done by multiple scientists who were in various geographic locations, attempting to answer different research questions, and using diverse techniques and laboratories. Consequently the data are quite disparate and difficult to harmonize. For

this reason, and to make this report as pertinent as possible for future applications, I have compiled as much data as feasible directly from the source papers. However, whenever possible, I attempted to give contaminant concentrations on a wet weight basis (since that is the state of the carcass presented for disposal) and to standardize the units in which data were given, presenting the persistent organic pollutants, PCDD/Fs, PBDEs, and PFAs in ng/g and metals in ug/g. I converted values from ng/g lipid weight to ng/g wet weight for Shaw et al, 2005, Struntz et al., 2004, She et al., 2002 and Gautier et al., 1997. All tables and appendices (in the accompanying Excel file) contain extensive footnotes to accurately characterize the data. In addition, species designations are color-coded in a consistent manner throughout the tables and appendices, to allow for easy location and comparison of text with respect to a given species.

II.B.3.1. Persistent organic pollutants (POPs), including PCBs, PCDD/Fs, DDTs, Chlordanes, HCB, and HCHs

Because organochlorines, as a class, are lipophilic compounds that might be expected to reach highest concentrations in fat (Norstrom, 2002), blubber represents the tissue where maximum organochlorine concentrations are likely. Blubber is also the tissue for which the most data have been generated pertaining to organochlorine contaminants in marine mammals. Reported levels of major persistent organic pollutants (i.e., PCBs, DDTs, chlordanes, mirex, dieldrin, aldrin, endrin, HCHs, HCB, and endosulfans) in the selected cetacean and pinniped species from US waters are provided in Appendices I and II, respectively, and summarized in Table 1, while metadata for studies addressing major persistent organic contaminants in the chosen marine mammals is presented in Table 2. Twenty-one papers focused on organochlorine contaminants in the cetacean species under consideration, while 16 studies examined organochlorines in pinniped species. For all contaminant classes combined, the number of studies and the collective number of individuals sampled for each cetacean species were as follows: *T. truncatus*, 9 studies (two of which, by Reddy et al. dealt with the same animals), 218 sampled; *K. breviceps*, 1 study, 2 sampled; *L. acutus*, 3 studies (two of which, by Tuerk et al., dealt with the same animals), 53 sampled; *G. melas*, 4 studies, 60 sampled (with some overlap between studies and animals, so this number is likely somewhat inflated); *S. bredanensis*, 2 studies (both of which dealt with the same animals), 15 sampled; *E. robustus*, 3 studies, 101 sampled (again, there appears to be some overlap between studies and animals, so this number likely overstates the true number of animals represented); *M. novaeangliae*, 2 studies, 32 sampled. For pinniped species, the number of studies and maximum total number of animals sampled were: *Z. californianus*, 6 studies (Le Boeuf et al., 2002 and Kannan et al., 2004 consider the same animals), 148 sampled; *P. vitulina*, 10 studies, 201 sampled; *M. angustirostris*, 4 studies, 13 sampled (Table 2). I found no studies addressing organochlorine contaminants in *K. simus* or *G. macrorhynchus* in my review of the literature.

Among the species addressed, mean total PCB levels were highest in blubber of *T. truncatus* (240,000 ng/g lipid weight; n=6), which also had the highest single observed concentration of total PCBs, at 1,120,000 ng/g lipid weight. *P. vitulina* had the lowest mean concentration of total PCBs (1.7 ng/g wet weight, n=10). Compared to other

species targeted in this review, California seal lions had by far the highest mean blubber concentrations of sum DDTs (143,000 ng/g lipid wgt.; n=36) and sum HCHs (780 ng/g lipid wgt.; n=36), as well as the highest single observed concentration of these contaminants in blubber (1,400,000 and 2,240 ng/g lipid wgt. for sum DDTs and sum HCHs, respectively, with the latter value obtained by adding the standard deviation to the corresponding mean). Compared to other species, *E. robustus* (n=38) and *K. breviceps* (n=2) had low blubber concentrations of sum DDTs (means of 130 and 540 ng/g wet weight, respectively). *K. breviceps* also had the lowest documented levels of HCHs (1.1 ng/g wet weight), although little significance can be imparted to a sample consisting of two individuals. *L. acutus* displayed both highest mean and overall blubber concentrations of sum chlordanes (8,800 ng/g wet weight; n=23, and 23,900 ng/g wet weight, respectively) and dieldrin (1,810 ng/g wet weight; n=23, and 3,940 ng/g wet weight, respectively). *Tursiops* had the lowest mean and overall blubber concentration of dieldrin (non-detectable) observed, while the lowest mean blubber concentration of sum chlordanes occurred in *K. breviceps*, followed by *E. robustus* (50 and 140 ng/g wet weight, respectively). The highest mean blubber concentrations of mirex (32,000 ng/g wet weight; n=8) and HCB (4,700 ng/g wet weight; n=8) were found in *P. vitulina*, which also had the highest overall blubber concentrations of these two contaminants (60,000 ng/g wet weight and 8,500 ng/g wet weight for mirex and HCB, respectively). Overall, among the species and data represented in this review of the literature, the bottlenose dolphin appears to be the cetacean species most contaminated by persistent organic pollutants, followed by *L. acutus*, while among pinnipeds the California sea lion represents the most contaminated species, followed by harbor seals. A cursory examination of Table 1 reveals that, among the selected cetacean species, *E. robustus*, *K. breviceps* (represented by only two individuals) and *M. novaeangliae* appear the least contaminated with persistent organic pollutants. Such a perfunctorily apparent inference cannot be made with respect to the three pinniped species, however; while blubber concentrations of none of the persistent organic pollutants in *M. angustirostris* exceeds the levels in the other two species, neither are they consistently lower than concentrations observed in *P. vitulina* or *Z. californianus*.

Collectively, four studies have measured PCDD/Fs in blubber from three of the species included in this review (Table 3). For all studies combined, the total number of individuals for each species is: *E. robustus* (n=2), *M. angustirostris* (n=6), and *P. vitulina* (n=75). Two studies, Jarman et al., 1996 and Lake et al., 1995, found no detectable levels of PCDD/Fs in blubber of *E. robustus* (n=2) or *P. vitulina* (n=15), respectively. The highest reported mean concentrations of sum PCDDs and sum PCDFs were 0.279 ng/g lipid weight (n=38) and 0.026 ng/g lipid weight (n=5), respectively, both of which were in seals from British Columbia, Canada.

II.B.3.2. Toxic metals, including Hg, Cd, Pb, and Sn

Twelve studies examined one or more of the toxic metals, Hg, Cd, Pb and Sn, in the cetacean species addressed in this review, while only three studies evaluated one or more of the metals in question in the selected pinniped species. For all metal contaminants combined, the number of studies and the maximum collective number of individuals

sampled for each cetacean species were as follows: *T. truncatus*, 5 studies, 148 sampled; *K. breviceps*, 1 study, 3 sampled; *L. acutus*, 1 study, 4 sampled; *G. melas*, 1 study, 9 sampled; *S. bredanensis*, 1 study, 15 sampled; and *E. robustus*, 5 studies, 35 sampled. Similarly for pinniped species, the number of studies and total number of animals sampled were: *Z. californianus*, 1 study, 10 sampled; *P. vitulina*, 2 studies, 13 sampled; *M. angustirostris*, 2 studies, 6 sampled. No studies were found that addressed levels of the specified metal contaminants in *G. macrorhynchus*, *M. novaeangliae*, or *K. sima* between 1995 and 2006 in US waters. Metadata describing studies pertaining to the potentially toxic metals Hg, Cd, Pb and Sn are summarized in Table 4, while reported levels of these metals in the given species over the publication timeframe under consideration are given in Appendix III.

It is difficult to make any generalizations or to draw any meaningful comparisons about the four potentially toxic metals covered by this literature review, because reported data is quite limited and methodologies between studies vary. Overall, ten studies report values on a wet weight basis, while the remaining five present metal concentrations on a dry weight basis, and since raw data generally are not provided, the reader cannot convert data from one form to the other.

II.B.3.3. Miscellaneous contaminants: PBDEs and PFAs

Within the geographic and temporal confines of this review, 6 studies have evaluated concentrations of PBDEs in the selected species of marine mammals (Table 5). Four studies examined PBDEs in blubber of *Tursiops*, *L. acutus*, *S. bredanensis* and *P. vitulina*, while the remaining two studies addressed PBDE levels in *P. vitulina* blood. Among the species in these studies, adult male *Tursiops* demonstrated the highest PBDE contamination, with a mean concentration of 3,110 ng/g wet weight in blubber (range: 126–16300, n=9).

As for PBDEs, PFAs have been assessed in a limited number of individuals and species (Table 6). Kannan et al., 2001 analyzed hepatic concentrations of PFOS in the following species: *K. breviceps* (n=2), *S. bredanensis* (n=2), *T. truncatus* (n=20), *Z. californianus* (n=6), *M. angustirostris* (n=5), *P. vitulina* (n=3). Houde et al. (2005) conducted a more extensive study of various PFA compounds in *Tursiops* blubber and found concentrations of mean sum PFAs ranging from 778 (n=42) to 1738 (n=47) ng/g wet weight between geographic locations on the eastern US coast.

II.C. Conclusions and comments regarding the nature and adequacy of the available literature database

The studies encompassed by this literature review were conducted to determine concentrations of specific environmental contaminants in various given marine mammal species. Such monitoring investigations generally are undertaken to learn how environmental contaminants may be impacting individual or population health, as well as to indicate whether environmental contaminants might be implicated as a causative factor in stranding events. *Tursiops* is, by far, the species for which the most comprehensive

data exist pertaining to contaminants, and among those contaminants, PCBs have been the most widely analyzed in this species. Of nine studies that sampled a combined total of 218 bottlenose dolphins for PCBs, seven studies evaluated PCBs in blubber, with a combined total sample size of 210 animals. Of these 210 dolphin blubber samples, 129 appear to have been obtained via biopsy, while 81 were apparently from stranded animals. Eighty-one of the 210 blubber samples were taken from dolphins in the Gulf of Mexico, off the FL (including Sarasota Bay), TX, or AL coasts. Sixty-two blubber samples were from Atlantic dolphins, generally from three sites: Beaufort, NC, (n=40) Charleston Bay, SC, (n=11) and Indian River Lagoon, FL (n=17). The remaining 14 blubber samples were from dolphins in San Diego Bay, CA. The blubber PCB data reported among the seven studies is in a variety of formats. Hansen et al., (2004) reported the geometric means of their data, while Wells et al., (2005) did not report means at all. Other studies reported arithmetic means. The number of PCB congeners which comprise “sum PCBs” among these seven studies also vary widely, from ten to eighty-seven congeners, while three studies did not report the identity or number of congeners analyzed. All seven studies report PCB concentrations on a lipid weight basis. However, if the concern is not the consequences of PCB contamination on the dolphin itself, but rather the dispersion of the PCBs contained within the blubber throughout the environment during carcass decomposition or scavenging, the entity of interest is the level of contamination expressed on a wet weight basis. Because individual animal data including blubber percent lipid are not specified in any of these seven studies, conversion of concentration data to a wet weight basis is not possible.

Sampling techniques also influence the levels of organochlorines measured in blubber. Of the seven studies that quantified blubber PCBs, only two (Salata et al., 1995 and Finklea et al., 2000) stipulated that full-thickness blubber samples were obtained. Kuehl and Haebler (1995) and Johnson-Restrepo (2005) did not specify how blubber samples were taken. The remaining three research teams employed biopsy methods, including remote dart (Hansen et al., 2004), punch (Reddy et al., 2001) and wedge (Wells et al., 2005) biopsy. All of these biopsy techniques are inherently biased towards collection of the outermost portion of the blubber. However, Aguilar and Borrell (1991) and Severinsen et al., (2000) documented that organochlorines are not homogeneously distributed throughout this tissue in species of two baleen whales and a phocid seal, respectively, but rather stratified such that contaminant levels in the outermost blubber are significantly greater than that of the innermost blubber layer. Moreover, this difference was not attributable merely to variation in lipid content (Severinsen et al., 2000). Struntz et al., 2004 noted the heterogeneous morphological and histological structure of *Tursiops* blubber. Consequently, it would be imprudent to assume that PCBs or other organochlorine contaminants are homogeneously dispersed throughout blubber of bottlenose dolphins. Rather, contaminants concentrations obtained from blubber biopsy specimens likely overestimate blubber contaminant burdens, and should be interpreted with caution.

The above summary briefly illustrates the extremely limited nature of the database for the most thoroughly studied species and contaminant combination (*Tursiops* and PCBs) among those considered by this review. For other contaminants and species, the data are

even scantier. Certain generalizations might be made about the distribution of particular contaminants within tissues, and among individuals in a given population. For example, it is generally understood that species higher trophic species such as dolphins are more prone to bioaccumulating higher levels of some contaminants than species that feed at lower trophic levels, such as baleen whales. Also, lipophilic contaminants such as PCBs tend to be at highest levels in blubber of adult males, because contaminant levels increase with age, and because females can depurate some of their acquired contaminant load through transfer to offspring (Wells et al., 2005). This latter phenomenon accounts for the observation that immature animals may have higher blubber PCB concentrations than adults, when levels are evaluated on a lipid weight basis. Despite such documented patterns of PCB accumulation within *Tursiops*, overall the data are quite limited with respect to samples sizes, tissues analyzed and geographic locations represented.

Contaminant monitoring studies tend to focus on tissues that represent target organs of a given toxicant or are sites of bioaccumulation. Because few tissues are assayed, there is generally insufficient information to infer the total body burden of a given contaminant for an individual in a given population. Moreover, patterns of contaminant accumulation will vary based upon exposures. Individuals from highly contaminated areas will not serve to represent animals from less contaminated regions, and vice versa. The heterogeneous nature of contaminants data published for the selected marine mammals in US waters encompassed by this review make it difficult to compare between studies, much less to unify this disparate research into an assemblage with utility for other applications such as the evaluation of the potential toxicological environmental hazards posed by decomposing carcass. At current, the database for the contaminants in the species encompassed by this review is inadequate to support such an assessment.

III. LITERATURE CITED (for literature review text, tables 1-6, and appendices I-III)

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Table 1. Summary of Concentrations of Major Organochlorine Contaminant Classes in Blubber of Selected Marine Mammal Species from US Waters as Reported in Literature from 1994-2005

Table 1. Summary Data for Some Persistent Organic Pollutants, Including PCBs, DDTs, Chlordanes, Mirex, Dieldrin, HCHs and HCB in Blubber of Selected Marine Mammal Species from US Waters, Reported 1994 through 2005.									
For each species, the lowest and highest overall means among reported studies are given, followed by the corresponding sample size, as well as overall ranges for animals in all studies combined.									
CETACEANS	Analyte (ng/g)	Lipid (%)	∑ PCBs	∑ DDTs	∑ chlordanes	mirex	dieldrin	∑ HCHs	HCB
T. truncatus^a	Lowest mean (n)	19.9 (4)	5644 (6)	3988 (6)	548 (6)	20.3 (2)	ND (2)	109 (33)	ND (9 ^b)
	Highest mean (n)	39.4 (9)	240000 (6)	51906 (5)	7022 (5)	663 (4)	1550 (5)	234 (14)	3360 (5)
	Overall range	1.2 - 82.8	420 - 1120000	428 - 87281	195 - 10553	ND - 6540	ND - 3120	9 - 354	ND - 5730
K. breviceps^c	Mean (n)	3.4 (2)	560 (2)	540 (2)	50 (2)	NA	NA	1.1 (2)	5.5 (2)
	Overall range	2.6 - 4.1	290 - 830	400 - 680	27 - 73	NA	NA	1.1 - 1.1	1.4 - 9.7
L. acutus^c	Lowest mean (n)	43.8 (6)	9410 (9)	4090 (9)	2200 (9)	40.4 (9)	293 (9)	91 (9)	50.6 (9)
	Highest mean (n)	43.8 (6)	29400 (23)	15900 (23)	8800 (23)	73.7 (15)	1810 (23)	301 (23)	237 (23)
	Overall range	17.2 ^f	490 - 62700	498 - 43300	285 - 23900	18.4 - 112	62.6 - 3940	50.4 - 821	11 ^d - 606
G. melas^c	Lowest mean (n)	39 (16)	4172 (11)	6000 (16)	1221 (11)	27 (11)	262 (7)	57.5 (11)	200 (16)
	Highest mean (n)	75 (16)	12000 (6)	18336 ^a (16)	3000 (6)	56 ^a (16)	441 (11)	104 ^a (16)	370 (6)
	Overall range	17.7 ^d - 88	1087 ^d - 25000	ND ^{a,d} - 42046 ^{a,e}	55 ^{a,d} - 5800	ND ^{c,d} - 90 ^{a,e}	56.8 - 674 ^e	ND ^{c,d} - 157 ^{a,e}	ND ^{a,d} - 620
S. bredanensis^c	Mean (n)	53 (15)	18392 (15)	9285.5 (15)	3825 (15)	269.3 (15)	233.8 (15)	26.0 (15)	28.8 (15)
	Overall range	38 - 73.3	643 - 43301	146 - 23139	74.1 - 2093	16.4 - 664	9.03 - 1220	2.6 - 177	0.4 - 67.4
E. robustus^c	Lowest mean (n)	8.5 (22)	220 (38)	130 (38)	140 (17)	NA	NA	NA	100 (38)
	Highest mean (n)	48 (17)	1600 (22)	444 (22)	340 (22)	NA	160 (22)	NA	510 (24)
	Overall range	0.6 - 73	120 - 10000	11 - 2940	13 - 2200	ND - 100	4 - 1600	NA	17 - 2900
M. novaeangliae^c	Lowest mean (n)	NA	897 ^a (12)	NA	NA	1.8 (6)	308 (6)	104 (6)	73.4 (6)
	Highest mean (n)	44.9 (7)	1153 (7)	NA	385.6 (6)	7.2 ^a (12)	363.4 ^a (13)	108.1 ^a (12)	172.2 ^a (13)
	Overall range	27 - 63	301 ^{a,d} - 2958	NA	125.6 - 728.3	ND - 11.1 ^{a,e}	52.7 - 777	33.8 - 242	15.8 - 293.1 ^{a,e}
PINNIPEDS									
Z. californianus^c	Lowest mean (n)	4.2 (9)	1300 (5)	13947 (9)	457 (9)	NA	NA	57 (9)	ND ^g
	Highest mean (n)	50 (36)	48158 (12)	143000 ^{a,h} (36)	3420 ^a (36)	NA	190 ^a (36)	780 ^a (36)	ND ^g
	Overall range	1 - 88	ND - 410000 ^a	456 - 1400000 ^a	17 - 9450	NA	220 ^f	6.5 - 2240 ^{a,e}	ND ^g
M. angustirostris^c	Lowest mean (n)	74 (4)	550 (6)	11000 ^a (2)	1095 ^a (2)	NA	NA	122 ^a (2)	30 (4)
	Highest mean (n)	85 (2)	6979 (4)	12418 (4)	1118 (4)	NA	28 ^a (2)	184 (4)	32.5 ^a (2)
	Overall range	18 - 93	460 ^d - 10440	3000 ^a - 19800	290 ^a - 1900 ^a	NA	19 ^a - 37 ^a	44 ^a - 279	14.8 - 43 ^a
P. vitulina^c	Lowest mean (n)	40 (3)	1.7 (10)	314 (5)	205 (5)	4.9 (3)	5 (5)	33 ^a (2)	5.3 (9)
	Highest mean (n)	89 (2)	40376 (3)	8790 (3)	4015 (3)	32000 (8)	364 ^a (4)	220 ^a (4)	4700 (8)
	Overall range	16 - 95	ND - 78474	130 - 13612	80 - 8938	1.2 - 60000	3 - 1060 ^a	22.4 ^a - 425 ^a	2.79 ^d - 8500

Abbreviations: ND, the analyte was not detected above the limit of detection; NA, not available

^ang/g lipid weight

^bLargest sample with this mean

^cng/g wet weight

^dValue obtained by subtracting the SD from the corresponding mean

^eValue obtained by adding the SD to the corresponding mean

^fStandard deviation of mean above

^gND in either of two studies that address this analyte

^h∑DDTs refers to p,p' forms of DDE, DDD and DDT only

Table 2. Metadata for Persistent Organic Pollutants, Including PCBs, DDTs, Chlordanes, HCHs and HDB in Selected Marine Mammal Species from US Waters, Reported 1994 through 2005.
An "X" in a given contaminant column denotes that contaminant was analyzed.

Source	Species	Contaminant Classes Analyzed						Tissue (n)	Date Sampled	Event	Location	Source data characterization Arith.(A) or Geo. (G) Mean; lw or ww; % lipid given?; individual animal data provided?
		PCBs (# of congeners)	DDTs	Chlordanes*	HCHs	HCB						
CETACEANS												
Hansen et al., 2004	<i>T. truncatus</i>	X (15)	X	X	X	X	blubber (62)	1995-2000	B	NC, SC, FL	G; lw; yes; no	
Reddy et al., 2001; 1998	<i>T. truncatus</i>	X (10)	X	X	X	X	blubber (14) blood (16)	1994	B	CA	NR; lw; no; yes	
Salata et al., 1995	<i>T. truncatus</i>	X (NR)	X	X	X	X	blubber (33)	NR	S	TX, FL	A; lw; no; no	
Kuehl & Haebler, 1995	<i>T. truncatus</i>	X (NR)	X ^a	X	X	X	blubber (24)	1990	S	TX, FL	A; lw; no; no	
Finklea et al., 2000	<i>T. truncatus</i>	X (87)					blubber (10)	1990	S	TX	A; lw; no; yes	
Johnson-Restrepo et al., 2005	<i>T. truncatus</i>	X (NR)					blubber (20)	1991-2004	S & B ^d	FL	A; lw; yes; no	
Wells et al., 2005	<i>T. truncatus</i>	X (22)					blubber (47) blood (NR) milk (NR)	2000-2001	B	FL	NR ^e ; lw; no; no	
Watanabe et al., 2000	<i>T. truncatus</i>	X (35)	X ^a	X	X	X	liver (6)	1989-94	S	FL	A; ww; yes; yes	
	<i>K. breviceps</i>	X (35)	X ^a	X	X	X	liver (2)	1991-92	S	FL	A; ww; yes; yes	
Tuerk et al., 2005a,b	<i>L. acutus</i>	X(55)	X	X	X	X	blubber (47)	1993-2000	S	MA	A;ww; no; no	
Weisbrod et al., 2001	<i>L. acutus</i>	X (27)	X	X	X	X	blubber (6) skin (6) liver (6) lung (2) kidney (2)	1994-96	S	MA, NY	A; ww; yes; no	
	<i>G. melas</i>	X (27)	X	X	X	X	blubber (11) skin (3) liver (8) heart (4) muscle (6) kidney (3) testis (1)	1990-96	S	MA, NY	A; ww; yes; no	
Weisbrod et al., 2000	<i>G. melas</i>	X (27)	X	X	X	X	blubber (16) liver (17)	1990-96	S	MA	A; lw; yes; no	
Becker et al., 1997	<i>G. melas</i>	X (33)	X	X	X	X	blubber (7)	NR ^b	NR ^b	MA	A; ww; no; no	
Tilbury et al., 1999	<i>G. melas</i> ^b	X (17)	X	X	X	X	blubber (22) liver (25) kidney (9) brain (8) ovary (2)	1986-90	S	MA	A; ww; yes; no	
Struntz et al., 2004; Tuerk et al., 2005a	<i>S. bredanensis</i>	X (33)	X	X	X	X	blubber (15)	1997	S	FL	A; lw; yes; yes	
Varanasi et al., 1994	<i>E. robustus</i>	X (NR)	X	X	X	X	blubber (22) liver (10) brain (1)	1988-91	S	CA, WA & AK	A ^c ; ww; yes; no	
Tilbury et al., 2002	<i>E. robustus</i>	X (17)	X	X	X	X	blubber (17) liver (14) kidney (6) brain (6) muscle (3)	1994	H	Russia (Western Bering Sea)	A; ww; yes; no	
Krahn et al., 2001	<i>E. robustus</i> ^b	X (17)	X	X	X	X	blubber (62)	1996 & '99	B & S	WA	A; ww; yes; no	
Metcalfe et al., 2004	<i>M. novaeangliae</i>	X (25)	X ^a	X	X	X	blubber (25)	1993-99	B	Canada	A; lw; no; no	
Gauthier et al., 1997	<i>M. novaeangliae</i>	X (19)	X ^a	X	X	X	blubber (7)	1991	B	Canada	A; lw; yes; yes	
PINNIPEDS												
Lieberg-Clark et al., 1995	<i>Z. californianus</i>	---	X ^a				blubber (7)	1988-92	S	CA	G; ww; no; no	
Hayteas & Duffield, 1997	<i>Z. californianus</i>	X (NR)	X ^a				blubber (5)	1991-95	S	OR	G; ww; no; yes	
Kajiwara et al., 2001	<i>P. vitulina</i>	X (NR)					blubber (10)	1991-95	S	OR	G; ww; no; yes	
	<i>M. angustirostris</i>	X (NR)					blubber (1)	1991-95	S	OR	G; ww; no; yes	
	<i>Z. californianus</i>	X (NR)	X ^a	X	X	X	blubber (12) liver (9)	1991-97	S	CA	A; ww; yes; yes	
	<i>P. vitulina</i>	X (NR)	X ^a	X	X	X	liver (10)	1991-97	S	CA	A; ww; yes; yes	
Kannan et al., 2004; Le Boeuf et al., 2002	<i>M. angustirostris</i>	X (NR)	X ^a	X	X	X	blubber (4)	1991-94	S	CA	A; ww; yes; yes	
	<i>Z. californianus</i>	X (NR)	X ^a	X	X	X	blubber (36)	2000	S	CA	A; lw; yes; no	
Lake et al., 1995	<i>M. angustirostris</i>	X (NR)	X ^a	X	X	X	blubber (2)	2000	S	CA	A; lw; yes; no	
Young et al., 1998	<i>P. vitulina</i>	X (18)	X ^a	X	X	X	blubber (9) liver (9)	1990-92	S	NY, MA	A; ww; no; no	
Hong et al., 1996	<i>P. vitulina</i>	X (20)					blood (16)	1990	S	CA	A; ww; no; no	
Hong et al., 1996	<i>P. vitulina</i>	X (73) X (54)	X ^a			X	blubber (8) liver (8)	1990	S	WA	A; ww; no; no	
	<i>P. vitulina</i>	X (17)	X	X	X	X	blubber (15)	1992-93	S & H	WA, OR, AK	A ^c ; ww; yes; nd	
Ross et al., 2004	<i>P. vitulina</i>	X (109)					blubber (60)	1996-97	B	Canada; WA	A; lw; no; no	
Neale et al., 2005a	<i>P. vitulina</i>	X (10)	X ^a				blood (17)	2001-02	B	CA	A; ww & lw; no; no	
Neale et al., 2005b	<i>P. vitulina</i>	X (11)	X ^a				blood (35)	2001-02	B	CA	NR; ww & lw; no; no	
Shaw et al., 2005	<i>P. vitulina</i>	X (20)	X	X	X	X	blubber (30)	2001-02	S	MA, ME, NH, NY	A; lw; yes; yes	
Debier et al., 2005a	<i>M. angustirostris</i>	X (141)					blubber (6)	2002	B	CA	A; lw & ww; yes; no	
Debier et al., 2005b	<i>Z. californianus</i>	X (NR)	X				serum (12)	2002	B	CA	A; ww & lw; yes; no	
Ylitalo et al., 2005	<i>Z. californianus</i>	X (17)	X				blubber (76)	1993-2003	S	CA	A; ww & lw; yes; no	

Abbreviations: NR, not reported; S, stranded; B, biopsied; H, subsistence harvest; A, arithmetic mean; G, geometric mean; lw, reported on a lipid weight basis; ww, reported on a wet weight basis

*Number of chlordane isomers analyzed varied between studies

^aOnly *pp'* isomers of DDT, DDE and DDD were analyzed; in some studies, not all three *pp'* isomers were analyzed.

