National Marine Fisheries Service Marine Mammal and Endangered Species Research and Enhancement Permit Application

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National Marine Fisheries Service Marine Mammal and Endangered Species Research and Enhancement Permits

Background

This document describes how to apply for Marine Mammal Protection Act and Endangered Species Act scientific research and enhancement permits for National Marine Fisheries Service (NMFS) protected species, including:

- Cetaceans;
- Pinnipeds (excluding walrus);
- Sea turtles (in water);
- Shortnose sturgeon;
- Smalltooth sawfish; and
- White and black abalone.

Under section 104 of the Marine Mammal Protection Act of 1972 (MMPA) and section 10(a)(1)(A) of the Endangered Species Act of 1973 (ESA), NMFS may issue permits for scientific research purposes or to enhance the propagation, survival, or recovery of protected marine species. Under the Fur Seal Act of 1966 (FSA), NMFS may issue permits for research on fur seals of the North Pacific.

Additional federal and state laws or regulations more restrictive than the MMPA or ESA may also apply to your activities and you are responsible for securing any necessary state permits or authorizations.

Possession of a permit is a privilege. NMFS must evaluate issuance of permits in consideration of its duties to protect and recover listed species.

Permits may be valid for up to five years from issuance and will include conditions necessary to mitigate and monitor the impacts of the proposed activities.

Please note, you may also apply for a scientific research or enhancement permit using our on-line application system, APPS (Authorizations and Permits for Protected Species), found at: https://apps.nmfs.noaa.gov/.

You will need to use separate application instructions and apply by mail if you require the following permits/authorizations:

- MMPA General Authorization (GA)
- MMPA Commercial/Educational Photography Permit
- MMPA Public Display Permit
- MMPA Incidental Harassment Authorization (IHA)
- MMPA Incidental Take Letter of Authorization (LOA)
- MMPA Pre-Act Parts Authorization
- ESA Section 10(a)(1)(B) Incidental Take Permit

For instructions on how to apply for one of these permits, visit: http://www.nmfs.noaa.gov/pr/permits/types.htm. For descriptions of all permit types, see Appendix I.

Overview

When to Apply

Target Species	Non-target species	When to apply
Non-ESA listed marine mammals	**No** ESA-listed species or designated critical habitat will be adversely affected by the research activities	At least **6 months** prior to when you want to begin research/enhancement activities
Non-ESA listed marine mammals	ESA-listed species or designated critical habitat **may be** adversely affected by the research activities	At least **one year** prior to when you want to begin research/enhancement activities
ESA-listed species (marine mammals and other taxa)		At least **one year** prior to when you want to begin research/enhancement activities

Processing

Once we receive a **complete** permit application, it is subject to a mandatory 30-day public comment period. We concurrently send the application to the appropriate NMFS Regional and Science Center Offices, subject matter experts, and the Marine Mammal Commission for review and comment as applicable.

All permit decisions must be analyzed under the National Environmental Policy Act (NEPA).

An environmental assessment (EA) or environmental impact statement (EIS) may be necessary if proposed research or enhancement activities:

- are the subject of public controversy based on potential environmental consequences,
- have uncertain environmental impacts or unknown risks,
- may result in cumulatively significant impacts, or
- may have an adverse effect upon endangered or threatened species or their habitats (note: any harassment or take of these species is considered an adverse effect).

If an application does not contain sufficient information on the environmental impact of the proposed activity to determine whether an EA/EIS is necessary, or if the information is insufficient to complete such analyses, the application may be returned to the applicant or processing will be prolonged.

As applicable, NMFS must request consultation with the following agencies on the potential effects of certain proposed activities, as listed below:

Agency	Subject of Consultation
NMFS Endangered Species Division	ESA-listed species and designated critical habitat
NMFS Office of Habitat Conservation	Essential Fish Habitat (EFH)
NOAA National Ocean Service	National Marine Sanctuaries
U.S. Fish and Wildlife Service	ESA-listed species and designated critical habitat

Issues that arise during these consultations will lengthen the permit process.

Application Layout

You will need to organize your application into the following sections:

1) **Project Information**, **Project Description**, and **Project Supplemental Information:** This section requires specific information about your project, such as the duration and timing of your work, hypothesis/justification, description of methods, and other information.

