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 action area. Because the size of the action area 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 NMFS' 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.	2008-2009
Public Viewing Guidelines	Public viewing at rehabilitation facilities is only allowed under MMPA regulations (50 CFR 216.27 (c)(5)) if the NMFS Regional Director or the NMFS Office of Protected Resources Director has specifically authorized the activities and they are conducted in a matter consistent with the requirements applicable to public display. Public viewing guidelines would be developed by NMFS and may be included in the Rehabilitation Facility Standards and any associated regulations. At a minimum, an EA would be prepared to assess any impacts associated with the proposed guidelines.	Undetermined

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

MMHSRP Action	Description	Timeline
Human Interaction Handbook and Data Sheet	A human interaction handbook and data sheet will undergo necessary clearance procedures and will be used by the National Stranding Network.	2009
Workshop on Candidates for Rehabilitation	The NMFS' MMHSRP will hold a workshop regarding decisionmaking during response activities to determine animals that are good rehabilitation candidates. Guidelines to determine good rehabilitation candidates would be developed.	2009
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.	2009
Research on Humane Chemical Euthanasia	NMFS will continue to support and fund research on humane methods of chemical euthanasia. This includes research regarding the environmental impacts of chemical euthanasia solutions.	Continuous

6.1.1 Biological Resources

The response, rehabilitation, and release activities of the MMHSRP would have a beneficial cumulative effect on marine mammals. The MMHSRP would continue to rehabilitate and return animals to the wild that would have died otherwise. Returning threatened and endangered animals back to the wild would have a large impact on the survival of these species. With the implementation of the release criteria, the threat of releasing diseased animals would be eliminated or minimized. Without the release criteria, a potential cumulative adverse impact could occur if diseased animals were released and infected wild populations. The MMHSRP, combined with other NMFS activities, would have beneficial cumulative impacts on all marine mammals. Other NMFS activities include: the North Atlantic Right Whale Ship Strike Reduction Strategy; Marine Mammal Conservation Plans; ESA Recovery Plans; Take Reduction Plans; and issuance of incidental harassment authorizations, Incidental harassment authorizations require implementation of mitigation so that activities that may unintentionally take marine mammals are subject to standards that achieve a negligible impact on species or stocks and the least practicable adverse effect on marine mammals.

Research activities of the MMHSRP, combined with all other past, present, and future marine mammal research authorized by permits from the NMFS PR1, could have cumulative adverse impacts on marine mammals. All research activities include takes of marine mammals. Activities have the potential to interrupt mating, feeding, and diving behaviors as well as injure or kill animals. Takes may be occurring on the same individual or group of animals and could be disrupting essential

behaviors. NMFS PR1 currently has 193 scientific research and enhancement permits issued for marine mammals. Of these permits, 35 are general authorizations for Level B Harassment (Swails pers.comm.). However, the MMHRSP activities and other permitted research activities could result in cumulative beneficial impacts on marine mammals. The information gained from these activities may lead to ways to protect and conserve all marine mammals and increase those animals that are declining.

The Standards for Rehabilitation Facilities and release criteria cannot be enforced unless they are incorporated into regulations. These regulations would have beneficial cumulative impacts on marine mammals. By law, Stranding Network participants would have to adhere to these regulations. Participants who are in violation of these regulations could be put on probation, suspended, or have their SA terminated, according to the Final SA Criteria (Appendix C). The rehabilitation facility regulations would ensure that rehabilitated animals would have the appropriate veterinary care in a healthy environment, maximizing the success rate of rehabilitation. The release criteria regulations would ensure that only healthy animals are released back to the wild, minimizing potential impacts to the wild population and ensuring a better survival rate for the released animal.

The Rehabilitation Facility Inspection program would complement the rehabilitation facility regulations. Facilities would be inspected to ensure compliance with the regulations. NMFS would send a qualified individual to each rehabilitation facility to document existing facilities and to advise each facility of their areas of weakness. Once the Standards have been approved, inspections will be carried out on a rotating 1-3 year interval to ensure compliance. This program along with other MMHSRP activities would have beneficial cumulative impacts on marine mammals.