^bIn Appendix I, see footnotes "g," "h" and "j" for Becker et al.(1997), Tilbury et al.(1999) and Krahn et al. (2001), respectively, regarding study overlap

^cMeans exclude values below limit of detection

^dFrom archived samples; from source text it appears that 14 are from stranded dolphins and the remaining 6 were biopsies

^e4,4' DDE only

^fRanges only were given for data (except for some data subsets in Wells); data provided in graphic format only

Table 3. Polychlorinated dibenzo-p-dioxins and -furans (PCDD/Fs) Contaminants in Tissues of Selected Marine Mammal Species from US Waters, Reported 1995 through 2005.

		Source: Jarman et al., 1996 Event: Stranding			Source: Ross et al., 2004 Event: Biopsy					Source: Lake et al., 1995 Event: Stranding			Source: Debier et al., 2005a Event: Biopsy			
		Location: British Columbia, Canada (Vancouver Is. & Denman Is.)			Location: BC, Canada (Queen Charlotte Strait)		Location BC, Canada (Strait of Georgia)		Location: WA (Puget Sound)		Location: NY & MA			Location: CA (Ano Nuevo Is.)		
		Date Sampled: 1987-88 Species: <i>Eschrichtius robustus</i> Tissue: Blubber			Date Sampled: 1996-97 Species: <i>Phoca vitulina</i> Tissue: Blubber		Date Sampled: 1996-97 Species: <i>Phoca vitulina</i> Tissue: Blubber		Date Sampled: 1996-97 Species: <i>Phoca vitulina</i> Tissue: Blubber		Date Sampled: 1990-92 Species: <i>Phoca vitulina</i> Tissue: Blubber			Date Sampled: 2002 Species: <i>Mirounga angustirostris</i> Tissue: Blubber		
Analyte (ng/g wet weight)	n	Mean	LOD ^b	n	Mean ^{a,c}	SE	n	Mean ^c	SE	n	Mean ^c	SE	n		Mean ^c	SD
2,3,7,8-TCDD	2	ND	<2										15 ^d			
1,2,3,7,8-PnCDD	2	ND	<5										15 ^d			
1,2,3,4,7,8-HxCDD													15 ^d			
1,2,3,6,7,8-HxCDD	2		<8										15 ^d	6	0.007	NR
1,2,3,7,8,9-HxCDD	2	ND	<8										15 ^d			
1,2,3,4,6,7,9-HpCDD	2	ND	<10													
1,2,3,4,6,7,8-HpCDD	2	ND	<10										15 ^d	6	0.008	NR
OCDD	2	ND	<20										15 ^d	6	0.017	NR
∑ 2,3,7,8-PCDDs				5	0.072	0.006	38	0.256	0.031	17	0.119	0.011				
∑ PCDDs				5	0.096	0.01	38	0.279	0.032	17	0.119	0.016		6	0.032 ^e	0.023
2,3,7,8-TCDF	2	ND	3										15 ^d			
1,2,4,7,8-PnCDF	2	ND	<5													
1,2,3,7,8-PnCDF													15 ^d			
2,3,4,7,8-PnCDF	2	ND	<5										15 ^d	6	0.007	NR
1,2,4,8,9-PnCDF	2	ND	<5													
1,2,4,6,8,9-HxCDF	2	ND	<8													
1,2,3,4,7,8-HxCDF													15 ^d			
1,2,3,6,7,8-HxCDF													15 ^d			
1,2,3,7,8,9-HxCDF													15 ^d			
2,3,4,6,7,8-HxCDF													15 ^d			
1,2,3,4,6,9-/1,2,3,6,8,9-HxC	2	ND	<8													
1,2,3,4,6,8,9-HpCDF	2	ND	<10													
1,2,3,4,6,7,8-HpCDF													15 ^d			
1,2,3,4,7,8,9-HpCDF													15 ^d			
OCDF													15 ^d	6	0.01	NR
∑ 2,3,7,8-PCDFs				5	0.022	0.002	38	0.016	0.002	17	0.01	0.001				
∑ PCDFs				5	0.026	0.004	38	0.025	0.013	17	0.01	0.001		6	0.017 ^e	0.005

Abbreviations: ND, the analyte was not detected above the limit of detection; SE, standard error of the mean; SD, standard deviation; NR, not reported

^aArithmetic

^bLOD-limits of detection for individual PCDD/F congeners

^cng/g lipid weight

^dAll samples were near or below limits of detection (3-5 pg/g).

^eOn a wet weight basis means (SD) were: 0.025(0.017) and 0.014(0.004) for ∑ PCDDs and ∑ PCDFs, respectively.

Table 4. Metadata for Toxic Metal Pollutants, Including Mercury (Hg), Cadmium (Cd), Lead (Pb) and Tin (Sn) in Selected Marine Mammal Species from US Waters, Reported 1994 through 2005.

An "X" in a given metal contaminant column denotes that metal was analyzed.

Source	Species	Metal Contaminant Analyzed				Tissue (n)	Date Sampled	Event	Location	Comments
		Mercury	Cadmium	Lead	Tin					
CETACEANS										
Ruelas-Inzunza et al., 2002	<i>E. robustus</i>	X (THg & MeHg)	X	X		Kidney (4) Liver (4) Muscle (4)	1999	S	Mexico (Gulf of California)	DW
Tilbury et al., 2002	<i>E. robustus</i>	X (THg)	X	X		Brain (6) Kidney (6) Liver (5)	1994	H	Russia (NW Bering Sea)	WW
Varanasi et al., 1994	<i>E. robustus</i>	X (THg)	X	X	X ^a	Brain (1) Kidney (10) Liver (10)	1988-1991	S	CA, WA & AK	WW
De Luna & Rosales-Hoz, 2004	<i>E. robustus</i>			X		Bone (8) Epidermis (8) Kidney (2) Muscle (8)	1999	S	Mexico (Ojo de Liebre Lagoon)	DW
Mendez et al., 2002	<i>E. robustus</i>		X	X		Blubber (5) Heart (7) Kidney (5) Liver (5) Lung (7) Muscle (5)	1999	S	Mexico (Sinaloa & Baja California Sur)	DW
Mackey et al., 1995	<i>G. melas</i>	X (THg)	X			Liver (9)	1990-1990	S	MA	WW
	<i>L. acutus</i>	X (THg)	X			Liver (4)	1993	S	MA	WW
Beck et al., 1997	<i>T. truncatus</i>	X (THg)	X	X		Liver (34)	NR	S	SC	WW
Kuehl & Haebler, 1995	<i>T. truncatus</i>	X (THg)	X	X		Liver (24)	1990	S	TX & AL (Gulf of Mexico)	WW
Meador et al., 1999	<i>T. truncatus</i>	X (THg & MeHg)	X ^c	X ^c		Blubber (4) Kidney (30 ^b) Liver (30 ^b)	1990-1991	S	TX	DW ^f
	<i>T. truncatus</i>	X (THg & MeHg)	X ^c	X ^c		Kidney (13 ^b) Liver (14 ^b)	1990-1991	S	FL	DW
Wood & Van Vleet, 1996	<i>T. truncatus</i>		X			Kidney (21) Liver (29) Muscle (21)	1990-1994	S	FL	DW
Kannan et al., 1997	<i>T. truncatus</i>				X ^d	Blubber (1) Brain (1) Heart (1) Liver (16) Kidney (17) Melon (1) Muscle (11)	1989-1994	S	FL	WW
	<i>K. breviceps</i>				X ^d	Kidney (2) Liver (3) Muscle (2)	1989-1994	S	FL	WW
Mackey et al., 2003	<i>S. bredanensis</i>	X (THg)	X		X ^e	Kidney (15) Liver (15)	1997	S	FL (Gulf of Mexico)	WW
PINNIPEDS										
Lake et al., 1995	<i>P. vitulina</i>	X (THg)				Liver (7)	1990-1992	S	NY & MA	WW
Owen & Flegal, 1998	<i>M. angustirostris</i>			X		Blood (4)	1994-1995	B	CA	WW
Kajiwara et al., 2001	<i>M. angustirostris</i>				X ^d	Liver (2)	1991-1994	S	CA	WW
	<i>P. vitulina</i>				X ^d	Liver (6)	1991-1997	S	CA	WW
	<i>Z. californianus</i>				X ^d	Liver (10)	1991-1997	S	CA	WW

Abbreviations: THg, Total mercury; MeHg, organic (methyl) mercury; NR, not reported; S, stranded; B, biopsied; H, subsistence harvest; WW, reported on a wet weight basis; DW, reported on a dry weight basis

^aTotal tin was analyzed in kidney and liver of seven animals

^bMaximum analyzed for this tissue at this location

^cAnalyzed in kidney and liver only

^dSum of butyltins, including mono-, di- and tri-butyltin

^eTotal tin

^fExcept for blubber, which was reported as WW

Appendix III. Mercury, Cadmium, Lead and Tin in Tissues of Selected Marine Mammal Species from US Waters, Reported 1994 through 2005. All concentrations are reported on a wet weight basis, except where noted otherwise by an asterisk*.

Mercury (Hg)									
Species	Tissue	Mean ug/g	Min.	Max.	n	Location	Date Sampled	Event	Reference
<i>E. robustus</i>	kidney ^a	277*	140 ^j	NR	4	Mexico (Gulf of California)	1999	Stranding	Ruelas-Inzunza et al., 2002
<i>E. robustus</i>	kidney ^b	51*	22 ^j	NR	4	Mexico (Gulf of California)	1999	Stranding	Ruelas-Inzunza et al., 2002
<i>E. robustus</i>	liver ^a	185*	82 ^j	NR	4	Mexico (Gulf of California)	1999	Stranding	Ruelas-Inzunza et al., 2002
<i>E. robustus</i>	liver ^b	42*	34 ^j	NR	4	Mexico (Gulf of California)	1999	Stranding	Ruelas-Inzunza et al., 2002
<i>E. robustus</i>	muscle ^a	145*	82 ^j	NR	4	Mexico (Gulf of California)	1999	Stranding	Ruelas-Inzunza et al., 2002
<i>E. robustus</i>	muscle ^b	109*	40 ^j	NR	4	Mexico (Gulf of California)	1999	Stranding	Ruelas-Inzunza et al., 2002
<i>E. robustus</i>	brain ^a	0.022	0.002 ^h	NR	6 ^g	Russia (NW Bering Sea)	1994	Subsistence harvest	Tilbury et al., 2002 ⁱ
<i>E. robustus</i>	kidney ^a	0.034	0.001 ^h	NR	6 ^g	Russia (NW Bering Sea)	1994	Subsistence harvest	Tilbury et al., 2002 ⁱ
<i>E. robustus</i>	liver ^a	0.16	0.061 ^h	NR	5 ^g	Russia (NW Bering Sea)	1994	Subsistence harvest	Tilbury et al., 2002 ⁱ
<i>E. robustus</i>	brain ^a	ND	ND	ND	1	CA, WA & AK	1988-91	Stranding	Varanasi et al., 1994
<i>E. robustus</i>	kidney ^a	0.034	ND	0.06	10	CA, WA & AK	1988-91	Stranding	Varanasi et al., 1994
<i>E. robustus</i>	liver ^a	0.056	0.009	0.12	10	CA, WA & AK	1988-91	Stranding	Varanasi et al., 1994
<i>G. melas</i>	liver ^a	40.3	1.00	112.0	9	MA	1990-91	Stranding	Mackey et al., 1995
<i>L. acutus</i>	liver ^a	10.36	1.00	22.70	4	MA	1993	Stranding	Mackey et al., 1995
<i>S. bredanensis</i>	kidney ^a	5.8	0.9	15	15	FL (Gulf of Mexico)	1997	Stranding	Mackey et al., 2003
<i>S. bredanensis</i>	liver ^a	70	3.4	235	15	FL (Gulf of Mexico)	1997	Stranding	Mackey et al., 2003
<i>T. truncatus</i>	liver ^a	17.8	<0.5	146.5	34	SC	NR	Stranding	Beck et al., 1997
<i>T. truncatus</i>	liver ^a	0.96	0.15	2.23	5 ^o	TX & AL (Gulf of Mexico)	1990	Stranding	Kuehl & Haebler, 1995
<i>T. truncatus</i>	liver ^a	4.39	1.72	8.36	5 ^g	TX & AL (Gulf of Mexico)	1990	Stranding	Kuehl & Haebler, 1995
<i>T. truncatus</i>	liver ^a	45.5	5.1	87.8	9 ^p	TX & AL (Gulf of Mexico)	1990	Stranding	Kuehl & Haebler, 1995
<i>T. truncatus</i>	liver ^a	25.9	6.1	48.7	5 ^q	TX & AL (Gulf of Mexico)	1990	Stranding	Kuehl & Haebler, 1995
<i>T. truncatus</i>	blubber ^b	0.6	0.4	0.7	4	FL	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	kidney ^a	33*	1.0	89	29	TX	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	kidney ^a	68*	11.2	110	12	FL	1991-92	Stranding	Meador et al., 1999 ^{c,d}

Mercury (Hg) (continued)									
Species	Tissue	Mean ug/g	Min.	Max.	n	Location	Date Sampled	Event	Reference
<i>T. truncatus</i>	kidney ^b	4.5*	1.3	10.4	23	TX	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	kidney ^b	9.9*	1.4	19	13	FL	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	liver ^a	212*	8.3	1404	30	TX	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	liver ^a	304*	18	1312	13	FL	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	liver ^b	6*	0.9	23	24	TX	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	liver ^b	11*	2.5	24	14	FL	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>P. vitulina</i>	liver ^a	38.5	31.6	49.3	4	NY & MA	1990-92	Stranding	Lake et al., 1995
<i>P. vitulina</i>	liver ^a	69.9	16.0	138	3	NY & MA	1990-92	Stranding	Lake et al., 1995

Cadmium (Cd)									
Species	Tissue	Mean ug/g	Min.	Max.	n	Location	Date Sampled	Event	Reference
<i>E. robustus</i>	blubber	0.16*	ND	0.16	5 ^g	Mexico (Sinaloa & Baja California Sur)	1999	Stranding	Mendez et al., 2002
<i>E. robustus</i>	heart	0.68*	0.16	1.81	7 ^g	Mexico (Sinaloa & Baja California Sur)	1999	Stranding	Mendez et al., 2002
<i>E. robustus</i>	kidney	15.4*	1.93	35.1	5 ^g	Mexico (Sinaloa & Baja California Sur)	1999	Stranding	Mendez et al., 2002
<i>E. robustus</i>	liver	1.77*	0.81	3.62	5 ^g	Mexico (Sinaloa & Baja California Sur)	1999	Stranding	Mendez et al., 2002
<i>E. robustus</i>	lung	1.16*	0.1	5.26	7 ^g	Mexico (Sinaloa & Baja California Sur)	1999	Stranding	Mendez et al., 2002
<i>E. robustus</i>	muscle	0.86*	0.05	2.34	5 ^g	Mexico (Sinaloa & Baja California Sur)	1999	Stranding	Mendez et al., 2002
<i>E. robustus</i>	kidney	5.7*	1.4 ^j	8.0	4	Mexico (Gulf of California)	1999	Stranding	Ruelas-Inzunza & Paez-Osuna, 2002
<i>E. robustus</i>	liver	1.1*	1.0 ^j	NR	4	Mexico (Gulf of California)	1999	Stranding	Ruelas-Inzunza & Paez-Osuna, 2002
<i>E. robustus</i>	muscle	0.4*	0.2 ^j	NR	4	Mexico (Gulf of California)	1999	Stranding	Ruelas-Inzunza & Paez-Osuna, 2002
<i>E. robustus</i>	brain	0.1	0.01 ^h	NR	6 ^g	Russia (NW Bering Sea)	1994	Subsistence harvest	Tilbury et al., 2002 ⁱ

Cadmium (Cd) (continued)									
Species	Tissue	Mean ug/g	Min.	Max.	n	Location	Date Sampled	Event	Reference
<i>E. robustus</i>	kidney	0.59	0.11 ^h	NR	6 ^g	Russia (NW Bering Sea)	1994	Subsistence harvest	Tilbury et al., 2002 ⁱ
<i>E. robustus</i>	liver	0.21	0.04 ^h	NR	5 ^g	Russia (NW Bering Sea)	1994	Subsistence harvest	Tilbury et al., 2002 ⁱ
<i>E. robustus</i>	brain	0.02	0.02	0.02	1	CA, WA & AK	1988-91	Stranding	Varanasi et al., 1994
<i>E. robustus</i>	kidney	4.1	0.14	6.1	10	CA, WA & AK	1988-91	Stranding	Varanasi et al., 1994
<i>E. robustus</i>	liver	4.3	0.06	6.2	10	CA, WA & AK	1988-91	Stranding	Varanasi et al., 1994
<i>G. melas</i>	liver	7.88	2.8	14.3	9	MA	1990-91	Stranding	Mackey et al., 1995
<i>L. acutus</i>	liver	0.42	0.24	0.86	4	MA	1993	Stranding	Mackey et al., 1995
<i>S. bredanensis</i>	kidney	1.73	0.05	3.94	15	FL (Gulf of Mexico)	1997	Stranding	Mackey et al., 2003
<i>S. bredanensis</i>	liver	0.54	0.01	1.02	15	FL (Gulf of Mexico)	1997	Stranding	Mackey et al., 2003
<i>T. truncatus</i>	liver	0.051	0.009	0.27	34	SC	NR	Stranding	Beck et al., 1997
<i>T. truncatus</i>	liver	0.06	0.01	0.08	5 ^o	TX & AL (Gulf of Mexico)	1990	Stranding	Kuehl & Haebler, 1995
<i>T. truncatus</i>	liver	0.11	0.08	0.16	5 ^g	TX & AL (Gulf of Mexico)	1990	Stranding	Kuehl & Haebler, 1995
<i>T. truncatus</i>	liver	0.43	0.10	1.34	9 ^p	TX & AL (Gulf of Mexico)	1990	Stranding	Kuehl & Haebler, 1995
<i>T. truncatus</i>	liver	0.31	0.11	0.64	5 ^q	TX & AL (Gulf of Mexico)	1990	Stranding	Kuehl & Haebler, 1995
<i>T. truncatus</i>	kidney	1.9*	ND	4.2	30 (11 ND)	TX	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	kidney	4.4*	ND	5.2	13 (5 ND)	FL	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	liver	0.32*	ND	0.7	14 (8 ND)	TX	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	liver	1.6*	ND	1.6	11 (10 ND)	FL	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	kidney	1.3*	ND	6.4	21	FL	1990-94	Stranding	Wood & Van Vleet, 1996
<i>T. truncatus</i>	liver	0.2*	ND	1.7	29	FL	1990-94	Stranding	Wood & Van Vleet, 1996
<i>T. truncatus</i>	muscle	ND	ND	ND	21	FL	1990-94	Stranding	Wood & Van Vleet, 1996

Lead (Pb)									
Species	Tissue	Mean ug/g	Min.	Max.	n	Location	Date Sampled	Event	Reference
<i>E. robustus</i>	bone	50 ^{*k}	NR	NR	2 ^l	Mexico (Ojo de Liebre Lagoon)	1999	Stranding	De Luna & Rosales-Hoz, 2004
<i>E. robustus</i>	bone	20 ^{*k}	NR	NR	3 ^g	Mexico (Ojo de Liebre Lagoon)	1999	Stranding	De Luna & Rosales-Hoz, 2004
<i>E. robustus</i>	bone	30 ^{*k}	NR	NR	3 ^m	Mexico (Ojo de Liebre Lagoon)	1999	Stranding	De Luna & Rosales-Hoz, 2004
<i>E. robustus</i>	epidermis	15 ^{*k}	NR	NR	8	Mexico (Ojo de Liebre Lagoon)	1999	Stranding	De Luna & Rosales-Hoz, 2004
<i>E. robustus</i>	kidney	30 ^{*k}	NR	NR	2 ^l	Mexico (Ojo de Liebre Lagoon)	1999	Stranding	De Luna & Rosales-Hoz, 2004
<i>E. robustus</i>	muscle	15 ^{*k}	NR	NR	2 ^l	Mexico (Ojo de Liebre Lagoon)	1999	Stranding	De Luna & Rosales-Hoz, 2004
<i>E. robustus</i>	muscle	22 ^{*k}	NR	NR	3 ^g	Mexico (Ojo de Liebre Lagoon)	1999	Stranding	De Luna & Rosales-Hoz, 2004
<i>E. robustus</i>	muscle	18 ^{*k}	NR	NR	3 ^m	Mexico (Ojo de Liebre Lagoon)	1999	Stranding	De Luna & Rosales-Hoz, 2004
<i>E. robustus</i>	blubber	1.06 [*]	0.33	1.78	5 ^g	Mexico (Sinaloa & Baja California Sur)	1999	Stranding	Mendez et al., 2002
<i>E. robustus</i>	heart	2.31 [*]	1.28	3.4	7 ^g	Mexico (Sinaloa & Baja California Sur)	1999	Stranding	Mendez et al., 2002
<i>E. robustus</i>	kidney	2.09 [*]	0.34	6.12	5 ^g	Mexico (Sinaloa & Baja California Sur)	1999	Stranding	Mendez et al., 2002
<i>E. robustus</i>	liver	2.06 [*]	0.78	3.62	5 ^g	Mexico (Sinaloa & Baja California Sur)	1999	Stranding	Mendez et al., 2002
<i>E. robustus</i>	lung	1.21 [*]	0.36	4.40	7 ^g	Mexico (Sinaloa & Baja California Sur)	1999	Stranding	Mendez et al., 2002
<i>E. robustus</i>	muscle	1.11 [*]	0.42	1.8	5 ^g	Mexico (Sinaloa & Baja California Sur)	1999	Stranding	Mendez et al., 2002
<i>E. robustus</i>	kidney	0.6 [*]	0.3 ^j	NR	4	Mexico (Gulf of California)	1999	Stranding	Ruelas-Inzunza & Paez-Osuna, 2002
<i>E. robustus</i>	liver	0.9 [*]	0.8 ^j	0.9	4	Mexico (Gulf of California)	1999	Stranding	Ruelas-Inzunza & Paez-Osuna, 2002
<i>E. robustus</i>	muscle	0.6 [*]	0.4 ^l	NR	4	Mexico (Gulf of California)	1999	Stranding	Ruelas-Inzunza & Paez-Osuna, 2002

Lead (Pb) (continued)									
Species	Tissue	Mean ug/g	Min.	Max.	n	Location	Date Sampled	Event	Reference
<i>E. robustus</i>	brain	0.014	0.003 ^h	NR	6 ^g	Russia (NW Bering Sea)	1994	Subsistence harvest	Tilbury et al., 2002
<i>E. robustus</i>	kidney	0.028	0.005 ^h	NR	6 ^g	Russia (NW Bering Sea)	1994	Subsistence harvest	Tilbury et al., 2002
<i>E. robustus</i>	liver	0.06	0.013 ^h	NR	5 ^g	Russia (NW Bering Sea)	1994	Subsistence harvest	Tilbury et al., 2002
<i>E. robustus</i>	brain	0.06	0.06	0.06	1	CA, WA & AK	1988-91	Stranding	Varanasi et al., 1994
<i>E. robustus</i>	kidney	0.053	ND	0.10	10	CA, WA & AK	1988-91	Stranding	Varanasi et al., 1994
<i>E. robustus</i>	liver	0.12	0.02	0.27	10	CA, WA & AK	1988-91	Stranding	Varanasi et al., 1994
<i>T. truncatus</i>	liver	<0.10	NR	NR	34	SC	NR	Stranding	Beck et al., 1997
<i>T. truncatus</i>	liver	0.45	0.08	1.47	5 ^o	TX & AL (Gulf of Mexico)	1990	Stranding	Kuehl & Haebler, 1995
<i>T. truncatus</i>	liver	0.26	0.04	0.88	5 ^g	TX & AL (Gulf of Mexico)	1990	Stranding	Kuehl & Haebler, 1995
<i>T. truncatus</i>	liver	0.68	0.2	2.12	9 ^p	TX & AL (Gulf of Mexico)	1990	Stranding	Kuehl & Haebler, 1995
<i>T. truncatus</i>	liver	0.48	0.09	1.20	5 ^q	TX & AL (Gulf of Mexico)	1990	Stranding	Kuehl & Haebler, 1995
<i>T. truncatus</i>	kidney	0.17*	ND	1.6	30 (11 ND)	TX	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	kidney	0.08*	ND	0.14	13 (11 ND)	FL	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	liver	0.3*	ND	2.6	30 (11 ND)	TX	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>T. truncatus</i>	liver	0.09*	ND	0.2	13 (10 ND)	FL	1991-92	Stranding	Meador et al., 1999 ^{c,d}
<i>M. angustirostris</i>	blood	0.13 ⁿ	0.071 ⁿ	0.21 ⁿ	4 ^o	CA	1994-95	live animal collection	Owen & Flegal, 1998

Tin (Sn)									
Species	Tissue	Mean ug/g	Min.	Max.	n	Location	Date Sampled	Event	Reference
<i>E. robustus</i>	kidney	0.04 ^f	ND	0.05	7	CA, WA & AK	1988-91	Stranding	Varanasi et al., 1994
<i>E. robustus</i>	liver	0.04 ^f	ND	0.04	7	CA, WA & AK	1988-91	Stranding	Varanasi et al., 1994
<i>K. breviceps</i>	kidney	0.062 ^e	0.059	0.065	2	FL	1989-94	Stranding	Kannan et al., 1997
<i>K. breviceps</i>	liver	0.39 ^e	0.35	0.41	3	FL	1989-94	Stranding	Kannan et al., 1997
<i>K. breviceps</i>	muscle	0.021 ^e	0.016	0.026	2	FL	1989-94	Stranding	Kannan et al., 1997
<i>S. bredanensis</i>	kidney	0.053 ^f	0.01	0.14	15	FL (Gulf of Mexico)	1997	Stranding	Mackey et al., 2003
<i>S. bredanensis</i>	liver	5.4 ^f	3.8	7.3	15	FL (Gulf of Mexico)	1997	Stranding	Mackey et al., 2003
<i>T. truncatus</i>	blubber	0.63 ^e	0.63	0.63	1	FL	1989-94	Stranding	Kannan et al., 1997
<i>T. truncatus</i>	brain	0.11 ^e	0.11	0.11	1	FL	1989-94	Stranding	Kannan et al., 1997
<i>T. truncatus</i>	heart	0.05 ^e	0.05	0.05	1	FL	1989-94	Stranding	Kannan et al., 1997
<i>T. truncatus</i>	kidney	0.20 ^e	0.025	0.67	16	FL	1989-94	Stranding	Kannan et al., 1997
<i>T. truncatus</i>	liver	1.4 ^e	0.11	11.34	17	FL	1989-94	Stranding	Kannan et al., 1997
<i>T. truncatus</i>	melon	0.19 ^e	0.19	0.19	1	FL	1989-94	Stranding	Kannan et al., 1997
<i>T. truncatus</i>	muscle	0.041 ^e	0.013	0.11	11	FL	1989-94	Stranding	Kannan et al., 1997
<i>M. augustirostris</i>	liver	0.08 ^e	0.06	0.099	2 ^f	CA	1991-94	Stranding	Kajiwara et al., 2001
<i>P. vitulina</i>	liver	0.034 ^e	0.002	0.091	6 ^f	CA	1991-97	Stranding	Kajiwara et al., 2001
<i>Z. californianus</i>	liver	0.045 ^e	0.024	0.087	10 ^f	CA	1991-97	Stranding	Kajiwara et al., 2001

Abbreviations: ND, the analyte was not detected above the limit of detection; NR, not reported

*dry weight

^aTotal Hg

^bOrganic (i.e., methyl) Hg

^cMean ratios of dry to wet weight were 0.26 and 0.22 for TX liver and kidney, respectively (n=31), and 0.29 (n=14) and 0.23 (n=13) for FL liver and kidney, respectively.

^dMeans for analytes with data below detection limits (ND) were determined with maximum likelihood method for censored data. Means with no ND values were estimated following the procedure of Gilbert (1987) for lognormally-distributed data.

^eSum of butyltins, including mono-, di- and tri-butyltin

^fData for individual animals and organotins given in cited source.

^gJuveniles

^hStandard error of the mean

ⁱFor values below the limit of detection (LOD), one-half the LOD was used to calculate the mean

^jStandard deviation

^kValue extrapolated from graph

^lCalves

^mAdults (both sexes)

ⁿug/dl

^osucklings (live, for Owen & Flegal, 1998; stranded, for Kuehl & Haebler, 1995)

^pAdult males

^qAdult females

^rTotal Sn

Euthanasia Questionnaire Response Summary

Responder	Species	Stranding Type*	Frequency (or #) of Euthanasia in past year	Euthanasia Agent & Route	Induction Agent & Route	Adverse Reactions?	Disposal Methods	Comments
MarMamCenter, CA	<i>Zalophus californianus</i> <i>Mirounga angustirostrus</i> <i>Phoca vitulina</i>	I	96/796	pentobarb IV, IC	tiletamine/zolazepam IM	No	Renderer	no disposal problems
HBOI, FL	<i>Tursiops truncatus</i> <i>Kogia breviceps</i> <i>Kogia simus</i>	I	4	pentobarb +- phenytoin IC, IP	---	No	Beach burial Landfill	no disposal problems
Nat'l Aquarium, MD	<i>Phoca vitulina</i> <i>Pagophilus groenlandicus</i> <i>Tursiops truncatus</i> <i>Phocoena phocoena</i>	I	1 in 2003 avg. 1.9/yr (11 yrs)	pentobarb.+ phenytoin	tiletamine/zolazepam diazepam	Yes - lack of sedation	not indicated	generally not problematic
C. Harms, NCSU	<i>Tursiops truncatus</i> <i>Kogia breviceps</i> <i>Kogia simus</i> <i>Grampus griseus</i>	I	done 3-4	pentobarb +- phenytoin IV, IC	xylazine, acepromazine	Yes - hyperexcitability in G. gri. with xylazine or metomidate	Beach burial (if drugs admin.) disposal at sea (no drugs)	no disposal problems
W. McFee, NOS, SC	<i>Kogia breviceps</i> <i>Kogia simus</i> <i>Ziphius cavirostris</i>	I, P	~60% 1 in past yr.	pentobarb IV, IC	---	Yes - excitability in K. bre.	Burial	no disposal problems
Mote Mar Lab, FL	<i>Tursiops truncatus</i> <i>Kogia breviceps</i> <i>Kogia simus</i> <i>Globicephala macrorhynchus</i> <i>Lagenodelphis hosei</i>	I, M (Kogia & Glob.)	1-3/yr.	pentobarb. IV	xylazine	No	not indicated	Disposal problematic, did not elaborate
Cape Cod SN, MA	<i>Lagenorhynchus acutus</i> <i>Phocoena phocoena</i> <i>Delphinus delphis</i> <i>Globicephala melas</i>	I, M	179/403 over 5 yr period	pentobarb.+ phenytoin	---	Yes - hyperexcitability in cetaceans (T. tru., L. acu., D. del., G. mel.)	truck off Cape to landfill tow to sea & sink	Disposal very problematic, no rendering service avail., landfill won't accept, perception that whale remains contain contaminants, high cost
VA Marine Sc. Museum, VA	<i>Phoca vitulina</i> <i>Delphinus delphis</i> <i>Kogia breviceps</i>	I	7 in 2003	pentob. +- phenytoin	xylazine diazepam	Yes, Observed violent death throes in D. delphis w/ or w/o induction agent, and appeared to have violent rx to acepromazine also, slight excitability in Grampus w/ xylazine	commercial carcass dispo. co. to transport to landfill burial landfill	Difficulty procuring heavy eqp't.

Euthanasia Questionnaire Response Summary

Responder	Species	Stranding Type*	Frequency (or #) of Euthanasia in past year	Euthanasia Agent & Route	Induction Agent & Route	Adverse Reactions?	Disposal Methods	Comments
Litz, NOAA Fisheries SER, Southeast US, PR & Virgin Is	<i>Tursiops truncatus</i> <i>Kogia spp.</i> <i>Steno bredanensis</i> <i>Globicephala spp.</i>	I, P, M	68/474 from 1995-2000 (may be more-do not keep these stats.)	pentobarb. IV, IC	---	---	landfill	Disposal very problematic in mass strandings or with large cetaceans
George, GA DNR	<i>Feresa attenuata</i> <i>Kogia breviceps</i>		5 <i>Kogia breviceps</i> (3 adults/2 calves) 1 <i>Feresa attenuata</i> in 2004	Euthasol (390mg/mL) Gunshot	Xylazine (100mg/mL)	Yes- "Convulsions" prior to death seen with xylazine alone	left on beach buried on site landfill	Disposal in remote areas where removal of the carcass isn't possible precluding use of barbituates for euthanasia due to relay toxicosis concerns.

*1 = individuals

P = pairs

M = mass

APPENDIX K

PRESCOTT GRANT PROGRAM

Prescott Overview FY01-07

Year	Applications	Awards	Amount	Recipients	States	Running Total:	
						Awards	Amount
2001-2002	84	68	\$5,781,494	49	21	68	\$5,781,494
2003	53	48	\$4,465,343	40	19	116	\$10,246,837
2004	35	31	\$2,663,983	28	15	147	\$12,910,820
2005	97	40	\$3,620,154	38	19	187	\$16,530,974
2006	74	42	\$3,654,271	37	15	229	\$20,185,245
2007 (to date)	80						

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2002	AK	Alaska Sealife Center	Alaska Sealife Center Rescue and Rehabilitation Program	\$99,993
2002	AK	Aleut Community of St Paul Island	Assessment of northern fur seal entanglement in marine debris on the Pribilof Islands	\$95,945
2002	AK	Seward Association for the Advancement of Marine Science	Improved rehabilitation techniques through monitoring of nutrition and growth rates in free-ranging and rehabilitated harbor seal pups	\$100,000
2002	AK	University of Alaska Anchorage	Cellular and subcellular structure of the adrenal medulla of the Atlantic bottlenose dolphin (<i>Tursiops truncatus</i>) in relation to physiological stress.	\$33,591
2002	AK	University of Alaska Fairbanks	Marine mammal tissue and specimen archives - University of Alaska Museum	\$100,000
2002	AL	Spring Hill College	Enhancement of Data Collection	\$45,785
2002	CA	California Department of Fish and Game	Marine mammal pathology service for the central California coast	\$99,935
2002	CA	Marine Animal Rescue Rehabilitation and Release	Diagnostic and Surgery Center (at the Marine Mammal Care Center at Fort MacArthur)	\$70,000
2002	CA	Marine Mammal Center	Advancement of clinical care of stranded marine mammals at the Marine Mammal Center	\$100,000
2002	CA	Marine Mammal Center	Development of a biomonitoring program to detect novel diseases and changes in prevalence of known diseases in pinnipeds stranded along the central California coast	\$100,000
2002	CA	Northcoast Marine Mammal Center	Obtain operating funds to improve rehabilitation facility and provide more advanced and comprehensive diagnostic abilities.	\$100,000
2002	CA	Regents of the University of California/UCSC Stranding Network	UCSC Long Marine Lab Stranding Network upgrade of Information Management Systems and capabilities to improve or allow access to the National Database.	\$2,500
2002	CA	San Jose State Univ. Foundation	Movements, Dive Behavior and Survival of Post Release CA Sea Lions after Rehabilitation for Domoic Acid Toxicity	\$95,019
2002	CA	San Jose State Univ. Foundation	Gray whale and other large whale stranding investigations: A collaboration of marine mammal stranding participants in central California	\$95,680
2002	CA	Sea World, San Diego	Improved care and monitoring of beached marine mammals in Southern California	\$100,000
2002	CT	Mystic Aquarium	Marine mammal stranding program support for Mystic Aquarium	\$100,000

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2002	CT	Mystic Aquarium/Sea Research Foundation	Prognostic indicators for rehabilitation and survival of stranded harp and hooded seals	\$99,924
2002	DE	DE Dep't. of Natural Resources and Environmental Conservation	Renovation of a Seal Holding Facility	\$27,000
2002	FL	Clearwater Marine Aquarium	Transportation, rehabilitation facilities, and technology for marine mammal stranding events	\$94,175
2002	FL	Dynamac Corporation	Marine mammal rescue and stranding program on Florida's space coast	\$16,732
2002	FL	Florida Fish and Wildlife Conservation Commission	Development of standardized protocols for stranding networks in Florida	\$96,498
2002	FL	Florida Keys Marine Mammal Rescue Team	South Florida cetacean rescue triage and necropsy facility and response enhancement project	\$57,430
2002	FL	Gulf World Inc	To upgrade the quality of Gulf World Marine Park's existing stranding facility, improve response time and capabilities.	\$100,000
2002	FL	Harbor Branch Oceanographic Institution	Marine Mammal Necropsy Facility Enhancement	\$69,811
2002	FL	Hubbs-SeaWorld Research Institute	Life history and stranding patterns of pygmy and dwarf sperm whales (genus Kogia) as critical tools in interpreting health assessment trends in wild populations	\$98,240
2002	FL	Hubbs-SeaWorld Research Institute	Comprehensive stranding enhancement along the central east coast of Florida	\$76,339
2002	FL	Marine Animal Rescue Society	Upgrade MARS from a Short-Term Critical Care Facility to a Long-Term Rehabilitation Center	\$99,579
2002	FL	Mote Marine Laboratory	Mortality Patterns of Cetaceans Stranded on the Central West Coast of Florida	\$100,000
2002	FL	Mote Marine Laboratory	Facility, staff and equipment upgrades for the dolphin and whale hospital	\$100,000
2002	FL	SeaWorld (Orlando)	Enhancement of live stranding response capabilities and necropsy of code 2 animals in Northeast and east-central Florida: SeaWorld Florida equipment upgrades	\$98,946
2002	FL	University of Florida, College of Veterinary Medicine	Marine Mammal Microbiology Diagnostic and Support Laboratory	\$100,000
2002	GA	Georgia Depart. Natural Resources	Implement Marine Mammal Stranding Network in Georgia	\$43,000
2002	HI	Hawaiian Islands Stranding Response Group	Cooperative partnerships in Hawaii which upgrade the capacity of the region's stranding network, detect, and determine the cause of marine mammal morbidity/mortalities	\$99,830

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2002	HI	Robert C. Braun	Incidence of disease and health evaluation of Hawaiian Monk Seals (<i>Monachus schauinslandi</i>) in the Main Hawaiian Islands	\$99,650
2002	MA	Cape Cod Stranding Network	Enhanced mass stranding response on Cape Cod: Success through preparation, protocols and cooperation	\$100,000
2002	MA	Cape Cod Stranding Network	Health assessment of stranded marine mammals: Interpretation and field applications of blood and tissue analyses	\$100,000
2002	MA	New England Aquarium Corporation	Marine Mammal Stranding Response, Rescue and Rehabilitation at the New England Aquarium in Support of the National Marine Fisheries Service under the Marine Protection Act	\$98,671
2002	MA	New England Aquarium Corporation	An Analysis of the Spatial Patterns and Genetic Characteristics of the Harp and Hooded Seals Along the United States Eastern Coast	\$99,996
2002	MA	Whale Center of New England	A Program to Respond to Stranded Marine Mammals in Northeastern Massachusetts-Evaluation, Rescue, Data Collection, and Public Education	\$90,262
2002	MA	Woods Hole Oceanographic Institution	Necropsy enhancement for stranded marine mammals on Cape Cod	\$93,897
2002	MD	Maryland Depart Natural Resources	Marine Mammal Stranding Response in Maryland	\$47,002
2002	MD	National Aquarium in Baltimore	Enhanced Operations: Hospital pool restoration and satellite tags. Marine animal rescue program of the National Aquarium in Baltimore	\$99,850
2002	MD	National Aquarium in Baltimore	Stranded Marine Animal Education and Outreach for professionals and the Public Marine Animal Rescue Program of the National Aquarium in Baltimore	\$98,425
2002	ME	College of the Atlantic	Enhancement of the marine mammal stranding response and rescue program for the Maine coastal region, Rockland (ME) east, by creation of a new personnel position, network expansion, equipment upgrades, and acquisitions, and facility improvements	\$72,750
2002	ME	College of the Atlantic	Use of stable isotope analysis to determine individual population and ecosystem health of Gulf of Maine Balaenopterids	\$63,850
2002	ME	Marine Animal Lifeline	Enhancing seal rehabilitation care through improved isolation and the implementation of dedicated areas for veterinary treatments and necropsy	\$87,015

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2002	ME	Marine Animal Lifeline	Development and use of a Geographic Information System for analysis of harp, hooded and harbor seal sightings/stranding locations: Adding a spatial dimension to strandings	\$30,400
2002	MS	Institute for Marine Mammal Studies/Marine Life Oceanarium	Enhancement and Refurbishment of a Pre-Existing Stranding Facility and Development of First Response Capability Including Equipment and Training for Marine Mammal Live Response	\$100,000
2002	NC	University of North Carolina, Wilmington	Enhanced evaluation of human interaction with bottlenose dolphins (<i>Tursiops truncatus</i>) in North Carolina and Virginia	\$74,240
2002	NC	University of North Carolina, Wilmington	Enhance tissue collection and health monitoring of stranded of marine mammals in NC	\$100,000
2002	NJ	Marine Mammal Stranding Center	To provide safe water and land transport of marine mammals	\$71,250
2002	NJ	Marine Mammal Stranding Center	Operational expenses to support and enhance marine mammal and sea turtle rehabilitation	\$100,000
2002	NY	Riverhead Foundation for Marine Research and Preservation	Request for operational support to upgrade facilities for the New York State Marine Mammal and Sea Turtle Stranding Program	\$81,190
2002	NY	Riverhead Foundation for Marine Research and Preservation	Characterization of ice seal movements and evaluation of existing treatment protocols employed in the rehabilitation and field assessment through the uses of satellite telemetry and video documentation of stranded pinnipeds	\$59,181
2002	OK	Oklahoma State University	A comprehensive two-year study of the viral, bacterial, mycologic and toxicologic conditions associated with marine mammal strandings in the Gulf coast of the US	\$100,000
2002	OR	Oregon State University	Enhancing the capabilities of the Oregon Marine Mammal Stranding Network	\$100,000
2002	PA	Trustees of the University of Pennsylvania	Toxicological and Pathoanatomic Stranding response and post-mortem evaluation of stranded marine mammals in San Juan Couny Washington	\$75,206
2002	TX	Texas Marine Mammal Stranding Network	Improved recovery and rehabilitation of stranded marine mammals	\$99,936
2002	TX	Texas Marine Mammal Stranding Network	Improved data collection from living and dead marine mammal strandings	\$99,904
2002	VA	Virginia Marine Science Museum	Improving Triage and Treatment of Live Stranded Marine Mammals in Virginia	\$82,850

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2002	VA	Virginia Marine Science Museum	Improving response to and assessments of dead marine mammal stranding in Virginia	\$99,000
2002	WA	Cascadia Research Collective	Trends, spatial distribution, health effects of contaminants in Washington harbor seals from stranded animals	\$98,968
2002	WA	Cascadia Research Collective	Strandings of large whales in Washington state and examination of contaminant accumulation	\$99,461
2002	WA	WA Depart. Fish and Wildlife	Investigation of health parameters and causes of mortality in marine mammals from Washington waters	\$100,000
2002	WA	Whale Museum	Stranding response and post-mortem evaluation of stranded marine mammals in San Juan County Washington	\$89,123
2002	WA	Wolf Hollow Wildlife Rehabilitation Center	Enhancement and Support of Marine Mammal Treatment Facility	\$75,053
2002	WA	Wolf Hollow Wildlife Rehabilitation Center	Upgrade of Life Support System for Marine Mammal Holding Pools	\$99,400
2003	AK	University of AK Anchorage	The effects of acute and chronic stress on the Atlantic bottlenose dolphin (Tursiops Truncatus) Adrenal gland.	\$74,619
2003	CA	City of Malibu	Consistency and improvement in marine mammal stranding response for the City of Malibu coastline	\$100,000
2003	CA	Friends of the Seal Lion Marine Mammal Center	Pathology enhancement and database development	\$97,975
2003	CA	Marine Mammal Care Center	Veterinary Fellowship Program at the Marine Mammal Care Center at Fort MacArthur	\$100,000
2003	CA	Marine Mammal Center	Continuation of a biomonitoring program to detect novel diseases and changes in prevalence of know diseases in pinnipeds stranded along the central California coast	\$100,000
2003	CA	Marine Mammal Center	Advancement of clinical care of stranded marine mammals, especially those intoxicated with the algal toxin domoic acid	\$100,000
2003	CA	Natural History Museum of Los Angeles County	Development of an Improved Protocol for Examining Stranded Cetaceans: Combining Museum-based Science and Veterinary Medicine	\$95,000
2003	CA	Regents of the University of CA	Cancer in stranded CA sea lions: answering questions about the role of contaminants, genetics, and diagnostic of herpes virus infection and early cancers	\$100,000

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2003	CA	Regents of the University of CA	Enhancement of Stranding Response at the University of CA Santa Cruz Long Marine Lab	\$49,703
2003	CA	San Jose State University Foundation	Improving the Response to Marine Mammal Strandings by Moss Landing Marine Laboratories in Central CA	\$99,716
2003	CA	Santa Barbara Museum of Natural History	Enhancement of Facility, Equipment and Supplies to Recover and Archive Dead, Stranded Cetaceans	\$99,989
2003	CA	Sea World, San Diego	Improving response, care and diagnostic for stranded marine mammal in Southern CA	\$100,000
2003	CA	Sea World, San Diego	Enhancement and integration of southern CA stranded marine mammal post-mortem evaluations and materials archives	\$100,000
2003	CT	Mystic Aquarium	Support for the Marine Mammal Stranding Program at Mystic Aquarium	\$100,000
2003	CT	Mystic Aquarium	Application and refinement of a prognostic index to evaluate the health, nutritional status, and cause of stranding of stranded harp seals and hooded seals in the Northeastern U.S., with particular emphasis on a disease with epizootic potential	\$99,997
2003	CT	University of Connecticut	Evaluation of immune functions are potential diagnostic and prognostic tools in stranded marine mammals	\$95,744
2003	DC	Smithsonian Institution	Enhancement and Maintenance of the Smithsonian Institution's Cetacean Distributional Database and Research Collection's (1 Year)	\$97,580
2003	DE	Delaware DNR	Outfitting a necropsy lab to improve acquisition, analysis and storage of levels A, B and C data from stranded marine mammals in coastal Delaware and it's inland waterways	\$100,000
2003	FL	FL Fish & Wildlife Conservation Commission	Facilities of Southwest Florida Cetaceans Rescue and Recovery	\$90,800
2003	FL	Gulf World, Inc.	Request for equipment to help facilities large animals and to make moving of all animals easier, safer and faster and for financial assistance with stranding facility operations	\$45,675
2003	FL	Hubbs-Sea World Research Institute	Enhancing live animal stranding response, necropsy procedures and tissue archiving capabilities along the central and northeast coast of FL	\$96,826