Currently, public viewing of animals in rehabilitation is only allowed under MMPA regulations (50 CFR 216.27(c)(5)) if the NMFS Regional Director or the NMFS Office of Protected Resources Director has specifically authorized the activities and they are conducted in a matter consistent with the requirements applicable to public display. NMFS would clarify the definition of public viewing for animals undergoing rehabilitation in 50 CFR 216.27(c)(5) to differentiate it from permanently captive animals on public display. NMFS would establish guidelines that govern when public viewing of rehabilitating marine mammals would be authorized. NMFS would work with APHIS to develop public viewing guidelines that ensure the requirements of the MMPA and the Animal Welfare Act are met. The guidelines would be designed to protect animal health and to ensure that the potential for a successful rehabilitation would not be compromised. At a minimum, an EA would be prepared to assess any impacts associated with the proposed guidelines. The guidelines would be

available for review by the MMC, current rehabilitation facilities, and the public. Significant cumulative effects on marine mammals would not be expected from this activity.

The NMFS' MMHSRP will hold a workshop regarding decisionmaking during response activities to determine which animals are good rehabilitation candidates. Guidelines would be developed for stranding responders to use to determine good rehabilitation candidates on the beach. These guidelines would minimize the number of animals brought into rehabilitation facilities that are poor candidates for successful rehabilitation and release. The workshop would also address criteria for making immediate disposition determinations (*e.g.*, beach release and relocation and release). Cumulative effects on marine mammals would not be expected from this activity.

A human interaction handbook and data sheet have been developed by the Cape Cod Stranding Network and the Virginia Aquarium Stranding Response Team. These documents will undergo necessary clearance procedures and be used by the National Stranding Network. These materials will be used to provide stranding network personnel with the tools needed to evaluate marine mammals for signs of human interaction and to collect human interaction data consistently in all NMFS jurisdictional regions. Cumulative effects on marine mammals would not be expected from this activity.

6.1.2 Water and Sediment Quality

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

6.1.3 Cultural Resources

For the preferred alternatives, the adoption of mitigation measures that would include contact with the appropriate SHPO, where warranted, and special release considerations for ice seals, the MMHSRP's activities would be expected to have only minor potential for impacts on cultural resources, and would not incrementally contribute to a cumulatively significant impact to these resources.

6.1.4 Human Health and Safety

Currently, public viewing of animals in rehabilitation is only allowed under MMPA regulations (50 CFR 216.27 (c)(5)) if the NMFS Regional Director or the NMFS Office of Protected Resources Director has specifically authorized the activities and they are conducted in a matter consistent with the requirements applicable to public display. NMFS would establish guidelines that govern when public viewing of rehabilitating marine mammals would be authorized. At a minimum, an EA would be prepared to assess any impacts associated with the proposed guidelines. The guidelines would be designed to protect human health; therefore significant cumulative effects on public health and safety would not be expected.

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

6.1.5 Socioeconomics

The Rehabilitation Facility Standards and release criteria cannot be enforced unless they are incorporated into regulations. The PEIS has taken a general look at potential impacts of requiring rehabilitation facilities to comply with the standards. However, at minimum, an EA would be necessary to fully assess the socioeconomic impacts of making these standards into regulations. 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. This action is anticipated to happen within one to two years after the release of this PEIS.

Release of pinnipeds on the West Coast could have an adverse cumulative impact. Pinniped conflicts with commercial and recreational fisheries are ongoing. California sea lions and harbor seals remove catch and damage gear in all types of fisheries, including gillnet, purse seine, trap and live bait fisheries. Along the West Coast, seals and sea lions have taken threatened and endangered salmon passing through the fish ladders. The conflict has resulted in economic losses for some commercial fisheries and impaired the recovery of salmon stocks. Recreational fishers frequently move their

boats when sea lions are present, and incur additional fuel costs and loss of fishing time. The release of pinnipeds would add individuals to already growing populations and could contribute to an increase in interactions with the commercial and recreational fisheries, causing more economic losses. Space conflicts between pinnipeds and humans have occurred at harbors and beaches, such as Children's Pool in La Jolla, California. More animals hauled out on beaches may deter beach visitors, and impact revenue gained from beachgoers. Currently no released pinnipeds have been documented in any of these conflicts. Released pinnipeds or their offspring could be involved in future conflicts, which may have an adverse cumulative impact on socioeconomics.

The NMFS' MMHSRP will hold a workshop regarding decisionmaking during response activities to determine animals that are good rehabilitation candidates. Guidelines would be developed for stranding responders to use to determine good rehabilitation candidates on the beach. These guidelines would minimize the number of animals brought into rehabilitation facilities that are poor candidates for successful rehabilitation and release. This action would likely reduce expenditures of resources on non-releasable animals and may be a beneficial impact for rehabilitation facilities.

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