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2003	FL	Marine Animal Rescue Society (MARS)	Improve MARS' impact on live stranding events in South FL, while nurturing existing outreach channels with a better presence	\$99,952
2003	FL	Mote Marine Lab	Facility expansion for the Dolphin and Whale Hospital	\$100,000
2003	FL	University of Florida	Poxvirus Infections in North American Pinnipeds	\$38,181
2003	LA	Audubon Nature Institute, Inc.	Enhancement of data collection from stranded marine mammals by the Louisiana Marine Mammal Rescue Program	\$74,940
2003	MA	Cape Cod Stranding Network, Inc.	Enhanced stranding response and investigation on Cape Cod: assessment, data, collection, sampling, and disposal	\$100,000
2003	MA	New England Aquarium Corporation	Improved field diagnostic and post release monitoring of mass stranded cetaceans	\$99,958
2003	MA	New England Aquarium Corporation	Improving marine mammal stranding response and rehabilitation in Massachusetts, New Hampshire, and Southern Maine	\$100,000
2003	MA	Woods Hole Oceanographic Institution	2003 Necropsy Enhancement for Stranded Marine Mammals	\$99,267
2003	MD	Maryland DNR	Improving Response to and Assessment of Dead Stranded Marine Mammals in Maryland	\$99,997
2003	MD	National Aquarium in Baltimore	Enhanced operations of Marine Animal Stranding Rescue and Rehabilitation through the procurement of medical/rescue equipment and a centralized storage facility.	\$99,030
2003	ME	College of the Atlantic	A medium-range response vessel to enhance the Marine Mammal Stranding Response Program (MMSRP) for Mid-coast/Downeast Maine	\$80,000
2003	ME	Marine Animal Lifeline	Improved veterinary care and marine mammal rehabilitation program support	\$98,401
2003	ME	Marine Animal Lifeline	Enhancing and supporting marine mammal rescue response and stabilization procedures	\$99,734
2003	ME	University of Southern Maine	Establishing a national resource of marine mammal cell lines for toxicological, infectious disease, and other biomedical research	\$100,000
2003	MS	Institute for Marine Mammal Studies, Inc.	Evaluation of trends and possible causes of marine mammal strandings in the Mississippi sound and adjacent waters	\$100,000
2003	NC	University of North Carolina, Wilmington	Enhancing response to and necropsy of stranded large whales in North Carolina and Virginia	\$93,262

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2003	NC	University of North Carolina, Wilmington	Enhanced tissue collection and health monitoring of stranded marine mammal's in North Carolina and Virginia	\$94,046
2003	NJ	Marine Mammal Stranding Center (MMSC)	To ensure and support MMSC staffing requirements	\$100,000
2003	NY	Mount Sinai School of Medicine	Atlas of mysticete anatomy	\$92,181
2003	NY	Riverhead Foundation for Marine Research and Preservation	Facility upgrade to enhance access to veterinary care for marine mammals while collecting valuable supplemental data	\$99,711
2003	OR	Oregon State University	Enhancing the capabilities of the Oregon marine mammal stranding network	\$99,967
2003	SC	South Carolina DNR	Continuation of South Carolina's Marine Mammal Strandings Network	\$86,690
2003	TX	Texas Marine Mammal Stranding Network (TMMSN)	Improved Recovery and Treatment of Live Stranded Animals--Rescue, Rehabilitation and Release	\$99,649
2003	TX	Texas Marine Mammal Stranding Network (TMMSN)	Improved data collection from living and dead marine mammal strandings	\$99,319
2003	VA	Virginia Marine Science Museum	Supporting response to dead marine mammal strandings in Virginia	\$100,000
2003	WA	Washington Department of Fish & Wildlife	Investigations of marine mammals health parameters and causes of mortality in marine mammals from Washington waters	\$72,256
2003	WA	Whale Museum	Stranding response and post-mortem evaluation of stranded marine mammals in San Juan County, Washington	\$95,178
2004	AK	Aleut Community of St Paul Island	Assessment of northern fur seal entanglement in marine debris on the Pribilof Islands.	\$100,000
2004	AK	Seward Association for the Advancement of Marine Science	Rescue and Rehabilitation of Pinnipeds and Cetaceans in AK	\$99,815
2004	AK	University of AK Fairbanks	Morbidity and mortality of marine mammals on the north coast of Alaska Peninsula	\$99,908
2004	AL	Marterra Foundation, Inc.	Enhancement of data collection Phase 2	\$99,924
2004	CA	Marine Mammal Care Center	Enhanced Veterinary Medical Program at the Marine Mammal Care Center at Fort MacArthur	\$100,000
2004	CA	Northcoast Marine Mammal Center	Enhance diagnostic and treatment abilities, improve facilities for stranded marine mammals; continue employment of facility manager and primary investigating veterinarian to accomplish goals and objectives	\$100,000
2004	CA	Regents of the University of CA	Marine Mammal Pathology for the Central CA	\$99,980

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2004	CA	San Jose State University Foundation	Movements, Dive Behavior and Survival of Post Release CA Sea Lions after Rehabilitation for Domoic Acid Toxicity	\$97,322
2004	CA	Santa Barbara Marine Mammal Center	Pinniped Rescue Capture Techniques Training Program	\$32,000
2004	DC	Smithsonian Institution	Enhancement and Maintenance of the Smithsonian Institution's Cetacean Distributional Database and Research Collection's (Year 2)	\$97,467
2004	FL	Dynamac Corporation	Marine Mammal Stranding Program on Florida's Space Coast: Upgrade Rescue and Data Collection	\$43,198
2004	FL	Harbor Branch Oceanographic Institution	Diagnostic Equipment Purchase	\$54,964
2004	FL	Harbor Branch Oceanographic Institution	Stranding Center Pool Enhancement	\$97,763
2004	FL	Hubbs-Sea World Research Institute	Cetacean stranding response and the development of a photographic stranding atlas for network education and training	\$94,720
2004	FL	Marine Animal Rescue Society (MARS)	Improve MARS' impact on live stranding events in South FL, while nurturing existing outreach channels with a better presence (2nd Year Funding)	\$32,602
2004	FL	Mote Marine Laboratory	Enhancement of marine mammal rescue and stranding program for central west FL	\$100,000
2004	HI	Hawaiian Islands Stranding Response Group	Collect consistent level A data throughout the jurisdiction, including remote areas, and collect level B and C data from stranding of dead marine mammals	\$100,000
2004	HI	Hawaiian Islands Stranding Response Group	Collect consistent level A data throughout the jurisdiction, including remote areas, and collect level B and C data from stranding of dead marine mammals (2nd Year Funding)	\$100,000
2004	LA	Audubon Nature Institute, Inc.	Enhancement of data collection from stranded marine mammals by the Louisiana Marine Mammal Rescue Program	\$32,740
2004	MA	Cape Cod Stranding Network, Inc.	The science of stranding response: supporting data collection from live and dead stranded marine mammals on Cape Cod	\$100,000
2004	MA	Whale Center of New England	A project to increase the breadth and efficiency of marine mammal stranding response on Massachusetts' North Shore	\$86,658

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2004	MD	National Aquarium in Baltimore	Enhanced operations of Marine Animal Stranding Rescue and Rehabilitation through the procurement of medical/rescue equipment (2nd Year Funding)	\$71,344
2004	ME	College of the Atlantic	Enhancement of the Marine Mammal Stranding Response Program (MMSRP) for the Mid-coast/Downeast Maine	\$66,058
2004	NC	North Carolina State University	Improving live marine mammal stranding response in North Carolina through rapid diagnostic capability and short-term holding capacity	\$83,195
2004	NJ	Marine Mammal Stranding Center (MMSC)	To ensure and support MMSC staffing requirements (2nd Year Funding)	\$100,000
2004	NY	Riverhead Foundation for Marine Research and Preservation	Evaluation of current rescue response protocols and post-rehabilitation monitoring of marine mammals through the enhancement of data collection, satellite and radio tracking, and data on the prevalence of morbilli and herpes in pinnipeds in the northwest	\$100,000
2004	VA	Virginia Marine Science Museum	Recovery and treatment of Live Stranded Marine Mammals in Virginia	\$100,000
2004	WA	Cascadia Research Collective	Cetacean stranding response in Washington with special attention to gray whales and harbor porpoise	\$83,595
2004	WA	Cascadia Research Collective	Trends, spatial distribution, health effects of contaminants in Washington pinnipeds	\$96,372
2004	WA	Whale Museum	Stranding response and post-mortem evaluation of stranded marine mammals in San Juan County, Washington (2nd Year Funding)	\$94,378
2004	WA	Wolf Hollow Wildlife Rehabilitation Center	Advancement of Marine Mammal Rehabilitation Program, Facilities, Techniques, Training and Research	\$99,980
2005	AK	Seward Association for the Advancement of Marine Science	Alaska Region Stranding Network coordination and development project	\$97,837
2005	AK	University of Alaska - Fairbanks	Salvaging beach-dead marine mammals - collaborative effort between UAM, volunteer salvage crews and NOAA	\$89,718
2005	CA	Hubbs-SeaWorld Research Institution (CA)	Post-release monitoring of rehabilitated marine mammals in southern California through the use of VHF and UHF (satellite-linked) radio telemetry	\$96,093
2005	CA	Marine Mammal Care Center at Fort MacArthur	Support and upgrade of the Veterinary Medical Program at the Marine Mammal Care Center at Fort MacArthur	\$100,000

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2005	CA	Pacific Marine Mammal Center	Enhancing diagnostic applications for stranded marine mammals and improving operational capabilities	\$69,566
2005	CA	San Jose State University Foundation	Body burden assessments of total mercury in stranded Pacific harbor seals, <i>Phoca vitulina richardii</i> , in central California	\$98,814
2005	CA	Sea World San Diego	Equipment and personnel for improving response and care for live stranded marine mammals in southern California	\$76,108
2005	CA	The Marine Mammal Center	Development of a biomonitoring program to detect novel diseases and changes in prevalence of known diseases in pinnipeds stranded along the central California coast - year 3	\$100,000
2005	CA	The Regents of the University of California	Enhancement of stranding response at University of California Santa Cruz Long Marine Lab	\$37,581
2005	CA	The Regents of the University of California	Marine Mammal Pathology Service for the central California coast, Part 3	\$99,980
2005	CT	Mystic Aquarium	Support and enhancement for the Marine Mammal Stranding Program at Mystic Aquarium	\$100,000
2005	DC	Smithsonian Institution	Enhancement of Level A, B and C Cetacean Data: Improving data quality and access to the Smithsonian Institution's Cetacean Distributional Database	\$88,685
2005	DE	Delaware Department of Natural Resources	Support staffing and operational needs to facilitate improved stranding response for marine mammals occurring along the Delaware coast and its waterways	\$100,000
2005	FL	Dynamac Corporation	Marine Mammal Stranding Program on Florida's space coast	\$36,961
2005	FL	Florida Fish and Wildlife Conservation Commission - Jacksonville	Equipping the Northeast Florida Stranding Network for response to cetacean strandings	\$65,116
2005	FL	Harbor Branch Oceanographic Institution	Research project on cardiomyopathy of dwarf and pygmy sperm whales	\$99,706
2005	FL	Hubbs-Sea World Research Institute	An evaluation of demographic and health related factors of the Indian River Lagoon dolphin population following an Unusual Mortality Event	\$76,540
2005	FL	Marine Animal Rescue Society	Improve MARS' impact on live stranding events in South Florida, while nurturing existing outreach channels with a better presence	\$99,996
2005	FL	Mote Marine Laboratory	Support for operation with the increased capacity of the Dolphin and Whale Hospital	\$84,169

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2005	FL	Mote Marine Laboratory	Enhancement of the marine mammal stranding program and post-release monitoring of rehabilitated cetaceans for central west Florida	\$100,000
2005	HI	Robert C. Braun, D.V.M.	Hawaiian monk seal health trend surveillance and captive care response	\$100,000
2005	LA	Audubon Nature Institute, Inc.	Enhancement and maintenance of data collection from stranded marine mammals by the Louisiana Marine Mammal Rescue Program: Phase 2	\$99,900
2005	MA	Cape Cod Stranding Network	Pursuing excellence in marine mammal stranding response: support for basic operational needs and innovative solutions to stranding challenges	\$100,000
2005	MA	New England Aquarium	Strengthening marine mammal stranding response and rehabilitation at the New England Aquarium	\$88,246
2005	MA	The Whale Center of New England	Marine mammal stranding response on Massachusetts' north shore: Continuation and expansion of data collection and assistance to stranded animals	\$73,377
2005	MA	Woods Hole Oceanographic Institution	Development of necropsy, anatomy, and pathology training materials from stranded marine mammals	\$99,969
2005	MD	Maryland Department of Natural Resources	Enhancing the quality and quantity of data collection from dead stranded marine mammals in Maryland	\$88,387
2005	ME	College of the Atlantic	Maintenance and enhancement of the Marine Mammal Stranding Response Program (MMSRP) for the midcoast/downeast region of Maine, 2005-2006	\$77,388
2005	ME	University of New England	The enhancement of pinniped rehabilitation at Marine Animal Rehabilitation Center	\$85,615
2005	ME	University of Southern Maine	Establishing a national resource of marine mammal cell lines for toxicological, infectious disease, and other biomedical research	\$100,000
2005	MS	Institute for Marine Mammal Studies	Evaluation of trends and possible causes of Atlantic bottlenose dolphin (<i>Tursiops truncatus</i>) strandings in the Mississippi Sound and adjacent waters (continuation study)	\$100,000
2005	NC	University of North Carolina - Wilmington	Enhanced tissue collection and health monitoring of stranded marine mammals in North Carolina and Virginia	\$98,587
2005	NJ	Marine Mammal Stranding Center	To enhance and support basic needs for volunteer training and response, treatment and data collection of live and dead stranded marine mammals in New Jersey	\$100,000

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2005	NY	The Riverhead Foundation for Marine Research	Facility upgrade to enhance operational support and response to live marine mammal strandings while collecting valuable supplemental data	\$100,000
2005	OR	Oregon State University	Enhancing the capabilities of the Oregon Marine Mammal Stranding Network	\$99,201
2005	OR	Portland State University	Implementation of an archival system for cetacean tissue and anatomical specimens collected during 10 years of stranding network activity	\$76,462
2005	TX	Texas Marine Mammal Stranding Network	Response, treatment and data collection from living and dead stranded marine mammals	\$99,905
2005	VA	Virginia Aquarium Foundation	Enhancing response to live marine mammal strandings in Virginia	\$100,000
2005	WA	Washington Department of Fish and Wildlife	Investigations of marine mammal health parameters and causes of mortality in Washington state	\$94,655
2005	WA	Wolf Hollow Wildlife Rehabilitation Center	Advancement of marine mammal rehabilitation program, operations, facilities, training and research	\$88,068
2006	AK	Aleut Community of St. Paul Island	Assessment of northern fur seal (<i>Callorhinus ursinus</i>) entanglement in marine debris on the Pribilof Islands	99,083
2006	AK	University of Alaska Fairbanks	Improvements to marine mammal data and specimen archives at UAM	100,000
2006	AK	University of Alaska Fairbanks	Morbidity and mortality of marine mammals on the north coast of the Alaska Peninsula	100,000
2006	CA	City of Malibu	Advancement of marine mammal stranding response for the city of Malibu coastline	87,698
2006	CA	Marine Mammal Care Center at Fort MacArthur	Staffing resources upgrade at the Marine Mammal Care Center at Fort MacArthur	83,200
2006	CA	Northcoast Marine Mammal Center	Enhance response, rescue and rehabilitation on Northern California's remote coastline	100,000
2006	CA	Pacific Marine Mammal Center	Enclosure renovation and pool construction project	58,539
2006	CA	Regents of the University of California	Marine Mammal Pathology Service for the Central California Coast, Part 4	99,946
2006	CA	Regents of the University of California	Enhancement of Stranding Response at University of California Santa Cruz Long Marine Lab	48,389
2006	CA	Santa Barbara Museum of Natural History	Support for and enhancement of data collection from Dead-Stranded cetaceans	63,756
2006	CA	Sea World San Diego	Personnel for improving stranded animal response in Southern California	100,000
2006	CA	The Marine Mammal Center	Development of diagnostic assays to detect lungworm (<i>Otostongylus circumlitus</i>) infection in stranded northern elephant and Pacific harbor seals	99,550

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2006	CT	Sea Research Foundation, Inc. (Mystic Aquarium)	Support and Enhancement for the Marine Mammal Stranding Program at Mystic Aquarium	99,310
2006	CT	University of Connecticut	Evaluation of immune functions as potential diagnostic and prognostic tools in stranded marine mammal, a regional approach.	100,000
2006	FL	Florida Fish and Wildlife Conservation Commission	Stranding and Necropsy Training For Increasing Quality of Level A, B, and C Data Collection by the Florida Cetacean Stranding Network	99,913
2006	FL	Hubbs-SeaWorld Research Institute	Enhancing live animal stranding response, assessing cetacean health trends, and evaluating neonatal mortality trends of the bottlenose dolphin (<i>Tursiops truncatus</i>) along the east coast of Florida	99,479
2006	FL	Hubbs-SeaWorld Research Institute	Validation of historic marine mammal stranding data from the southeastern United States	64,474
2006	FL	Marine Animal Rescue Society (MARS)	Improve MARS' mass stranding response capability (immediate triage and necropsy support) and post-rehabilitation monitoring preparedness for the SEUS stranding region	64,296
2006	FL	Mote Marine Laboratory	Investigating brevetoxin-induced mortality in bottlenose dolphins stranded in central west Florida	100,000
2006	FL	Nova Southeastern University	An Analysis of Kogia Stranding Data Collected by the Southeast Region Marine Mammal Stranding Network	29,177
2006	FL	University of Florida	Clinical Pathology and Histopathologic Processing and Analysis of Cetaceans in Northern and Central Florida	99,955
2006	GA	GA Dept. of Natural Resources	Enhance Georgia Marine Mammal Stranding Network	55,848
2006	MA	Cape Cod Stranding Network	The Next Step: Operational Support to Enhance Stranding Response Capabilities and Promote Data Analysis and Publication	100,000
2006	MA	New England Aquarium Corporation	Advancement of Clinical Care, Data Collection, and Pathology Training for Marine Mammal Stranding Response	99,954
2006	MA	The Whale Center of New England	Marine mammal stranding response on Massachusetts' North Shore: Timely assistance for living animals and comprehensive regional data collection	85,062
2006	MA	Woods Hole Oceanographic Institution	2006 Necropsy of Fresh and Human-Impacted Marine Mammal Strandings in SE Massachusetts and Cape Cod	98,714

YEAR	STATE	APPLICANT	TITLE	FEDERAL AMOUNT
2006	MD	National Aquarium in Baltimore	2006 National Aquarium in Baltimore, Marine Animal Rescue Program Operations	46,800
2006	ME	College of the Atlantic	Maintenance and Enhancement of the Marine Mammal Stranding Response Program (MMSRP) for the Mid-coast/Downeast Region of Maine, 2006-2007	82,890
2006	ME	Marine Animal Lifeline	Veterinary care staffing and rehabilitation supply expense support for the marine mammal rehabilitation program	100,000
2006	ME	University of New England	The Enhancement of Cetacean Response, Treatment and Data Collection in Southern Maine	93,596
2006	ME	University of New England	Composting as a Disposal Option	60,025
2006	NC	North Carolina State University	Improving live marine mammal stranding response in North Carolina through a rapid diagnostic capability and short-term holding capacity	56,930
2006	NC	University of North Carolina Wilmington	Enhancing response to and necropsy of large whales in North Carolina, Virginia and South Carolina	92,830
2006	NC	University of North Carolina Wilmington	Enhanced tissue collection and health monitoring of stranded marine mammals in North Carolina and Virginia	99,986
2006	NJ	Marine Mammal Stranding Center	To enhance and support Marine Mammal Stranding Center staffing requirements	100,000
2006	NY	Riverhead Foundation for Marine Research and Preservation	Facility Upgrade to Enhance Operational Support and Response to Marine Mammal Strandings	100,000
2006	OR	Oregon State University	Enhancing the capabilities of the Oregon Marine Mammal Stranding Network	99,931
2006	TX	Texas Marine Mammal Stranding Network	Response, treatment and data collection from living and dead stranded marine mammals	99,998
2006	VA	Virginia Aquarium and Marine Science Center Foundation	Continuing Investigation of Dead Marine Mammal Strandings in Virginia	100,000
2006	WA	Orca Network	Stranding response and post-mortem examination of stranded marine mammals in Central Puget Sound, Washington	99,772
2006	WA	Washington Department of Fish and Wildlife	Response to stranded marine mammals and investigating causes of mortality in Washington waters	99,532
2006	WA	Wolf Hollow Wildlife Rehabilitation Center	Care of Live Stranded Harbor Seals in the Northwest Region: Treatment, Data Management, Research, and Training	85,638

APPENDIX L

MARINE MAMMAL OIL SPILL RESPONSE GUIDELINES

MARINE MAMMAL HEALTH AND STRANDING RESPONSE PROGRAM

Marine Mammal Oil Spill Response Guidelines



U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Protected Resources
Marine Mammal Health and Stranding Response Program

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MARINE MAMMAL HEALTH AND STRANDING RESPONSE PROGRAM

Marine Mammal Oil Spill Response Guidelines

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Table of Contents

Introduction	1
Organizational Structure	4
Stranding Network and Facility Requirements	8
Data Collection	11
Safety and Human Health	13
Wildlife Recovery and Transportation	16
Intake Procedures	20
Animal Washing and Continued Care	24
Disposition	28
Records	32
References	33
Appendices	37
1. Search Effort Log	
2. LIVE Marine Mammal Data Log Form	
2b. LIVE Marine Mammal Data Log Form, page 2	
3. DEAD Marine Mammal Data Log Form	
3b. DEAD Marine Mammal Data Log Form, page 2	
4. Oiled Marine Mammal Intake Form	
5. Oiled Marine Mammal Daily Progress Form	
6. Oiled Marine Mammal Evidence Collection Protocol	
7. Petroleum Hydrocarbon Tissue Sampling Protocol	
8. Oil Spill Response Laboratories and Supplies	
9. Oiled Marine Mammal Necropsy Form	
10. Chain of Custody Form	
10b. Chain of Custody Form, page 2	

Internet Resources

NOAA Fisheries, Marine Mammal Health and Stranding Response Program

<http://www.nmfs.noaa.gov/pr/health/>

NOAA, Damage Assessment and Restoration Program (DARP):

<http://www.darp.noaa.gov/>

U.S. Coast Guard Oil Spill Response: <http://www.uscg.mil/hq/g-m/nmc/response/index.htm>

U.S. Coast Guard Area Contingency Plans: <http://www.uscg.mil/vrp/acp/acp.shtml>

U.S. National Response Team: <http://www.nrt.org/>

Wildlife Health Center, UC Davis: <http://www.vetmed.ucdavis.edu/whc/>

Oiled Wildlife Care Network: <http://www.vetmed.ucdavis.edu/owcn/>

Introduction

Marine Mammals and Oil: A Brief Overview

In comparison to marine birds, marine mammals are infrequently affected by oil spill incidents. The number of individuals and species affected, as well as the degree of pathological impact of such exposure, will depend on many variables, such as the location and size of the spill, the characteristics of the oil, weather and water conditions, types of habitats affected, the time of year the spill occurs, as well as the behavior and physiology of the marine mammal. Information on the effects of oil on marine mammals is sparse, and is mostly a result of the *Exxon Valdez* oil spill in Alaska in 1989 and a limited number of exposure experiments on a narrow range of species exposed to relatively low doses of oil (Geraci and St. Aubin, 1990).

The sensitivity of marine mammals to spilled oil is highly variable and appears to be most directly related to the relative importance of fur and blubber to thermoregulation. In those species with relatively sparse fat stores, direct contact with oil impairs the thermal insulative value of fur thus resulting in hypothermia. External exposure can also result in dermal injury and conjunctivitis. Internal exposure of oil by ingestion (either by direct ingestion or indirect through food and water sources) can result in gastrointestinal ulcers and liver and kidney damage. Inhalation of volatile hydrocarbons can result in central nervous system and pulmonary damage and behavioral abnormalities. Depending upon the extent of external exposure, the toxicity of the petroleum product, the volume ingested or inhaled, the presenting clinical signs, and the species affected, some marine mammals exposed to oil may not need rehabilitation. Oil spill responders must consider that such procedures involving capturing, holding, treating, and releasing the wild animals places stress on the animal, and the consequences of capture and captivity may be a greater risk to its well being than contacting oil. Exceptions may include abandoned or moribund young pups of any species and species that rely on fur for thermal insulation. These animals will most likely require rehabilitation when oiled due to the physical and toxicological effects of petroleum exposure.

Pathological Effects of Petroleum Exposure

Documented clinical and histopathological effects of oil in pinnipeds and sea otters include ambulatory restrictions, thermoregulatory imbalance, central nervous system depression, interstitial pulmonary emphysema, aspiration pneumonia, anemia, conjunctivitis and corneal edema, gastrointestinal irritation, and hepatic and renal tubular necrosis/lipiosis, and adrenal gland dysfunction (Davis and Anderson, 1976; Geraci and Smith, 1976; Engelhardt et al., 1977; Engelhardt, 1985; Geraci and St. Aubin, 1988; Geraci and Williams, 1990; St. Aubin, 1990; Lipscomb et al., 1993). Small laboratory studies on the effects of oil have been conducted on ringed and harp seals (Smith and Geraci, 1975; Geraci and Smith, 1976); however most studies have been unable to correlate the degree of oiling with the type of effect and many of these lesions may be related to captivity stress or other underlying factors. Changes in acute phase proteins and cytokines (e.g. elevated IL-6, haptoglobin and creatine kinase) have been correlated with probable petroleum exposure in river otters (Duffy et al., 1993; Duffy et al., 1994). Oiled sea otters displayed evidence of hepatic and renal dysfunction as well as anemia in their blood parameters (Williams et al., 1995).

Heavy oiling did not appear to interfere with seal locomotion during the *Exxon Valdez* oil spill (Lowry et al., 1994), but in previous spills seal pups encased in oil have drowned due to their inability to swim (Davis and Anderson, 1976). During *Exxon Valdez*, harbor seals were observed exhibiting abnormally tame or lethargic behavior. These observations are most likely explained by midbrain nerve damage found in oiled harbor seals and Steller sea lions (Spraker et al., 1994). In addition to the acute mortalities associated with the loss of thermoregulation and buoyancy, many physiological and behavioral problems have been attributed to internal exposure to petroleum and polycyclic aromatic hydrocarbon (PAH) compounds in sea otters. However, many of these conditions have been difficult to differentiate from lesions attributed to, or compounded by, shock and chronic stress associated with capture and the rehabilitation process (Williams and Davis, 1995). It has become clear that animals captured during oil spill responses undergo additional stressors that may or may not be offset by the medical care they receive.

Background

The purpose of the Marine Mammal Oil Spill Response Guidelines (Guidelines) is to provide a foundation for coordination and communication between the National Marine Mammal Health and Stranding Response Program participants and other state and federal governmental agencies involved in oil spill response and marine mammal conservation and protection. The National Oceanic and Atmospheric Administration (NOAA) Fisheries, Office of Protected Resources, Marine Mammal Health and Stranding Response Program (MMHSRP) enlisted the University of California (UC) Davis, Wildlife Health Center to assist in the development of these Guidelines with input and assistance from NOAA's National Ocean Service, Office of Protected Resources, Damage Assessment and Restoration Program (DARP) and NOAA Fisheries, Office of Law Enforcement (OLE). The UC Davis, Wildlife Health Center, through its Oiled Wildlife Care Network (OWCN) program is among the world's leading experts on oiled wildlife response methods and standards. The primary purpose of the document is to: outline appropriate standardized data collection techniques for response activities and damage assessment; define chain-of-custody protocols for animal collection, necropsy and sampling; provide recommendations for protection of human health and oil spill safety training for responders; and present guidelines for best achievable care of oiled marine mammals. Standardization of this information between and among oiled marine mammal responders should allow for more accurate collection of data for analysis, which then may yield better information on the effects of oil on marine mammals and further improvements in oil spill response involving marine mammals. These Guidelines by their design do not address overall marine mammal husbandry methods in detail, but are intended to provide basic information on oil spill specific issues (such as search and collection, transport, emergency care and stabilization), and procedures specific to oil spill response. For more information on general marine mammal rescue and rehabilitation, the reader should consult references such as *Marine Mammals Ashore* (Geraci and Lounsbury, 1993) and the *CRC Handbook of Marine Mammal Medicine* (Dierauf and Gulland, 2001).

Intended Uses

These Guidelines are intended for use by the NOAA Fisheries MMHSRP, other natural resource management agencies, marine mammal stranding networks and rehabilitators, On-Site Coordinators, and Potentially Responsible Parties (PRPs) as a guide in:

- Developing appropriate sections of Area Contingency Plans (ACPs)
- Stimulating communication and documentation coordination between interested parties
- Caring for oiled marine mammals
- Evaluating marine mammal rehabilitation center capabilities for oil spill response
- Collecting evidence for assessment of impacts on marine mammals
- Making informed choices during spill responses

Responses to spills impacting marine mammal will depend upon factors including the size of the spill, species involved, type of product spilled, time of year, and location. It is important that spill responders and pre-spill planners recognize that the variability in degree of effort and complexity in marine mammal response can be significant when comparing small and large events.

This document is not intended for use as a training manual. Nor is this document an exhaustive list of techniques in this field, in which practical knowledge is being continuously refined and developed. It is to serve as guidance for acquiring the best achievable care and data collection during an oil spill response and should be periodically reviewed and updated.

Organizational Structure

Organizational Structure of Wildlife Response

Actions taken to protect wildlife resources follow an organized and agreed-upon cascade of agency notifications and activities. All activities of the oil spill response are coordinated through the Unified Command (UC) and follow an Incident Command System (ICS) structure as standardized by the National Interagency Incident Management System (NIIMS) and modified for oil and hazardous substance spill response by the National Response Team (Figure 1., NRT 2004). The UC is the governing body ultimately responsible for all decision making processes during the spill response, and is made up of a Federal On-Scene Coordinator (FOSC) (usually a Coast Guard Captain of the Port for the affected area), a State Incident Commander (IC) or On-Scene Coordinator (SOSC), and a qualified individual from the Responsible Party (RP), if known. When appropriate, local government representatives can be included in the UC. The FOSC has the ultimate responsibility for directing the oil spill response if a consensus cannot be reached among the members of the UC. Wildlife response activities usually exist within the Operations Section of the ICS, though some wildlife actions (primarily baseline assessment and planning) also occur with the Environmental Unit of the Planning Section. The Wildlife Branch within the Operations Section coordinates and initiates wildlife response activities. Guidance for dealing with oiled wildlife is not specifically provided in the National Contingency Plan, therefore the Wildlife Branch operational plan is developed uniquely within each Regional and Area Contingency Plan based on the specific resources and agency involvement.

Early but prudent initiation of a wildlife response plan and the previous development of the Wildlife Branch ensure timely mobilization of dedicated staff, equipment, and volunteers. This structure allows for effective lines of communication, making the response effort much more efficient. The degree of the wildlife response effort is designed to be flexible and scalable to the size of the oil spill - only those positions necessary and appropriate for a specific spill incident are filled.

Trustee Organizations

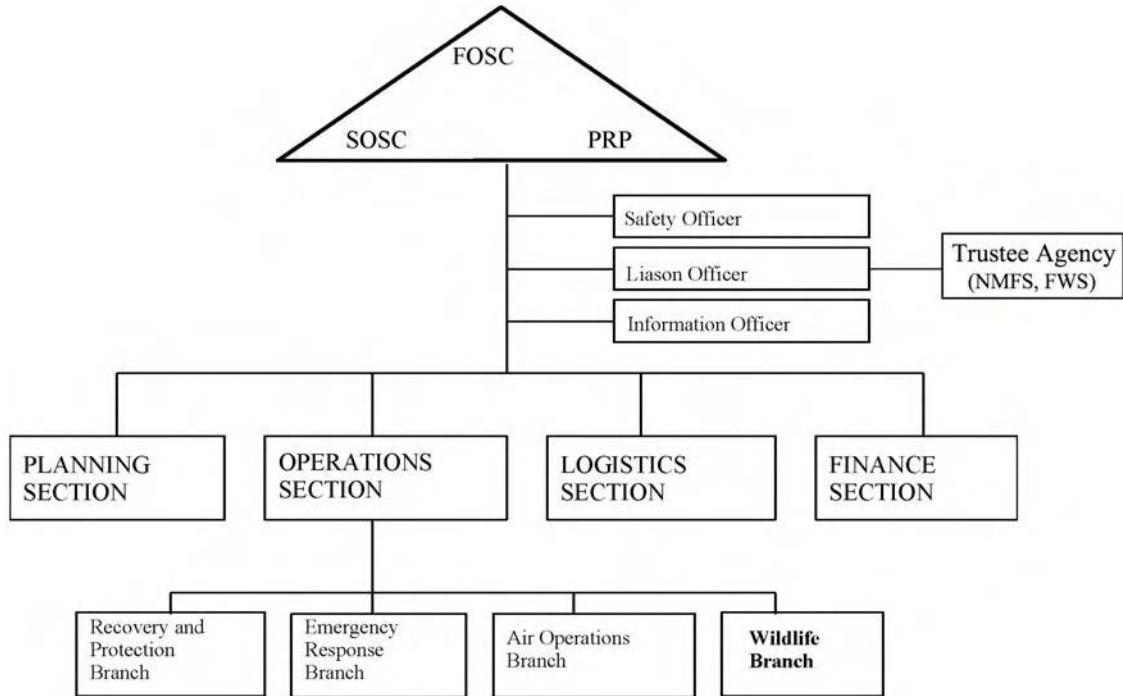
Under federal statutes, NOAA Fisheries, National Marine Fisheries Service (NMFS) has responsibility for managing and protecting all cetaceans and pinnipeds in U.S. waters, except walruses; U.S. Fish and Wildlife Service (FWS) has responsibility for managing and protecting manatees, walruses, sea otters, and polar bears. NOAA Fisheries is responsible for the administration of the Endangered Species Act (ESA) as it applies to certain cetaceans and pinnipeds and the FWS is responsible for the administration of the ESA as it applies to remaining marine mammals and terrestrial mammal and bird species. Following an oil spill, specific information on wildlife resources at risk and appropriate wildlife response actions are made available to the Federal On-Site Coordinator (FOSC) and other members of the Unified Command (UC) through representatives of appropriate wildlife resource managers. Therefore, the UC must immediately consult with FWS or NMFS whenever a response may affect these resources. The Marine Mammal Protection Act (MMPA) prohibits the “take” of sea otters, seals, sea lions, walruses, whales, dolphins, and porpoises, which includes harassing or disturbing these animals as well as actual harming or killing; however, Section 109(h) of the MMPA allows take by

Federal, State, or local governmental officials, during their official duties, provided the take is for the welfare and protection of the animal or public health. Accordingly, the FOOSC/UC is authorized to take marine mammals during an oil-spill response if to protect the welfare of the animal. Section 12(c) of the MMPA allows NMFS to enter into cooperative agreements (e.g. Stranding Agreements) that allow stranding network participants marine mammal take in order to carry out the purposes of the MMPA. The ESA and its implementing regulations provide special provisions for consultations during emergencies (such as oil spills) with FWS and/or NMFS for making recommendations to the FOOSC to avoid the taking of listed species or to otherwise reduce response-related impacts. In some State statutes, management and protection of wildlife resources are joint responsibilities between NMFS, FWS and the State. Because of these shared trust responsibilities, both federal and state agencies are required to respond to spills, or potential spills, that may impact marine mammals. To facilitate efficient and effective coordination during an oil spill response, federal and state agencies may consider developing Memorandums of Agreement (MOA's) or Memorandums of Understanding (MOU's) that pre-designate regional primary points of contact, establish lead representatives, and define roles for natural resource emergency situations.

In the wake of the *Exxon Valdez* spill, Congress passed the Oil Pollution Act of 1990 (OPA 90). OPA 90 sets forth an extensive liability scheme that is designed to ensure that, in the event of a spill or release of oil or other hazardous substance, the responsible parties are liable for the removal costs and damages that result from the incident. A responsible party may be liable for removal costs and damages to natural resources, real or personal property, subsistence use, revenues, profits and earning capacity, and public services. OPA 90 also set aside a significant trust fund that can be utilized quickly to implement a spill response prior to establishment of liability.

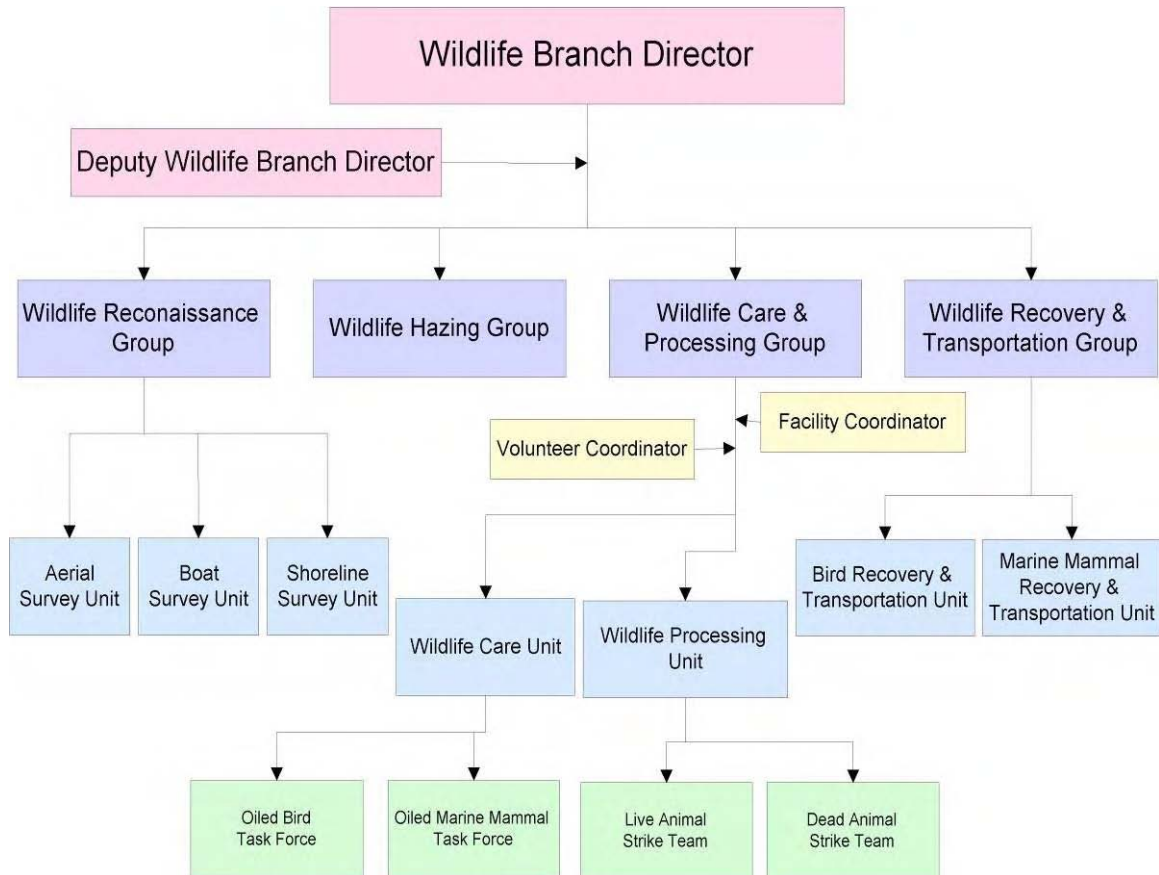
OPA 90 directs the appointed trustees to conduct natural resource damage assessments (NRDAs) and develop and implement plans to restore, rehabilitate, or replace damaged natural resources. Authority to claim damages to natural resources also stems from Clean Water Act (CWA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Under the CWA, federal and state agencies with diverse jurisdictions and missions are directed to combine their response and planning efforts in the event of an oil spill or release of another hazardous substance under the aegis of a National Contingency Plan (NPC) or an Area Contingency Plan (ACP). An Area Contingency Plan must provide for efficient, coordinated, and effective action to minimize damage from oil and hazardous substance discharges. In so doing, an ACP assigns duties and responsibilities to various federal and state agencies, provides for maintenance of necessary equipment and supplies, and establishes Coast Guard strike teams with specialized training in oil and hazardous substance control. In addition, an ACP is designed to provide for surveillance and notification systems to detect oil spills as early as possible. Further, an Area Contingency Plan is to provide for a specific fish and wildlife response plan, developed with the advice of expert agencies, to minimize disruptions to fish and wildlife and their habitat. Regional and Area Contingency Plans can be located at the U.S. National Response Team website (www.nrt.org) and the USCG website: (<http://www.uscg.mil/vrp/acp/acp.shtml>).

Figure 1: Incident Command Structure for Oil Spill Response (NRT 2004)



Once the FOSC activates the Wildlife Branch, several components of oiled wildlife response can be initiated, including reconnaissance to determine species and areas to focus operations, hazing of animals to prevent oiling, search and collection for live and dead animals in the spill area, treatment and rehabilitation of oiled animals, and release and monitoring of recovered animals. The agencies, organizations, and individuals responsible for these functions should be outlined in the Area Contingency Plan. An example of Wildlife Branch organization is shown in Figure 2.

Figure 2: Wildlife Branch Organization (State of California, Wildlife Response Plan, 2004)



Under the direction of the Wildlife Branch Director (WBD), the principal objectives of Wildlife Operations during spill response and cleanup are to:

- Provide the best achievable care to impacted and/or threatened wildlife
- Document for the Unified Command the immediate impacts of the oil spill to wildlife
- Minimize injuries to wildlife
- Protect wildlife and habitats from adverse effects of wildlife recovery

To ensure these objectives are achieved with maximum efficiency, the WBD (in coordination with the Environmental Unit) manages the activities of the federal, state, and local agencies along with commercial and non-profit organizations responsible for wildlife protection and management who fall under the authority of the Unified Command during spill response

Stranding Network and Facility Requirements

Wildlife Operation plans should include (where available and appropriate) properly trained regional Stranding Network Participants because of their experience with live animal stranding response and rehabilitation for the local area. In order for Stranding Network Participants to contribute during wildlife response, they must hold a Stranding Agreement or Letter of Authorization (MMPA, Section 112(c)) with NMFS/FWS and have received specific oil spill training and meet facility requirements for oiled marine mammal rehabilitation. NOAA Fisheries, Office of Protected Resources, may include oil spill response authorization in the Stranding Agreement with the Participant when it is determined that the Stranding Network Participant meets these criteria. Authorized marine mammal rehabilitation organizations should make efforts to become engaged in the development of their Area Contingency Plans to ensure their involvement during oil spill response.

Criteria for Evaluating Marine Mammal Rehabilitation Groups

The following criteria can be used when considering and evaluating marine mammal rehabilitators for conducting oil spill response.

- Holds all necessary permits, Stranding Agreements (NMFS) and Letter of Authorizations (FWS) for marine mammal stranding and response activities.
- Experience in the capture, treatment, and care of oiled marine mammals
- Knowledge of conducting marine mammal response activities within an Incident Command System structure including appropriate communication and notification procedures
- Sufficiently trained (health/safety and animal care), equipped, and experienced supervisory staff
- Ability to train and equip personnel and volunteers for marine mammal response during an emergency oil spill response
- Ability to quickly mobilize to perform marine mammal capture, field evaluation, stabilization and transport (including to remote locations if necessary)
- Access to appropriate facilities for treating and housing oiled marine mammals (including adequate animal care, hazardous waste, and personnel infrastructure)
 - Ability to establish and operate marine mammal intake, holding, and isolation areas within 12-24 hours of wildlife response activation.

- Ability to establish and operate marine mammal cleaning and pre-release areas within 72 hours of wildlife response activation.
- Agreement with a licensed veterinarian experienced in the treatment of oiled marine mammals to provide necessary medical care
- Use of best practices as outlined in the remainder of this document

Facility Requirements for Marine Mammal Oil Spill Rehabilitation

General Considerations

The size of the spill, its location, and the number and species of animals oiled will help determine the type and location of a facility that can meet the required need. Not all spill responses will be in the vicinity of a permanent rehabilitation facility. Temporary facilities that can care for oiled marine mammals in the short or long-term can be established in local, fixed structures, or mobile units can be brought to a spill location to set up as a temporary facility. However, it is critical that spill responders and pre-spill planners recognize the degree of effort, the unique requirements of oiled wildlife care and the complexity required to implement and establish an adequate facility. Pre-spill planning is strongly encouraged to achieve wildlife response systems that will adequately address the needs of small as well as large rescue efforts as rapidly as possible during a spill.

There are published standards for the design of facilities housing marine mammals in captivity. In the United States, these standards are published by the Department of Agriculture, Animal and Plant Health Inspection Service (APHIS, www.aphis.usda.gov/ac/cfr/9cfr3.html) and are a requirement for facilities that wish to display animals to the public. They include such items as haul-out requirements, pool size and depth, water quality, number of animals to be kept in a particular environment, and strict standards for food preparation areas and medications. The USDA standards are useful guidelines but may not be appropriate for animals that require constant medical attention and handling, or for facilities that only keep animals for a short period of time. NMFS is in the process of developing specific marine mammal rehabilitation facility guidelines (NMFS/FWS Best Practices for Marine Mammal Stranding Response, Rehabilitation, and Release: Pinniped and Cetacean Rehabilitation Facility Guidelines).

Facility design for rehabilitation centers is an ongoing area of study and no perfect facilities exist to suit all needs for each species and age class of marine mammal. Notwithstanding, certain principles should be kept in mind when designing an oil spill response facility or when attempting to house oiled marine mammals in an existing facility (Davis and Davis, 1995). An ideal facility should include: intake/physical exam/evidence processing area; a veterinary hospital with isolation capabilities; indoor wildlife housing/caging areas; food storage and preparation facilities; animal washing and rinsing areas; drying areas; outdoor pool and pen areas; pathology facilities; volunteer training and eating areas (with restrooms); administrative offices with multiple phone/fax lines and conference space; storage; and access to a large parking area.

Minimizing stressors is an important aspect of creating a good rehabilitation environment. Specific animal needs must be taken into account when trying to provide adequate housing for animals during an oil spill. These needs may be affected by such factors as the animal's species, age, physical condition, degree of oiling, and nature of the product with which it was oiled.

Housing Requirements and Considerations

Indoor and outdoor housing should maximize safety to humans and the animals, provide an escape-proof enclosure, and minimize visual stress and human traffic. Within an oil spill response facility, housing should be set up so that there are appropriate areas for holding animals prior to intake, pre-wash assessment and stabilization, post-wash, quarantine, and longer term housing. These areas will differ in the amount of access to the animals that is required, the space that each animal requires, the degree to which the environmental temperature can be controlled, and type (if any) of water requirements (fresh versus salt). Ideally, all of these areas should have separate filtration systems. Separate systems are required for pre- and post-wash animals to prevent oil contamination of animals that have already been washed.

Environmental Control: A finer degree of environmental temperature control is required for newly admitted animals, neonates, and animals that are more compromised due to poor nutritional state, greater extent of secondary effects, or underlying disease. Animals that are compromised require easy or limited access to water, haul-out areas, and heat sources such as heating pads and lamps, but may need frequent observation to ensure that severely debilitated animals are able to move away from heat sources to prevent hyperthermia and burns. Some animals may require more frequent handling for monitoring, sample collection, feeding or medicating. Housing should minimize stress but maximize accessibility and ease of monitoring (Tuomi et al., 1995)

Ventilation: Adequate ventilation is an extremely important factor for maintaining marine mammals in captivity and is more important in oil spill situations to protect against the toxic effects of volatile agents and prevent the spread of infectious agents between animals. Ten to fifteen air changes per hour has been recommended as adequate for inside animal holding (NIH, 1985) and these standards should be adhered to if at all possible. Outdoor housing is ideal for maintaining ventilation but drawbacks include lack of environmental control, discomfort for personnel working with the animals, and more challenging access control by staff.

Quarantine: The potential for the spread of disease is an important issue to consider for marine mammals in captivity. Captured animals, staff and volunteers may carry infectious agents without showing signs of disease and could pose a threat to oiled animals. Staff should use effective quarantine protocols including foot baths containing appropriate antimicrobial solutions between housing areas, cleaning/disinfecting or changing protective clothing between animals, designating separate feeding and cleaning equipment for different areas, and minimizing movement of animals and personnel between areas. Extra care must be taken in areas where animals with infectious diseases are kept and when handling immunocompromised animals.

Water Supply: Oiled wildlife care facilities require large quantities of water to provide all areas simultaneously (e.g., wash/rinse area, pool area, laundry). The quantity should be sufficient to provide at a minimum a continuous flow of 4 gallons/minute to all indoor valves and additional supply to fill, operate filtration and ozonation equipment, and provide overflows for pools. Washing and rinsing areas require temperature-controlled hot water (98-108°F) with water hardness of 2-5 grains per gallon at pressure of 40-60 psi.

Waste Water: Facilities must dispose of all oil and animal wastewater in accordance with appropriate Federal, State, and municipal regulations. Oil contaminated water often must be contained in separate holding tanks and not released in normal sewer system.

Data Collection

Data Collection and Chain-of-Custody Procedures

Systematic search and recovery, transportation, processing, and treatment of all oil-affected wildlife are critical for guiding response actions and gaining an understanding of the short-term and long-term consequences of oil spills to wildlife populations. In addition, these data can be used after the emergency response for natural resource damage assessment activities. In order to track the samples and collect data during oiled wildlife response, the trustee agencies and response organizations must adhere to pre-established chain-of-custody and animal identification procedures. For tracking purposes, data on oiled animals are compiled on standard data log forms (Appendix 2-3). During large-scale responses, pre-identified wildlife agency personnel or their agents will complete log forms; however, field and rehabilitation responders should be familiar with the forms and their completion for smaller-scale responses and for individual oiled animals that present to participating facilities independent of a spill response. In addition to the tracking of live animal data, all samples (carcasses, samples, photos, records) that may be used in legal cases must be tracked and secured at all times.

Quality assurance (QA) procedures are necessary to ensure that data are collected in a scientifically valid manner. It is important throughout any sampling and analysis program to maintain integrity of the sample from the time of collection, through the point of data reporting, to the final sample disposition. Proper chain-of-custody procedures allow the possession and handling of samples traced from collection to final disposition. Documents needed to maintain proper chain-of-custody include:

Field Logbook: All pertinent information on field activities and sampling efforts should be recorded in a field logbook. The logbook should enable someone else to completely reconstruct the field activity without relying on the memory of the field crew. All entries should be made in indelible ink (preferably ballpoint), with each page signed and dated by the author, and a line drawn through the remainder of any page. All corrections should consist of permanent line-out deletions that are initialed. An example of a Search Effort Log is presented in Appendix 1. For tracking and chain-of-custody purposes, all live and dead animals recovered should be identified (tagged/marked) in the field and the identification noted on the Search Effort Log. Permanent tags will then be applied and logged at the processing facility.

Animal Logs: At admittance to a wildlife care and processing facility, the animal must be logged into the Live Marine Mammal Data Log or Dead Marine Mammal Data Log (Appendix 2-3) and all of the boxes on these forms must be completed. All animals collected dead or alive should be given a unique log number and identifier (e.g. tag), as well as a Level A data field number, in order to track the individual animals through the capture/collection, processing, and for live animals the rehabilitation and release process.

Sample Collection and Label: It is necessary to collect an oil sample from each individual animal. A detailed protocol for the collection of evidence is provided in Appendix 6. Each sample must be identified with a waterproof label that is securely attached to the outside of each sample container. Labels must contain the oil spill name, date, species, intake log number and Level A data field number of that animal, animal capture location, and flipper tag color and number and then sealed with evidence tape or custody seals. Custody seals are used to detect unauthorized tampering with the samples. Samples and photo must be properly stored in a secure location that has limited and controlled access.

Intake Form: For live animals, the Oiled Marine Mammal Intake Form (Appendix 4) must be completed for each animal. This form contains important questions about the extent of oiling, location and depth of oiling, as well as a place for documenting physical examination findings. For evidence documentation, a photo of the animal and oil sample must be taken during intake and admission into the wildlife care and processing centers (see Intake and Admission Procedures). During rehabilitation, each animal must have individual records documenting the treatment and care of that animal. Authorization for cleaning and later release must be documented on the Oiled Marine Mammal Intake Form and signed by the authorizing authority (i.e. attending veterinarian). For resource damage assessment purposes, a photo of the animal with identification (i.e. card with animal log number and date) must be taken prior to release.

Chain-of-Custody Forms: A chain-of-custody record must accompany every sample that is removed from the secured location in the wildlife processing and care facilities. The chain-of-custody form should be supplied by the managing agency (NMFS, USFWS) representative that is acquiring the sample. Both the person relinquishing custody of the sample(s) and the person receiving the sample(s) must sign the form and ensure that the samples and records are not left unattended unless secured properly. An example chain of custody form can be found in Appendix 10.

Tissue Sampling: Tissue samples are collected for either chemical or histological analysis. Only after authority is given by the appropriate trustee agency and the Unified Command can necropsies be performed by qualified veterinarians and pathologists to collect tissue samples and determine cause of death on collected carcasses and mortalities that occurred during rehabilitation. Each animal should be photographed prior to sampling and samples collected following the sample collection protocols described in Appendix 6.

Safety and Human Health

Worker health and safety are of primary importance in any oiled marine mammal rescue and rehabilitation effort. The earliest phases of an oil spill are generally the most hazardous to human health and safety. Thus, safe practices during field collection of marine mammals must be a priority. Rescue programs should not be initiated unless personnel can conduct activities safely.

As with all spill response activities, the marine mammal rescue and rehabilitation effort needs to be coordinated and monitored by the spill response command center operations, safety, and medical staffs. A written Site Safety Plan (SSP) must be developed and approved by the spill's Safety Officer for the rehabilitation facility. If field activities are on-going for marine mammal response, the site safety plan needs to be expanded to include these activities including any specialized equipment that will be used. All staff and volunteers working on the spill must be familiar with and sign the SSP prior to work.

Training for Marine Mammal Rescue/Rehabilitation Personnel

In addition to mastering specific marine mammal rescue and rehabilitation tasks, personnel must be trained to recognize and minimize risk of injuries from oil-related and physical hazards associated with oil spill response operations prior to being allowed to participate in on-site activities. Elements of required and recommended training will vary depending on the tasks of the individuals involved in the response. Training-hour requirements and specific courses vary with level of involvement, agency policy, and OSHA and state regulations.

Required Training

Personnel involved in oil spill response activities must comply with all applicable worker health and safety laws and regulations. The primary Federal regulations are the Occupational Safety and Health Administration (OSHA) standards for Hazardous Waste Operations and Emergency Response (HAZWOPER) published by the U.S. Department of Labor in Title 29 of the Code of Federal Regulations (CFR), section 1910.120 (www.osha.gov). Oiled marine mammal responders and rehabilitation centers are not specifically addressed by HAZWOPER and training to address risks associated with marine mammal stranding and oil spill response personnel may fall within the scope and application of the Hazard Communication Standard ("HAZCOM", 29 CFR 1910.1200(h)). The OSHA field compliance or Safety Officer should be contacted to ascertain the worker training requirements and develop an implementation plan to minimize the hazards of exposure to workers involved in cleanup operations. For maximum protection of the environment, OSHA has recognized the need to quickly clean-up spilled oil and has empowered the OSHA Regional Response Team representative to reduce the training requirements for responders engaged in post-emergency response operations as directed by OSHA Instructions CPL 2-2.51 (www.osha.gov). State requirements which are more restrictive will preempt Federal requirements. Marine mammal stranding network participants are responsible for training and certifying their employees and volunteers.

Recommended Training

In addition to the training required by Federal regulations, further training is highly recommended for safe and efficient operations during a spill response. This guidance is considered a minimum

essential training for marine mammal rehabilitators in accordance with the goal of establishing best practices.

Search and collection and transport personnel

- General oil spill response training
- HAZWOPER 24hr training
- Aircraft/boating/ all-terrain vehicle safety
- First aid/CPR
- Local geographical knowledge
- Marine mammal identification and capture techniques

Rehabilitation Facility Management

- Marine mammal oil spill response training
- Incident Command System
- HAZWOPER 24hr training
- Crisis management
- First aid / CPR
- Media relations

Rehabilitation/Stranding Network Facility Workers and Volunteers (Live and Dead Animal Handling)

- General oiled marine mammal training
- HAZCOM - Hazardous Communication training
- First aid / CPR

Personal Protective Equipment

Personal protective equipment (PPE) must be used to protect wildlife response personnel from exposure to hazardous substances and dangers associated with animal care activities. To guard against injury from marine mammals, all workers should wear approved personal protective equipment appropriate to their task.

Recommended PPE

- Full eye protection, i.e., goggles, safety glasses, or face shield
- Oil resistant rain gear or oil protective clothing (coated Tyvek, Saranex, etc.)
- Gloves (neoprene or nitrile) that are oil resistant and waterproof
- Non-skid shoes/boots that are oil resistant and waterproof
- Ear protection (muff or ear plug type) when using pyrotechnic devices or operating machinery
- Personal flotation device when working on or near water

Respiratory protection from organic vapor hazards may also be required for some operations. If respirators are used, training and fit testing are required. All workers must be trained on the proper use and limitations of all personal protective equipment prior to using the equipment.

Hazardous Substances

Rescue and rehabilitation workers may be exposed to spilled oil, and must be so informed. Prior to handling a contaminated marine mammal, the Material Safety Data Sheet (MSDS) for the

spilled material should be reviewed and all recommended precautions followed. Workers and the rehabilitation facility shall be periodically monitored, using calibrated instruments and devices to determine exposure. Ventilation in all work areas should prevent the buildup of airborne contaminants.

A portion of the rehabilitation facility should be designated for the storage of contaminated clothing, equipment, and medical waste until the items can be decontaminated or disposed of properly in accordance with the site safety plan.

Volunteers

Wildlife response programs regularly use volunteers, particularly at the rehabilitation facility. Wildlife response managers need to ensure that volunteers are appropriately trained, supervised, and informed of all hazards. A comprehensive volunteer management program is an essential component of an efficient wildlife response. This management program needs to address, at a minimum, volunteer safety, training, supervision, scheduling, and liability.

Wildlife Recovery and Transportation

Agency Oversight

Wildlife Recovery and Transportation involves the collection/capture of dead and live oiled wildlife and their transport to processing centers. Under the proposed ICS Wildlife Operation structure presented in Figure 2, these activities are performed by the Wildlife Recovery and Transportation Group, in close coordination with the UC and the state and federal trustee agencies. Marine mammal collection by any agency or organization must be done under the direction of the UC and under the agreements/permits from the appropriate management agencies (i.e., NMFS, FWS). Recovery and Transportation usually include personnel from state and federal trustee agencies, approved contractors, and marine mammal stranding network and rehabilitation organizations. Trained, qualified volunteers can be used as long as OSHA and other training requirements are met and adhered to.

Search and Collection Guidelines

Rescue Team: Teamwork is essential to safe, efficient collection of oiled marine mammals. Each team should consist of at least two people, and should be outfitted with the resources and equipment necessary to complete its assignment. A plan of action should be developed and discussed among all search and collection personnel and approved by the Wildlife Branch Director prior to entering the search area. Each capture site should be evaluated and strategies developed to suit the terrain and species involved. Capture of affected animals should not be attempted if adverse weather, sea conditions, cliffs, or other physical and chemical hazards in the “hot zone” are present. Communication between the Rescue and Transportation Group and the reconnaissance personnel (within the Operation Section or the Environmental Unit) is important to maximize the success of search effort.

Equipment: Prior to a response, ensure that all equipment is ready and in working condition. Capture materials should include communication equipment (portable phone or radio), specialized vehicles (4-wheel drive with lifting tailgate or crane, adequate floor space, easily cleaned, and good ventilation), boats (capture vessel and support vessel), aircraft (fixed wing or helicopter), SCUBA gear, nets (type varies by species and location of capture), cages and transport boxes (type varies by species), herding boards, personal protection equipment (PPE) and a first aid kit for humans. Any injuries to staff or volunteers should be treated immediately and reported to the site safety officer. In addition to PPE required by the Safety Officer to protect personnel from oil exposure, appropriate attire for capture teams includes closed-toed shoes or boots, long-sleeve shirts, long pants, rain gear, coveralls, and organizational identification (e.g., clothing labeled with insignia or logo).

Procedures: Record the details of the beach search effort on the appropriate Form (Search Effort Log, Appendix 1) and include data on the start and end of a search segment, observations of oiled animals, and detailed info on the stranding and/or collection (location of capture, GPS decimal degree coordinates, reason for capture). If oil or medical samples are collected from the animal prior to reaching the intake facility, make sure they are labeled properly with a unique field

identification number for each animal. For further details on oil sample collection consult Appendix 6, Evidence Collection Protocol.

Domestic animals should not be permitted near the capture location nor should they come into contact with marine mammals. Domestic animals should not be allowed in the transport vehicle, and if the vehicle has previously been used to transport domestic animals, it should be disinfected and cleaned prior to transporting marine mammals.

Capture: The potential benefits of capture must outweigh potential negative consequences. In general, no rescue should be initiated on free-swimming or beached pinnipeds in the vicinity of an oil spill unless the animal in question is in obvious distress. Also, no rescue should ever be initiated on free-swimming cetaceans in the vicinity of an oil spill, but a rescue should be attempted on a beached cetacean. A decision to capture should consider such factors as sex, age, reproductive state, and size of individual animal, and their location with respect to other marine mammals. Additionally, all captures must be approved by the appropriate trustee agency (NMFS, FWS) prior to initiation.

Capture and transportation of oiled mammals should be performed only by qualified personnel who have received the appropriate safety training as well as marine mammal handling and restraint training. Because recovery and transportation duties vary with each response and may involve more risk than other duties, the Safety Officer will communicate to the Wildlife Branch Director what level of training is appropriate for field response personnel; this training may include a 24-hour HAZWOPER training (Hazardous Waste Operations and Emergency Response), first aid/CPR, water safety, or boat safety courses (see Safety and Human Health).

The method of capture may vary according to species and situation. Captures should generally be considered for isolated individuals on beaches, spits, tide flats or other relatively flat surfaces, using herding boards and nets (brail, breakaway or steel frame pole). Less often, captures may be attempted from rock jetties, piers, docks or even in the water for severely debilitated animals. Long-handled dip nets, floating bag nets, and a net gun have all been used with some success. Depending on the species involved, aquatic captures may use tangle nets, float nets, or Wilson traps.

Unless specifically authorized by appropriate trustee agencies, no non-oiled animals will be collected during spill incidents. Preemptive captures to prevent the oiling of sensitive species may be considered only under dire circumstances at the direction of the UC and trustee agencies and when adequate transport and holding facilities exist. Beached cetaceans should not be pushed back out to sea without first being examined by a NMFS-approved marine mammal veterinarian and the action approved by the NMFS. Prior to being returned to the open ocean, cetaceans should be affixed with a NMFS approved tag or brand.

All wildlife captured during spill responses should if at all possible be retrieved and transported to the wildlife processing and care center(s), regardless of the status and condition (i.e. degree of decomposition, degree of oiling). In addition, all capture-related information (i.e. location, name of captor, GPS decimal degree coordinates, date, and time) must accompany the animal to the facility. The presence of such documentation must be verified when processing centers receive wildlife from the Wildlife Recovery and Transportation Group. All information necessary to

complete either the live or dead mammal log should be collected prior to the animal entering the rehabilitation process or storage respectively.

Transport Procedures

Prior to transport, field stabilization techniques may be used if it will be more than one or two hours until the animal reaches the rehabilitation facility. These techniques may involve assessing the animal for hypo- or hyperthermia and treating accordingly; administering oral electrolyte solution and subcutaneous fluids; removing large amounts of oil from the eyes and nares; and administering emergency medications (under the guidance of a veterinarian).

After capture and field stabilization, the oiled animal should be placed in a well-ventilated area on a stretcher or foam (for small cetaceans) or in a transport box, airline kennel, or cage (depending on pinniped species) for transport. Animals should be staged in a quiet, sheltered area or moved directly into the transport vehicle. The cage should be large enough to allow the animal to lie down in a comfortable position. Only one animal per transport cage is recommended for the safety of the animals and to prevent cross-contamination of oil. Females and their pups are most safely transported in separate cages, although they should be positioned so that they can hear, see, and smell each other. Pinnipeds less than 70 kg (145 lbs) can be transported in large airline sky kennels. Aluminum or other lightweight material is recommended to minimize weight of cages designed for larger animals. Each cage must be firmly tied or otherwise secured in the vehicle.

Sea otter transport kennels should be fitted with a raised bottom grate to avoid additional fur fouling. Shaved ice or any other form of fresh water ice (to combat dehydration) and chew toys (to combat tooth damage, e.g. plastic/rubber dental chews manufactured for large breed dogs) are usually provided for sea otters in transport kennels, but food should be offered if transport time is greater than four or five hours.

Animals must be monitored periodically on transports greater than one hour, as directed by a response veterinarian. In most cases, sedation during transport is not recommended. Critical cases (e.g., unstable, hypo- or hyperthermic animals) may require more frequent monitoring. Personnel transporting animals between the field and the rehabilitation center must maintain contact with their supervisor at all times so that departure and arrival times may be anticipated.

Hyperthermic animals may be sprayed gently with water, or ice cubes may be added to the top of the cage and allowed to drip onto the animal as it melts. In order to prevent inhalation and subsequent drowning by unconscious animals, do not allow water to accumulate in the bottom of transport cages. Hypothermic animals should be placed in a sheltered location out of the wind, although good ventilation must be maintained to prevent animals and humans from inhaling petroleum fumes. Keep in mind that oiled, stressed, or injured seals are not able to regulate their body temperature effectively, and their conditions can change within minutes. Animals are generally transported in either a pick-up truck or an enclosed van-type vehicle. Adequate ventilation must be maintained to protect both humans and animals from inhaling fumes emitted by freshly oiled animals. Unless hypothermia is observed or suspected, keep animals damp and cool. The preferred air temperature for pinniped transport is 50-68°F (10-20°C) but should not exceed 59°F (15°C) for sea otters (Geraci and Lounsbury, 1993; Benz and Britton, 1995). Fur seals or sea otters whose coats are oiled or saturated, neonates of all species, and animals with extensive wounds or severe emaciation may require higher temperatures compared to minimally oiled animals or non-oiled, stranded animals. Keep in mind that human comfort during transport

may not be synonymous with or sufficient for the temperature and ventilation needs of the transported marine mammals.

Beached Carcass Removal

Measures must be taken to ensure that dead animals are appropriately collected, identified, documented, and not disposed of until approved by the trustees. In addition, the prompt removal of disabled and dead oiled and unoled animals from the environment can be critical to minimize the occurrence of secondary oiling, poisoning of predators and scavengers, and decreasing re-identification of carcasses on subsequent days. Since it is not feasible, reliable, or practical to attempt to discriminate between spill-related and non-spill-related casualties while conducting beach surveys, all carcasses must be collected. For example, scavenged carcasses, animals with dark plumage, wet carcasses, or carcasses with oil sheen or small amounts of oil that may be spill related are not always identifiable in the field as such. Because all carcasses found within a spill area are evidence, they must be handled according to established chain of custody protocols in accordance with spill incident-specific instructions (refer to the Data Collection section of this document). Each carcass must be labeled with the date, time, location, species (if known), and collector's name; taken to a designated morgue location; logged into the Dead Marine Mammal Log form and placed in a refrigerated unit until further processing can be accomplished. If a necropsy cannot be performed within 24hrs the carcass should be frozen (see Disposition Section for necropsy details).

Carcass removal, storage, and disposal expenses are considered a response activity cost that should be reimbursed to the Stranding Network Participant. It is the responsibility of the Participant to notify the Unified Command of current and future carcass storage and disposal expenses during the initial cost assessment of the response activity.

Intake Procedures

Initial Intake Procedures

While completing intake procedures, it is important to perform a thorough evaluation, collect all samples and data, be safe, and minimize the animal handling time. All personnel performing intake procedures should wear appropriate PPE including safety goggles, protective clothing, and nitrile gloves (or nitrile gloves inside leather gloves). It is best to work in teams of at least two (handler, examiner) or three (handler, examiner, recorder) in order to perform the intake in an efficient manner. For larger animals, more than one handler may be required. Physical restraint devices such as squeeze cages, otter restraint boxes, and stuff bags may be needed for larger pinnipeds and sea otters (Geraci and Lounsbury, 1993; Williams and Sawyer, 1995). Some animals (e.g., sea otters, adult sea lions) may require chemical restraint for safe handling and examination (Williams and Sawyer, 1995; Haulena and Heath, 2001).

Several different forms must be completed for every animal captured for rehabilitation during an oil spill. The animal must first be logged into a **Live Marine Mammal Data Log** (example in Appendix 2) and all of the boxes on that form must be completed. In addition, an **Oiled Marine Mammal Intake Form** (example in Appendix 4) must be completed for each animal. This form contains important questions about the extent of oiling, location and depth of oiling, as well as a place for documenting physical examination findings. In addition to the intake form, the rehabilitation facility's standard forms for stranded marine mammals can be used to record physical exam findings, laboratory values, treatments, and feedings, provided that all information is clearly documented and assigned to the specific animal.

A brief physical examination is performed upon admission of each individual oiled animal (see below). A veterinarian or animal care specialist should conduct the examination and treat any conditions that are considered to be life threatening. The capture, transport, and intake process is extremely stressful and an oiled animal's condition may be very unstable. The intake area should be as dark and quiet as is practical and animals must be monitored closely during the examination and intake process. If an animal's condition deteriorates and a veterinarian is not participating in the examination, seek veterinary advice immediately.

General Intake Procedure for Oiled Marine Mammals

1. Obtain and Complete Intake Forms
 - Live Mammal Data Log
 - Oiled Marine Mammal Intake Form
2. Physical Examination
3. Flipper tag application
4. Oil sample collection
5. Photograph

Animals need to be identified to species and, when possible, age class (pup, yearling, subadult, adult) and sex should be determined. Consult charts on age estimation for pinnipeds and sea

otters from marine mammal guides such as Geraci and Lounsbury (1993), Reeves et al., (1992) and Ainley et al., (1980) for species and sex identification. All animals should be tagged or marked for individual identification. This can be done with plastic livestock ear tags (e.g., Rototag, Temptag), by applying hair dye, colored livestock markers, and bleach marks to the pelage, or by clipping a small patch of pelage on the flank in a recognizable pattern (phocids and sea lions only). Dye marking and clipping is not advisable for fur seals or sea otters and may be difficult in other species depending on the location and extent of oiling. Sea otters and possibly other species may be identified using a commercially available pet microchip inserted subcutaneously at the inguinal region.

For legal purposes, it is necessary to collect an oil sample from each individual animal. A detailed protocol for the collection of evidence is provided in Appendix 6. Briefly, visible oil should be scraped from the fur with a clean wooden spatula and placed into a chemically cleaned glass jar. For animals with no visible gross oiling, an affected area is rubbed with a 4x4 piece of fiberglass cloth or cotton gauze with forceps or hemostats that have been cleaned with isopropyl alcohol. Precautions must be taken to collect the sample without allowing nitrile gloves to touch the oil sample or the cloth it is collected on. The oil sample should be placed in a glass container and labeled appropriately with the following information: the oil spill name, date, species, intake log number of that animal, animal capture location, and flipper tag color and number and then sealed with evidence tape and placed in secure freezer. Sampling supplies (glass jars and cloth) can be obtained through the trustee agencies.

It is also necessary to take a Polaroid photograph of the oiled animal. The photograph should include the entire animal, the oiled region, and if possible, show the flipper tag numbers. After the photograph develops, it should be labeled with the same information as the oil sample; the oil spill name, date, species, intake log number of that animal, animal capture location, and flipper tag color and number. The photograph and oil sample are both pieces of evidence and should be securely stored. If samples are to be sent for analysis, a completed Chain of Custody form is required and will be provided by the lead trustee agency.

Physical Examination

Animals are to be weighed and measured (standard length and axillary girth, xiphoid girth in sea otters) and their temperature measured with an electronic thermometer with a flexible thermister probe (e.g., Physitemp Model BAT-12 Digital Laboratory Thermometer) inserted 15 cm into the rectum. Standard thermometers can be used in sea otters, but do not accurately measure core temperatures in pinnipeds. Normal core temperature for sea otters is 99.5-100.6 °F (37.5-38.1 °C) and most pinnipeds range from 98-102 °F (Dierauf and Gulland, 2001). If the use of a thermometer is not possible, feel the flippers (e.g., icy cold or dry and hot) and observe the animal's behavior (e.g., shivering, agitation) in order to evaluate abnormally high or low body temperature. If an animal is dry and alert/active prior to the exam, assume it will overheat with handling.

A complete whole body examination should be conducted, making note of the degree and nature of oil contamination. Assess behavior, activity level and alertness; if possible, observe the animal in the transport cage prior to handling to evaluate locomotion and central nervous system status. Evaluate overall body condition and estimate the percent dehydration. Most stranded animals are at least slightly dehydrated (<5%, demonstrated by decreased tear production and subdued behavior). More severely dehydrated animals (5-10%, demonstrated by lack of tear production,

thick ocular mucus, “sunken” or crusty eyes, dry mucous membranes, skin tenting in otariids, curling of the vibrissae in harbor seals, and lethargic or depressed behavior) may need to be treated with fluids prior to continuing the examination and intake procedures; however, it is preferable to obtain blood samples prior to hydration treatments.

Due to the risk of being bitten, a thorough oral exam is possible only in anesthetized, dead, comatose, and young animals, but a visual inspection of the oral cavity is often possible during vocalization in alert animals. Palpate the neck and thorax for evidence of subcutaneous emphysema and the musculoskeletal system for fractures, wounds, or swellings. Subcutaneous emphysema is often found in the neck and axillary area in oiled sea otters and is an indicator of severe pulmonary damage. Palpate the abdomen gently to detect masses, pregnancy, or fluid accumulation and observe the urogenital area for urine, feces, or abnormal discharges.

Routine Blood Sampling

Following the general examination, blood samples should be drawn for hematology (collected in an EDTA anticoagulant, lavender-top tube, LTI) and chemistry panels (collected in a serum separator tube, SST, or red-top tube, RTI) and serum banking. In phocids, blood is generally drawn from the epidural sinus or ventral (plantar) interdigital veins (at the apex of the web between the inner digits) of the hind flippers (e.g., harbor seals, elephant seals). In otariids, the caudal gluteal vein and plantar network (dorsal or ventral surface of the hind flipper just medial to the lateral digit or just lateral to the medial digit) are used for blood collection (sea lions and fur seals). In sea otters, blood may be drawn from the popliteal (saphenous) or femoral vein on a non-anesthetized animal using a restraint box and/or stuff bag. Alternatively, the jugular vein can be used on an anesthetized otariid or sea otter.

Blood samples should be collected at least three times during the rehabilitation process: on admission/intake, immediately prior to washing, and prior to release. Repeat sampling may not be necessary for wash or release procedures, if preformed within 48hrs of previous blood sampling or at the discretion of the response veterinarian. At these times, baseline blood work should include a complete blood count and standard serum chemistry tests. Normal blood values for marine mammal species can be found in Bossart et al. (2001).

Standard Blood Tests

Complete Blood Cell counts (CBC): White cell blood count, red cell blood count, hemoglobin, hematocrit, mean corpuscular volume (MCV), mean corpuscular hemoglobin concentration (MCHC), mean corpuscular hemoglobin (MCH), a differential cell count, platelet and reticulocyte counts. One full lavender-top tube (EDTA) (1 or 3 ml) should be taken and refrigerated until analysis.

Chemistry Profile: Albumin, alkaline phosphatase, bicarbonate, bilirubin (total and direct), BUN, calcium, chloride, cholesterol, CK, creatinine, globulin, glucose, phosphorus, potassium, total protein, sodium, AST (SGOT), ALT (SGPT), GGT, and ratios of albumin:globulin, BUN:creatinine, and sodium:potassium. Blood should be placed in a serum separator tube or red top tube, allowed to clot, centrifuged, and refrigerated prior to analysis. Excess serum should be saved and banked (frozen) at the rehabilitation facility.

Special Biomedical Sampling Protocols

At times, additional protocols may be used that require additional blood samples for other tests (e.g., PAH estimation, immune function assays, serum protein electrophoresis, plasma chemistries, serological tests for infectious diseases). Other biomedical samples (e.g., urine sample, fecal sample, microbiological swab, blubber biopsy) may also be collected at the discretion of the response veterinarian.

Post-examination Intake Procedures

Initial Treatment

- Fluid therapy: oral, subcutaneous, intravenous
- Activated charcoal (ToxiBan) tubing if oil ingestion suspected

All animals are assumed to be at least 5% dehydrated. Administer isotonic fluids to animals that appear to have not ingested oil orally at a rate of 10-20 ml/kg once either orally (e.g., Pedialyte) or subcutaneously (lactated Ringer's solution, LRS). If the animal is alert and is likely to have ingested oil (e.g., fur seals during grooming, neonates during nursing), administer activated charcoal slurry (ToxiBan, 6 ml/kg) orally.

Animals that are chemically immobilized for intake procedures or are weak and obtunded should not be given oral fluids. Subcutaneous fluids (e.g., lactated Ringer's solution), may be administered instead at 20-40 ml/kg. If ingestion of oil is suspected, ToxiBan slurry (6ml/kg) can be administered via a stomach tube just prior to anesthetic reversal (Williams and Sawyer, 1995). Extreme care must be taken to prevent gastric reflux and aspiration during this procedure. The risks associated with passing a stomach tube must be weighed against the risks associated with continued exposure to ingested petroleum.

Severely depressed animals may require intravenous fluid administration and other medication in addition to isotonic fluids. Additional fluid therapy (maintenance fluids plus correction of fluid deficits) should be determined by the attending veterinarian, based on an evaluation of blood work, concurrent fluid losses, and continuing assessment of the animal's condition. The fluid deficit is calculated by multiplying an animal's mass in kg x 1000 ml fluid/kg x the percent dehydration (e.g., 5% = .05). This should be added to the animal's daily maintenance fluid requirement (at least 40 ml/kg/day) and administered within the first 24 hr if possible.

Monitoring

Animals should be regularly monitored during the rehabilitation process. Clinical observations, feeding observations (food consumption and/or preferences), and behavior should be written on the medical records. Body weight should also be monitored repeatedly during rehabilitation and recorded, at a minimum, upon admission, pre-washing, and prior to release. More extensive body weight monitoring may be required in critical cases. Physical examinations should be performed upon admission, prior to washing, and prior to release with all information recorded on individual medical records. Whenever medications are administered, the name of the drug, dose and route (oral, SQ, IM, IV) should be recorded as well as the initials of the person who administered the medication. Medical records are viewed as potential evidence by the law and should be carefully and completely filled out by animal caretakers.

Animal Washing and Continued Care

General Topics Associated With Cleaning

The facility where oiled animals will be cleaned should be designed to accommodate the variety of species that might be cared for at that facility. Each wash station must have adequate space for the animals, animal handlers, and restraint equipment that might be necessary. Water hardness should be tested before washing animals and adjusted to 3-5 grains of hardness (Clumpner, 1991). Dawn dishwashing liquid is the preferred washing product and has been shown to be safe and effective for removing oil from the coats of sea otters and harbor seals (Rash et al., 1990). Wastewater storage, containment, and removal must meet the requirements of the municipality, city, and county. A minimum team of two or three persons usually wash animals. Fur seals and sea otters may require teams of four or five persons because the density of their fur requires much greater effort. Large animals such as elephant seals may require a washing team with three or four persons to properly restrain the animal. Large animals, aggressive animals, fur seals and sea otters may require sedation and veterinary assistance for washing and cleaning.

General Washing Needs

- Softened water (3-5 gr)
- Temperature controlled warm water (80-98°F, 27-37°C)
- Pressured spray nozzles (30-40 psi)
- Dawn detergent
- Wastewater storage and removal

Pre-Wash Evaluation

Oiled marine mammals will require at least 24 hours of supportive care prior to being washed. Initial care is focused on addressing thermoregulatory problems, rehydration, and providing nutritional sustenance so animals are no longer in a negative metabolic balance. The washing procedure is very stressful; therefore, prior to the procedure, the animal needs to have regained strength. In the case of sea otters, they also need to be able to tolerate anesthesia and start to groom once recovered. A veterinarian should conduct a pre-wash evaluation that includes a physical examination, evaluation of alertness, strength and body condition, and blood parameters. If the animal passes the pre-wash evaluation, it is referred to the washing team.

Removing Tar Patches from Animals

If the oil present on an animal is a tar patch or very weathered, pretreatment may be necessary. This is accomplished by applying warmed (95-98°F or 35°C) olive oil, canola oil, or methyl oleate to the affected region. The pretreatment solution should be manually worked into the tarred areas for up to 30 minutes or until the tar loosens and can be wiped off using an absorptive pad or towel. While pretreating the animal, it is important to monitor the animal's body temperature and be prepared to treat the animal for hyperthermia or hypothermia. Tar removal is necessary for furred marine mammals and non-furred marine mammals if the patch(es) are large, potentially interfering with thermoregulation, or contribute to toxicity and result in clinical symptoms. Clipping away tar patches (with accompanying fur) is recommended unless molt is imminent

because the animal will have a bald patch that could cause reduction of heat retention. This procedure could have serious or life-threatening implications for fur seals, sea otters, or debilitated animals.

Washing Harbor Seals, Elephant Seals, Sea Lions

Sea lions, harbor seals and elephant seals rely on their thick blubber layer for insulation, making them less susceptible to hypothermia when they become externally oiled. These species are washed with Dawn detergent in thermal-neutral (~ 98°F or 37°C) water. Soap is applied and rubbed on the fur until the oil is visibly removed. The detergent can be made into a uniform solution by mixing it with water at a 1:1 ratio prior to applying thus making it easier to work into the hair and oil. Washing pinnipeds takes between 10-30 minutes depending on the extent and type of oil, species and health of the animal, and the proficiency of the staff. An initial quick rinse can be done at the wash station and then completed with the animal unrestrained in its pen using a pressure nozzle. This modified rinse procedure decreases the duration of manual restraint. In general, rinsing should be continued until there is no evidence of oil or detergent in the rinse water. Most pinnipeds are placed directly into their outdoor pens to dry.

General Guidelines for Washing Pinnipeds

1. Thermal neutral water (~ 98°F or 37°C)
2. Dawn detergent rubbed onto fur until oil is removed
3. Pressurized rinse in pen until oil and detergent removed
4. Air dry in pen

Washing Fur Seals

In contrast, fur seals possess a thin subcutaneous fat layer and a thick pelage that thermally insulates these animals (Reidman, 1990). Since they rely more heavily on their fur, fur seals are washed in a similar fashion to otters. Oiling 30% of a fur seal's coat will result in a 50% increase in heat loss (Geraci and St. Aubin, 1990), emphasizing the need for these animals to be closely monitored during the washing procedure. Fur seals are washed using a thermal-neutral (~98°F or 37°C), 5% diluted Dawn dish washing detergent solution. The diluted detergent solution is gently massaged into the fur and, as with other species, the washing duration depends on the extent and type of oil, the strength of the animal, and the proficiency of the staff. Fur seals are rinsed with fresh, soft (3-5 gr) water under moderate pressure (30-40 psi) with a spray nozzle. This process can require up to 40-60 minutes and animals are rinsed until no oil is visible in the rinse water and no petroleum odor is detectable on the fur (Davis and Hunter, 1995). For all pinnipeds, animals may become hyperthermic during washing in which case they may need to be washed and rinsed in cold water.

Fur seals, which depend on their coat for thermoregulation, may need to be placed in a drying enclosure that is warmed with an industrial pet dryer that blows room temperature air (68°F or 20°C). Animals in drying pens must be monitored for dehydration, hyperthermia, hypothermia, and alertness. Once dry and alert, fur seals can be returned to their outdoor pens.

Washing Sea Otters

Sea otters have the densest fur of any mammal, and, unlike most other marine mammals, replace their fur throughout the year instead of undergoing a seasonal molt (Tarasoff, 1974; Williams et al., 1992). Otters have guard hairs and many fine under-hairs that are microscopically interlocked to trap air, thus providing waterproofing, thermal insulation, and buoyancy. Oil contamination

causes fur clumping which leads to a loss of insulation and predisposes otters to hypothermia from the cold ocean water.

General Guidelines for Washing Sea Otters

1. Anesthesia/sedation
2. Diluted Dawn solution
3. Temperature controlled warm water
4. Pressurized rinse (40-60 minutes)
5. Dry with towels and blow dryers
6. Anesthesia reversal

Anesthesia

Due to their aggressive temperament, sea otters generally require sedation or anesthesia to be washed. A variety of anesthetics have been used, however, the current preferred drug combination in adult sea otters for nonsurgical procedures is fentanyl (0.22 mg/kg) and diazepam (0.07 mg/kg) used together intramuscularly. The opioid antagonist naltrexone at 0.44 mg/kg is recommended for reversal, but often 3 - 4 times the total dose of fentanyl administered is needed for complete reversal (Monson et al., 2001). While sedated, supplemental oxygen is routinely provided either via facemask, or, if the sea otter is immobilized enough to tolerate it, via endotracheal tube. During sedation and cleaning, the core temperature of the sea otter must be monitored continuously because otters can become hypothermic or hyperthermic very quickly. Whenever a sea otter is sedated, bags of crushed ice should be readily available and placed under the animal's neck and flippers if hyperthermia occurs.

Washing and Rinsing

Sea otters are washed with multiple applications of diluted (5%) Dawn dishwashing detergent. Ideally, washing tables are equipped with three or four well aerated nozzles dispensing temperature controlled (28-37 °C, 80-98 °F), softened (3-5 gr.) fresh water. The water temperature affects the body temperature and needs to be adjusted according to the otter's body temperature to prevent hyper or hypothermia (Davis and Hunter, 1995; Stoskopf et al., 1997). Four to six people are required per washing table, one (with heavy gloves) specifically to hold the head and forearms. The detergent is gently massaged into the oiled fur and then rinsed off under moderate pressure (30-40 psi) with a spray nozzle. Washing should consist of a wash, rinse, wash, rinse cycle until there is no indication of oil in the rinse water and no petroleum odor on the fur. Depending on the degree of oiling, washing will usually take from 40-60 minutes. A final rinse with a spray nozzle lasting an additional 40 minutes to one hour is essential to thoroughly remove the detergent and restore the furs' water repellency. Otters are initially hand dried with dry, clean, cotton terry cloth towels. Once the bulk of the water has been absorbed, the fur is dried with commercial pet dryers that deliver a high volume of temperature controlled air (Davis and Hunter, 1995). Sea otters become increasingly prone to hyperthermia as their hair is drying and cool (room temperature) air may be necessary for drying as the sea otter's body temperature increases.

Drying

Following drying, each animal is reversed from the anesthetic and placed in a large, slat-floor kennel with a sliding top or other easily accessible dry pen for intensive care monitoring. Animals in dry holding should be closely monitored for hyperthermia and fecal, urine, or food debris must be rinsed away immediately. When fully recovered from anesthesia, otters should be offered small blocks of ice to chew on and food (Davis and Hunter, 1995). Once the animal is stable and medical conditions allow, each otter should be moved to a pool with haulout(s) serviced by

abundant, clean, chlorine-free salt water (if available). Pools must have high seawater flow rates (e.g. 5 gallons per minute for 150 gallon pool) and drain skimmers at water level to collect debris from the pool. Fecal and food contamination of the pool water can cause fur fouling and prevent restoration of water repellency. Sea otters are not waterproof after washing and drying and must reintroduce trapped air into their fur by grooming.

Post-wash monitoring and care

During rehabilitation, sea otters need to be monitored around-the-clock by qualified personnel familiar with normal sea otter behavior and who are able to recognize clinical signs of distress. Sea otters often develop hypothermia post-wash due to lack of air insulation in washed fur and inadequate grooming. Otters that appear hypothermic, having difficulty hauling out, or experiencing seizures should be immediately removed from the water and evaluated by a veterinarian. As health and fur condition improve, otters may be moved to larger pools and/or floating holding pens. All pools should have abundant haul-out space. It will generally take a minimum of seven to ten days for the fur to recover its water repellency (Tuomi et al., 1995).

Common Problems Encountered While Washing Animals

1. Oil is not coming off with Dawn
 - Pretreatment with canola oil, olive oil, or methyl oleate is required.
2. The animal's coat is not clean
 - The animal may not have been washed or rinsed adequately. In either case, the animal may need to be re-washed or re-rinsed.
 - The wash or rinse water is too hard and mineral deposits are forming on the fur. Water hardness should be rechecked to make sure it is 3-5 grains.
 - The holding pool is not clean. Check whether the water is turbid or if there is fish oil or debris floating on the pool surface. Water flow may need to be increased or pool cleaned.

Nutritional Guidelines

The dietary requirements of stranded marine mammals are generally grouped into two categories according to age and nutritional needs: unweaned pups and weaned animals. Pups need special dietary formulas and feeding regimes based on species and age while free-feeding animals are generally fed a diet of good quality fish such as herring. Adult sea otters are usually fed a variety of fish and shellfish depending on their preference. Marine mammals also usually need to receive a supplemental multivitamin, vitamin E, and salt tablets (if housed in fresh water) with amounts based on species and weight. Monitoring fecal production and hydration status is especially important when beginning any formula, switching diets, or weaning animals. Recommended diets change with continued research and experience and stranding network participants should play an important role in the development of dietary protocols for each species and facility. More information can be obtained on marine mammal nutrition and energetics from Worthy (2001), and hand-rearing and artificial milk formulas from Williams and Davis (1995) for sea otters, and Townsend and Gage (2001) and Gage (2002) for pinnipeds.

Disposition

Release

The goal in rehabilitating oiled marine mammals is to release healthy animals back into their natural environment. Rehabilitators, in consultation with designated trustee representatives (NMFS/FWS) must prepare a release plan that is communicated to and authorized by the Unified Command through the Liaison Officer. Certain criteria must be met prior to releasing marine mammals back into wild populations. For those animals that do not meet release criteria, several options are available including additional rehabilitation, euthanasia, or placement in a long-term holding facility.

While little is known about optimal oiled marine mammal release criteria, current recommendations are based on information derived from the *Exxon Valdez* spill and husbandry practices at aquaria and rehabilitation centers in the United States. NMFS and FWS have developed guidance and criteria for release based on optimizing the chances for survival and minimizing the risk to wild populations (Best Practices for Marine Mammal Stranding Response, Rehabilitation, and Release – Standards for Release, <http://www.nmfs.noaa.gov/pr/health>). The Standards for Release document describes how to characterize and assess animals using several parameters.

Standards for Release

1. Historical Assessment
2. Developmental and Life History Assessment
3. Behavior Assessment and Clearance
4. Medical Assessment and Clearance
5. Release Logistics
6. Post Release Monitoring

Current criteria require that animals show normal species-specific behavior (feeding, swimming, and diving), adequate body weight for age class and species, pelage proven to be in good condition, hematological and serum chemistry values within the normal range, no evidence of infectious diseases, and physical exam findings should be unremarkable. Other ancillary tests (e.g. *Leptospira* titer, morbillivirus titer, microbiological cultures, urinalysis, fecal examinations, etc.) may also be performed on a case-by-case basis depending on individual animal and population level concerns. The Unified Command will decide upon the location of the release with guidance from the trustee agencies

Upon approval for release by UC, an exit photo of each marine mammal must be taken and specifics of the release (location, time, personnel) recorded for Natural Resource Damage Assessment purposes.

Post-release monitoring, if at all possible, should be undertaken during marine mammal releases following oil exposure using radio or satellite telemetry. This effort should focus on survival rates, behavior, and reproductive success following oil contamination and rehabilitation, thus enabling

oiled marine mammal responders to evaluate the efficacy of oiled marine mammal care. Post-release monitoring is not usually considered a response activity expense and must be funded by the stranding network participant, trustee agency or NRDA.

Mortalities

All oiled dead marine mammals should be collected from beaches and taken to a designated morgue. Dead animals should be logged in at the morgue using a Dead Marine Mammal Data Log (example in Appendix 3). Under certain circumstances, an oiled animal may need to be humanely euthanized in order to alleviate suffering. Animals that die during an oil spill response must have this disposition information recorded on their individual animal record as well as on the Live Marine Mammal Data Log (Appendix 2). The carcass should be identified with a written tag including the species name, date of stranding and/or admission, date of death, and the flipper tag (if a tag was affixed prior to death). If a flipper tag is present, it should remain with the carcass until final disposition of the carcass. The carcass should be refrigerated or kept on ice until a necropsy is performed. If a necropsy cannot be performed within 24 hours of death, the carcass needs to be frozen.

Euthanasia

During an oil spill response, there are circumstances under which it may be necessary to humanely euthanize animals. For each spill where marine mammal rehabilitation is undertaken, the rehabilitator must prepare a written euthanasia plan in consultation with the trustee representative. Euthanasia is appropriate for oiled animals with injuries that will render it unable to survive in the wild or unsuitable for use in captivity. If animals are euthanized in the field, they are collected following the procedures outlined in the Recovery and Transportation section of this document. To prevent secondary contamination or poisoning, euthanized carcasses are never left in the field.

Necropsy

Necropsies may be performed concurrent with response activities to identify cause of death in order to differentiate between a natural versus pollution related mortality. Fatalities to apparently un-oiled wildlife may necessitate necropsies to determine if death was caused by human interactions or if sub-apparent oil exposure or ingested petroleum contributed to the mortality. Additionally, captivity-related diseases may necessitate necropsies be performed on animals that die during rehabilitation to identify potential pathogens or husbandry techniques that are detrimental to recovery.

Prior to performing a necropsy on an oiled marine mammal, specific permission must be obtained from Unified Command and the appropriate NMFS/FWS enforcement officer. The spill response veterinarian-of-record should conduct or supervise all necropsies, in consultation with the designated representative FWS or NMFS enforcement officer. In most cases, a veterinary pathologist with specialized training on marine mammals will be asked to perform the necropsy. Necropsy methods and techniques are diverse, but general procedures for marine mammal necropsies can be found in Rowles et al. (2001), Galloway and Ahlquist (1997), and Geraci and Loundsbury (1993). Specific protocols have also been developed for some marine mammals including phocids (Winchell, 1990), Killer whales (Raverty and Gaydos, 2004), Right whales (McLellan et al., 2004), and Hawaiian Monk seals (Yochem et al., 2004). These species specific procedures should be followed whenever possible in order to maintain consistency with previous data. Prior to conducting a necropsy, the trustee agency and veterinarian should agree on which forms to use; which samples to collect; how those samples will be prepared (e.g., formalin or

frozen), stored, and shipped; and where samples will be analyzed. Specific oil spill necropsy information and forms are detailed in Appendix 7-9. Tissue samples for standard histopathology, disease profiling, and petroleum hydrocarbon analysis should be collected. Sampling for oil exposure, must be performed under specific conditions detailed in Appendix 7, in order to prevent contamination of the sample. Necropsy reports are filed and all samples handled and stored using appropriate chain-of-custody protocols, as discussed previously (Data Collection) and provided by the trustee representative.

Laboratories performing the petroleum analysis must be contacted as soon as possible in order to verify that sampling protocols and sample sizes are consistent with that specific laboratory requirement. Considerations in choosing the lab should include details of forensic capabilities (ability to produce legally defensible results), quality assurance and quality control (QA/QC), and consistency with the analysis of other materials from the spill. Results can vary between labs and data should be comparable between the environmental and tissues of the different species sampled. Appendix 8 lists laboratories (not an exhaustive list), with expertise in petroleum hydrocarbon chemistry that can be contacted for oil spill sample collection and analysis information. Petroleum hydrocarbon analysis is a reimbursable response expenses if pre-approved by the UC. However, often the RP (responsible party) assumes ownership of the oil and analysis may not be preformed.

Petroleum and Polycyclic Aromatic Hydrocarbons (PAH) Analysis

In general, all crude oils are mixtures of the same hydrocarbon and non-hydrocarbon compounds, but vary in the percent composition of these compounds. Natural weathering of oil in the environment also results in highly variable compositions. Because of the continual dynamic changes in spilled oil, it can be difficult to identify and quantify all PAHs potentially present in or on an animal in the aftermath of an oil spill. Oil and tissue samples collected from marine mammals can be analyzed to determine the total amount of PAHs in tissues and identify and quantify dangerous PAHs that may have caused clinical and pathological effects. Samples can also be tested to characterize and fingerprint petroleum hydrocarbons to determine their source.

Determining source-dependent petroleum exposure during an oil spill using GC/MS or HPLC techniques on marine mammal tissues requires baseline knowledge of petroleum hydrocarbon levels and composition in the spill area and of the spilled oil. At present there are few data available on PAH levels in marine mammals inhabiting North American coastal waters. Studies have only measured PAH levels in seals and whales from the Eastern Canada (Hellou et al., 1990, Zitko et al., 1998) and Northeastern United States (Lake et al., 1995). Overall, the low concentrations of bioaccumulated PAHs in tissues from these marine mammals are fairly similar to those reported in atmospheric fallout PAHs from combustion sources (Zitko et al., 1998). Alkylated and heterocyclic PAHs are the predominant forms of PAHs in oil and coal products, and can be missed if tissues are tested only for the 16 traditionally-studied, parent PAHs listed as priority pollutants by the Environmental Protection Agency (EPA) and World Health Organization (WHO) (Means 1998). Different members of the isomeric alkylated PAHs exhibit differential toxicity, diffusion, and degradation rates, further emphasizing the importance of compound-specific analysis. With the lack of baseline PAH levels from marine mammals, control samples for comparisons were harvested at the time of *Exxon Valdez* oil spill from animals inhabiting nearby non-oiled areas (Mulcahy and Ballachey, 1994; Frost et al., 1994).

In experimental exposure studies (both immersion and ingestion) involving ringed seals (*Phoca hispida*), differences in detectability of PAHs in various tissues were noted (Engelhardt et al., 1977). In the immersion experiment, PAHs were highest in urine and bile, less elevated in blood and plasma, and lower in tissues (lowest in lung) at 2 days post-immersion. Tissue sampling in the ingestion study was limited with PAHs highest in blood, and higher in liver and blubber compared to muscle. These studies illuminate the importance of selecting appropriate tissues for PAH analysis. Specific tissue collection techniques are provided in Appendix 7.

Records

The importance of recording information cannot be over-emphasized. Record collection enhances individual animal care, response evaluations, and the ability to accurately characterize the best practices for appropriate care. In-house records are maintained at the rehabilitation facility and copies provided to the trustee agency. Final reports, including chain-of-custody and sample collection records, must be delivered to the trustee agency within 30 days of the date the Federal OSC declares the response closed.

Scientific Records

The following types of records are necessary to preserve vital information for scientific study, natural resource damage assessment, and improved rehabilitation practices and techniques:

- Oiled mammal sighting: records and maps for all reports of oiled mammals
- Search Effort Log
- Live Mammal Log
- Dead Mammal Log
- Marine Mammal Intake Form
- Rehabilitation Records: documents care for each animal, including feedings, treatments, medications, normal/abnormal activities.
- Lab Analyses Report: identifies all samples sent to labs, requested analyses, lab results.
- Marine Mammal Stranding Report - Level A Data (NOAA 89-864, OMB #0648-0178)
- Marine Mammal Rehabilitation Disposition Report (NOAA 89-878, OMB #0648-0178)
- Human Interactions Form
- Necropsy Report

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Appendices

1. Search Effort Log
2. LIVE Marine Mammal Data Log Form
- 2b. LIVE Marine Mammal Data Log Form, page 2
3. DEAD Marine Mammal Data Log Form
- 3b. DEAD Marine Mammal Data Log Form, page 2
4. Oiled Marine Mammal Intake Form
5. Oiled Marine Mammal Daily Progress Form
6. Oiled Marine Mammal Evidence Collection Protocol
7. Petroleum Hydrocarbon Tissue Sampling Protocol
8. Oil Spill Response Laboratories and Supplies
9. Oiled Marine Mammal Necropsy Form
10. Chain of Custody Form
- 10b. Chain of Custody Form, page 2

Oiled Marine Mammal Data Log: LIVE Animals

Oil Spill Name:				Facility:					
Intake Log Number (L-xxxx)	Date Collected (m/d/y)	Time Coll'ctd (24 hr)	First Initial & Last Name of Collector	Beach Search Number	Collection Location (Beach Name)	GPS Coordinates (N) GPS Coordinates (W)	Field Tag #	Date Arrived (m/d/y)	Time Arrived (24 hr)

Oiled Marine Mammal Data Log: LIVE Animals (continued from front side)

Oil Spill Name:				Facility:								
Intake Log Number	Date Processed (m/d/y)	Time Processed (24 hr)	First Initial & Last Name of Examiner	Species	Level A Field #	Tag Color/#	% Oiled	Sample/Photo Taken? (Y/N)	Disposition Date (m/d/y)	Disposition Status (R,D,E,T)	Release Tag #	Morgue ID
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Oiled Marine Mammal Data Log: DEAD Animals (continued from front side)

Oil Spill Name:						Facility:									
Intake Log Number (D-xxxx)	Condition	Scavenging	Oiling Signs	% Oiled	Depth Oiled	Sample/Photo Taken? (Y/N)	Level A Field #	Tag #	Age	Sex	SL (cm)	AG (cm)	Morgue ID	Necropsy (Y/N)	Notes (any other observations, contamination by petroleum products such as plastic or another specimen)
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Oiled Marine Mammal Intake Form

Spill Name:				Level A Field #:				Log Number:			
CAPTURE	Capture Date/Time:				Capture Location:						
	Field Band:				Collector:						
PROCESSING	Intake Date/Time:				Species:						
	Tag Color/#:				Examiner's Signature:						
EXT. OIL ID	Signs of Oiling	Oil Visible	Skin Burns	Smell	Area Oiled	Head	Body	Multiple	Entire		
	Oil Color	Black	Brown	Clear	Other	Depth of Oiling	Deep	Moderate	Surface		
	% Oiled	<2%	2-25%	26-50%	51-75%	76-100%	Samples	Hair	Swab	Photo	
PHYSICAL EXAM	Weight/Temp.	grams		°F	Age	Pup	Sub-adult	Adult	Unknown		
	Std Length/Girth	cm		cm	Sex	Male	Female				
	Heart Rate	WNL		beats/min.	Body Condition	Normal	Thin	Emaciated			
	Resp. Rate	WNL		breaths/min.	Attitude	BAR	QAR	Nonresponsive	Seizing		
	Dehydration	None	Mild	Moderate	Severe	CRT/mm color	Sec. / Pink	Pale	White	Purple	
	Human Interaction	<input type="checkbox"/> Yes <input type="checkbox"/> No Type: Boat Collision, Shot, Fisheries, Other:									
	Neurologic	NSF	Other:								
	Head/Mouth	NSF	Other:								
	Eyes/Ears	NSF	Other:								
	Heart/Lungs	NSF	Other:								
	Gastrointestinal	NSF	Other:								
	Musculo-skeletal	NSF	Other:								
Integument	NSF	Other:									
Comments											
TX-DX	Blood taken? HCT LTT RTT GTT				Toxiban: yes no		time:				
	Pre-wash Exam: _____ <small style="text-align: center;">Veterinarian Signature</small>				Date Washed :		Weight:		Bloodwork Attached <input type="checkbox"/>		
DISPOSITION	Disposition Exam: _____ <small style="text-align: center;">Veterinarian Signature</small>				Exam Date:		Weight:		Bloodwork Attached <input type="checkbox"/>		
	Disposition Date:				Disposition Location:						
	Disposition Status: RELEASED DIED EUTHANIZED TRANSFERRED RETAINED Necropsied by:										
	Flipper Tag No.:				Location:		RF	LF	RH	LH	

TAG #:

SPECIES:

Appendix 6. Oiled Marine Mammal Evidence Collection Protocol

The photograph and oil sample are both considered to be legal evidence therefore it is important that the following procedures are followed closely.

Photograph Evidence

1. Use a Polaroid camera (if possible).
2. Photograph should include the entire animal, highlighting the oiled region, and if possible, the tag number.
3. Label the photograph with Spill Name, Date, Species, Log #, Capture Location, and Tag # and Color.

Sample Collection Techniques for Visible Oiling

1. Scrape visible oil from fur/skin with wooden spatula (tongue depressor).
2. Place oil covered spatula in solvent-rinsed glass jar with a Teflon-lined lid (e.g. I-Chem) and break off the remaining un-oiled portion, allowing the lid to close. If jar is not available, wrap sample in aluminum foil (dull side to sample).
Note: Avoid touching /contaminating oil sample with your nitrile gloves.
3. Label the glass jar (use waterproof labels).
Label must include: Spill Name, Log #, Species, Tag #, Arrival Date, Sampling Date, and Capture Location.
4. Fill out Custody Seal and apply it across the lid of the jar and onto the sides of the glass.
5. Keep sample refrigerated or on ice until it can be stored.
6. Lock sample in a -20°C (or colder) freezer.

Sample Collection Techniques for No Visible Oiling

1. Rub an affected area with a 4x4 fiberglass or cotton cloth (or gauze) with sterile forceps or hemostats that have been cleaned with isopropyl alcohol.
Note: Do not allow the nitrile gloves to touch the oiled area or the cloth.
2. Place the oiled covered cloth into a solvent-rinsed glass jar with a Teflon-lined lid.
3. Seal and fill out the information on the waterproof label (as above).
4. Fill out the Custody Seal and apply it across the lid of the jar and onto the sides of the glass.
5. Keep sample refrigerated or on ice until it can be stored
6. Lock sample in a -20°C (or colder) freezer.

All evidence should be securely stored and refrigerated/frozen until the Wildlife Branch Director provides further instructions. If samples are to be sent for analysis, a Chain of Custody Form is required.

Appendix 7. Petroleum Hydrocarbon Tissue Sampling Protocol

Supplies for sampling

All instruments used in handling (e.g. scalpels and forceps, cutting boards) or storing (e.g. jars, foil, sheets) samples must be made of a non-contaminating material consisting of stainless steel, glass, Teflon, or aluminum.

- Solvent-rinsed glass containers with Teflon-lined lids for tissues
- Solvent-rinsed Teflon sheets for tissues
- Aluminum foil (if Teflon sheets are not available) sample to the dull side
- Sterile syringes and needles
- Amber glass vials or glass vials covered with foil with Teflon lids (for bile, urine)
- Teflon screw top vials (for blood storage and urine)
- Stainless steel scalpels, knives, forceps
- Isopropyl alcohol (99.9% pesticide free IPA) to rinse instrument
- Wooden tongue depressors (can be used to handle tissues if necessary)
- Whirl-pak bags or Zip-lock freezer bags
- 10% buffered formalin and appropriate containers for histopathology samples
- Permanent marker or pen
- Evidence/Custody tape and labels
- Sample Log/Chain of Custody forms

Sampling Protocol

Tissues to collect for petroleum hydrocarbon analysis in order of preference:

- a. bile
 - b. urine
 - c. whole blood
 - d. stomach and intestinal contents
 - e. blubber/fat
 - f. liver
 - g. kidney
 - h. lung
 - i. intestine
 - j. brain
 - k. muscle
- i. Samples taken for analysis should only be collected from **alive** or **freshly dead animals**. If a necropsy cannot be performed within 24 hrs after death, the carcass should be frozen for later examination.
 - ii. Recommended **minimum sample size** is **10-20 g of tissues** (approx. 1-2 tablespoons) and **5 ml for fluids** (blood, urine, bile, feces, stomach contents). However, analysis can be performed on as little as 100 μ L of bile; therefore collect whatever amount is present.

Appendix 7. Petroleum Hydrocarbon Tissue Sampling Protocol, page 2

- iii. Fluids such as blood, urine, and bile should be collected using sterile syringes or pipettes and transferred to Teflon vials (blood) or amber glass vials (bile, urine).
- iv. Use powder-free nitrile gloves. Vinyl gloves are an acceptable alternative. Avoid contact of gloves with samples.
- v. Scalpels, knives, and cutting tools used for tissue collection should be cleaned and rinsed with isopropyl alcohol between tissues. If heavily contaminated with oil, instruments can be cleaned with detergent (e.g. Dawn), rinsed with water, and then rinsed with alcohol.
- vi. Samples are stored preferably in solvent-rinsed Teflon-lined glass jars, labeled, and secured with evidence tape/custody seal. If glass jars are not available, samples can be placed in Teflon sheets or aluminum foil (dull side to sample) and stored in whirl-paks/freezer bags.
- vii. If samples/tissues have come in contact with a contaminating material (e.g. plastic bag), collect and store a representative example of that material (e.g. plastic bag) using the same method as for collecting tissues.
- viii. Collect a representative sample of each tissue (< 1 cm thick) preserved in 10% buffered formalin for histopathology. Duplicate hydrocarbon and histology samples whenever possible.
- ix. Each sample must be labeled with **Spill Name, Log #, Level A Field #, Species, Tag#, Arrival Date, Sampling Date, and Capture Location** and securely stored.
- x. Samples for PAH analysis should be chilled immediately on ice/refrigeration and then frozen as soon as possible to -20°C or colder in a locked freezer. Histopathology samples are stored at room temperature.

All evidence should be securely stored and refrigerated/frozen until the Wildlife Branch Director provides further instructions. If samples are transferred to a different location or sent for analysis, a Chain of Custody form is required. A Chain of Custody form can be found in this document, but are often provided by the laboratory.

Shipping:

Ship samples frozen on blue ice or with ~5 lbs dry ice according to laboratory specification using Federal Express (FedEx). FedEx follows IATA regulations for shipping hazardous materials and maintains chain of custody record by tracking packages.

Sampling supplies such as jars, label, and custody seals are often supplied by the analytical laboratory and are produced by:

I-Chem™ Brand, Certified 300 Series jars
Order: 1-800-451-4351, www.ichembrand.com

Appendix 8. Oil Spill Response Laboratories



Laboratories with tissue petroleum hydrocarbon analysis expertise

<p>Northwest Fisheries Science Center 2725 Montlake Boulevard East Seattle, WA 98112-2097 Jon Buzitis, (206) 860-3309 Gina Ylitalo, (206) 860-3325</p>	<p>Alaska Fisheries Science Center Auke Bay Laboratory 11305 Glacier Highway Juneau, Alaska 99801-8626 Jeep Rice, (907) 789-6020</p>
<p>Petroleum Chemistry Laboratory Office of Spill Prevention and Response California Department of Fish and Game 1995 Nimbus Rd Rancho Cordova, CA 95670 (916) 358-2803</p>	<p>TDI-Brooks International 1902 Pinon College Station, TX 77845 (979) 693-3446 Thomas McDonald, (979) 220-3821</p>
<p>Alpha Woods Hole Laboratories 375 Paramount Drive Raynham, MA 02767 Peter Kane, (508) 822-9300</p>	<p>Zymax Forensics 71 Zaca Lane San Luis Obispo, CA 93401 (805) 544-4696 Alan Jeffrey, (805) 546-4693</p>
<p>Mote Marine Laboratory 1600 Ken Thompson Parkway Sarasota, Florida 34236 (941) 388-4312 Dana Wetzels, (941) 388-4441</p>	<p>Geochemical & Environmental Research Group (GERG) Texas A&M University 833 Graham Road College Station, Texas 77845 (979) 862-2323</p>

The laboratory should be able to perform analysis of the 16 traditionally-studied, parent PAHs listed as priority pollutants by the Environmental Protection Agency (EPA) in addition to the 44 alkylated and heterocyclic PAHs.

Unified Command and Trustee Agencies will make final decision on laboratory use.

Appendix 10. Chain of Custody Form

 CHAIN OF CUSTODY RECORD 		Case Number: _____		
DATE AND TIME OF SEIZURE:	DUTY STATION:	EVIDENCE/PROPERTY SEIZED BY:		
SOURCE OF EVIDENCE/PROPERTY (person and/or location) TAKEN FROM: RECEIVED FROM: FOUND AT:	DEFENDANT/COMPANY NAME AND REMARKS:			
ITEM NO:	DESCRIPTION OF EVIDENCE/PROPERTY (include Seizure Tag numbers and any serial numbers):			
ITEM NO:	FROM (PRINT NAME, AGENCY)	RELEASE SIGNATURE:	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO (PRINT NAME, AGENCY)	RECEIPT SIGNATURE:	RECEIPT DATE:	
ITEM NO:	FROM (PRINT NAME, AGENCY)	RELEASE SIGNATURE:	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO (PRINT NAME, AGENCY)	RECEIPT SIGNATURE:	RECEIPT DATE:	

Appendix 10b. Chain of Custody Form, page 2

ITEM NO:	FROM: (PRINT NAME, AGENCY)	RELEASE SIGNATURE:	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO: (PRINT NAME, AGENCY)	RECEIPT SIGNATURE	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AGENCY)	RELEASE SIGNATURE:	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO: (PRINT NAME, AGENCY)	RECEIPT SIGNATURE:	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AGENCY)	RELEASE SIGNATURE:	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO: (PRINT NAME, AGENCY)	RECEIPT SIGNATURE	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AGENCY)	RELEASE SIGNATURE:	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO: (PRINT NAME, AGENCY)	RECEIPT SIGNATURE:	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AGENCY)	RELEASE SIGNATURE:	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO: (PRINT NAME, AGENCY)	RECEIPT SIGNATURE	RECEIPT DATE:	
ITEM NO:	FROM: (PRINT NAME, AGENCY)	RELEASE SIGNATURE:	RELEASE DATE:	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
	TO: (PRINT NAME, AGENCY)	RECEIPT SIGNATURE:	RECEIPT DATE:	

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APPENDIX M

SOCIOECONOMIC INFORMATION SUMMARY TABLES

Table 1: Summary of overall statewide information on veterinary services

State	Number of Establishments	Revenues and Receipts (\$000's)	Annual Payroll (\$000's)	Number of Paid Employees
Atlantic/Gulf of Mexico Region				
Alabama	470	215,658	66,007	3,647
Connecticut	308	278,984	101,581	3,555
Delaware	57	54,598	19,773	760
Florida	1,665	1,027,526	337,264	14,363
Georgia	721	456,376	157,582	7,242
Louisiana	393	191,983	58,361	3,231
Maine	149	96,997	34,837	1,298
Maryland	466	350,277	129,439	5,218
Massachusetts	448	374,325	145,196	5,371
Mississippi	238	104,586	31,209	1,642
New Hampshire	155	109,833	36,762	1,467
New Jersey	548	487,464	185,615	6,126
New York	1,130	934,481	321,104	12,124
North Carolina	720	510,742	180,959	8,000
Pennsylvania	940	618,142	205,655	8,884
Rhode Island	75	56,751	20,800	766
South Carolina	326	189,719	61,557	3,060
Texas	2,010	1,224,701	389,384	17,405
Virginia	684	503,041	191,682	8,221
Puerto Rico	85	23,846	4,257	302
Virgin Islands ¹	9	3,330	845	35
Pacific Region				
Alaska	60	40,411	15,051	621
California	2,445	1,948,390	660,464	24,733
Oregon	464	306,031	105,358	4,624
Washington	685	439,702	139,487	6,041
Pacific Islands Region				
Hawaii	77	51,308	16,447	656
Guam	4	2,078	595	37
American Samoa ¹	4	59	1	2
Commonwealth of the Northern Mariana Islands ¹	8	1,780	450	34

2002 Economic Census

North American Industry Classification System (NAICS) code 541940

¹ NAICS code 5419 which includes veterinary services as well as other sub-industries

Table 2: Summary of overall statewide information for all zoos, aquariums, and botanical gardens

State	Number of Establishments	Revenues and Receipts (\$000's)	Annual Payroll (\$000's)	Number of Paid Employees
Atlantic/Gulf of Mexico Region				
Alabama	6	9,815	4,884	257
Connecticut	7	28,102	9,156	346
Delaware	1	D	D	a
Florida	56	123,503	43,203	2,448
Georgia	16	45,331	16,489	692
Louisiana	13	D	D	f
Maine	8	3,965	1,548	44
Maryland	8	D	D	f
Massachusetts	17	55,603	18,742	776
Mississippi	2	D	D	b
New Hampshire	1	D	D	a
New Jersey	10	12,567	5,587	276
New York	48	266,257	83,410	2,457
North Carolina	13	7,992	2,409	95
Pennsylvania	26	98,672	32,665	1,365
Rhode Island	1	D	D	b
South Carolina	11	34,679	8,493	419
Texas	37	140,819	44,071	2,232
Virginia	11	8,584	4,438	247
Puerto Rico ²	18	13,690	3,714	218
Virgin Islands ²	5	3,583	973	48
Pacific Region				
Alaska	3	D	D	b
California	46	272,488	105,438	3,687
Oregon	11	15,067	6,075	255
Washington	16	29,801	5,670	204
Pacific Islands Region				
Hawaii	20	27,701	7,994	390
Guam	N/A	N/A	N/A	N/A
American Samoa	N/A	N/A	N/A	N/A
Commonwealth of the Northern Mariana Islands ²	1	D	D	a

2002 Economic Census

NAICS code: 712130

D = Information withheld by Census to avoid disclosing data for individual companies

a = 0-19 employees

b = 20-99 employees

f = 500-999 employees

² NAICS code 712 which designates museums, historical sites, and similar institutions. This category includes zoos and aquariums.

Table 3: Summary of statewide information on zoos, aquariums, and botanical gardens with federal tax-exempt status

State	Number of Establishments	Revenues and Receipts (\$000's)	Annual Payroll (\$000's)	Number of Paid Employees
Atlantic/Gulf of Mexico Region				
Alabama	6	9,815	4,884	257
Connecticut	6	D	D	e
Delaware	1	D	D	a
Florida	22	60,756	22,323	979
Georgia	11	D	D	f
Louisiana	6	D	D	f
Maine	6	D	D	b
Maryland	6	D	D	f
Massachusetts	13	50,387	17,125	676
Mississippi	2	D	D	b
New Jersey	7	D	D	e
New York	34	237,360	75,523	2,219
North Carolina	6	D	D	b
Pennsylvania	18	95,617	31,483	1,314
Rhode Island	1	D	D	b
South Carolina	5	10,703	3,793	165
Texas	22	131,268	41,775	2,102
Virginia	5	6,737	3,807	185
Puerto Rico	N/A	N/A	N/A	N/A
Virgin Islands	N/A	N/A	N/A	N/A
Pacific Region				
Alaska	2	D	D	b
California	32	268,086	104,104	3,622
Oregon	7	12,822	5,289	210
Washington	12	D	D	c
Pacific Islands Region				
Hawaii	12	D	D	c
Guam	N/A	N/A	N/A	N/A
American Samoa	N/A	N/A	N/A	N/A
Commonwealth of the Northern Mariana Islands	N/A	N/A	N/A	N/A

2002 Economic Census

NAICS code: 712130

D=Information withheld by Census to avoid disclosing data for individual companies

a= 0-19 employees

b= 20-99 employees

c=100-249 employees

e=250-499 employees

f=500-999 employees

Table 4: Summary of overall information on coastal food and lodging services

State	Number of Establishments	Revenues and Receipts (\$000's) ¹	Annual Payroll (\$000's) ¹	Number of Paid Employees ¹
Atlantic/Gulf of Mexico Region				
Alabama	956	713,581	202,919	18,299
Connecticut	4,502	4,979,638	1,454,704	80,017
Delaware	1,576	1,231,595	355,458	26,972
Florida	23,742	20,991,636	5,847,116	460,330
Georgia	1,113	1,040,073	300,917	24,583
Louisiana	3,384	3,408,930	972,762	76,709
Maine	2,446	1,346,224	393,600	25,814
Maryland	5,139	4,322,393	1,189,482	95,547
Massachusetts	8,572	7,172,834	2,103,016	139,707
Mississippi	723	1,701,789	472,684	27,523
North Carolina	1,626	997,181	277,497	26,059
New Hampshire	751	498,076	152,805	10,857
New Jersey	9,923	10,596,279	2,933,489	165,618
New York	22,802	19,302,622	5,535,678	309,156
Pennsylvania	4,045	2,742,606	734,949	54,681
Rhode Island	2,701	1,731,799	502,394	38,573
South Carolina	2,608	2,741,304	771,157	55,853
Texas	9,002	7,626,398	2,100,395	178,631
Virginia	2,695	2,125,937	556,374	52,167
Puerto Rico	4,133	3,360,226	732,147	63,810
Virgin Islands	313	331,008	92,357	5,639
<i>Region Total</i>	112,752	98,962,129	27,681,900	1,936,545
Pacific Region				
Alaska	1,598	1,178,807	354,615	20,379
California	45,609	40,169,743	11,522,595	800,742
Oregon	1,909	1,058,286	305,453	25,221
Washington	9,212	6,275,983	1,874,094	139,301
<i>Region Total</i>	58,328	48,682,819	14,056,757	985,643
Pacific Islands Region				
Hawaii	3,138	5,551,380	1,604,706	85,641
Guam	392	629,672	168,623	11,199
American Samoa	99	21,335	3,598	536
Commonwealth of the Northern Mariana Islands	151	197,187	47,275	4,304
<i>Region Total</i>	3,780	6,399,574	1,824,202	101,680

2002 Economic Census

NAICS code: 72 (combined food and lodging industry category)

¹The following coastal counties were excluded since information for these counties were withheld by the Census to avoid disclosing data for individual companies: Camden County, NC; Perquimans County, NC; Kenedy County, TX; Kleberg County, TX; Mathews County, VA; Surry County, VA; Aleutians East Borough, AK; Lake and Peninsula Borough, AK; Northwest Arctic Borough, AK; Wade Hampton Census Area, AK; and Kalawao County, HI.