2) **Location and Take Information:** This section requires information about the places you are requesting to work, the numbers and types of protected species you expect to take or import, and the methodologies you will use to conduct your research or enhancement activities.

3) **NEPA:** This section requires information about how your activities would result in impacts on the environment, including the physical and biological aspects of the environment.

4) **Project Contacts:** This section requires information on the Applicant/Permit Holder, Principal Investigator, Co-investigators, or others that will be working under the permit.

Completing an Application

Give Complete Information

Please provide complete and specific information according to the instructions in this document. **The Permits Division cannot process applications that do not include all of the required information.** We will return incomplete applications with explanation or request additional information. If we request additional information and do not receive it within 60 days, we will withdraw your application. Please note the following:

- Your application must be a stand-alone document and must clearly describe all proposed activities even when you reference published literature.

- When a question does not apply, please indicate "Not Applicable" or "N/A" and provide a brief explanation as to why the question is not applicable.

- Please avoid the use of technical jargon when possible because your application will be available to the public for review.

- You are encouraged to contact the Permits Division at (301) 427-8401 with questions in advance of submitting your application.

Project Information

Project Title

Describe the project as concisely and descriptively as possible. Include the species (or taxa if multiple species), the study's geographic range, and purpose. For example:

- *"Characterizing the Population Structure, Forging Ecology, and Movement Patterns of Green Sea Turtles in the Gulf of Mexico."*

Previous Federal permit #

If applicable, please provide your most recent NMFS permit number. If you have/had more than one permit, list the permit most closely related to this application.

Permits Requested

Indicate if you are requesting a permit for scientific research or enhancement and under what statute(s): the MMPA, Fur Seal Act, and/or the ESA. If you need assistance, please call the Permits Division at (301) 427-8401.

Research Timeframe

Give the proposed start and end dates of the entire project in the following format: MM/DD/YYYY. Please review the "When to Apply" section above and provide realistic dates based on processing time.

- The start date must not be prior to the date you successfully submit the application.

- The end date must be within five years of the start date.

- You may provide more specifics on your project dates/field seasons under "Sampling Season/Project Duration" (see below).

Sampling Season/Project Duration

Describe the annual sampling season(s) and the duration of the project. Include the months of the year and frequency of fieldwork/sampling (e.g., how many times per year and how frequently will you sample?).

If your research extends beyond five years, or is a continuation of previously authorized research, give information about when the research began and when you expect it to end.

Abstract

Provide a brief summary (approximately 200 words) of the proposed research and/or enhancement project. We will publish this summary in the *Federal Register* Notice of Receipt that initiates the 30-day public comment period. The summary should include **concise** statements of the following information:

- Purpose of the research or enhancement activity;
- Target species (common and scientific names);
- Type of take activities (e.g., capture, biopsy sampling), import and/or export;
- Numbers of animals to be taken for each activity or number of animals from which specimens will be imported and/or exported, by species or taxa (over a specified time, e.g., per year);
- Numbers and kinds of non-target species, including those listed under the ESA, that may be taken incidentally;
- Specific geographic location(s), including locations from which animals or specimens will be imported or to which they will be exported, if applicable; and
- Requested duration of the permit (e.g., five years).

Project Description

Project Purpose: Hypothesis/Objectives and Justification (no text limit)

Answer the following questions:

- What are your objectives?
- What is the expected significance of your proposed activities?
- For research, what is the hypothesis being tested?

- For enhancement, how will your activities enhance the survival or recovery of the species in the wild?

Include background information discussing relevant published literature on the subject of your proposal, with citations. Describe how your proposed work is different from, builds upon, or duplicates past research or enhancement activities. Some aspects to include:

- Established knowledge and ideas related to your proposed research/enhancement.

- Whether the activities you are proposing are different from or build upon the proposed studies.

- How your proposed work would not be unnecessarily duplicative.

- If you have previously held or worked under a permit, discuss how your past findings have contributed to the body of knowledge on the subject and how they relate to your proposed objectives.

Describe why your work cannot be accomplished without taking marine mammals or protected species.

Justify your sample size. Include a power analysis or other sample size estimation to determine whether the sample size is sufficient to provide statistically significant or otherwise robust results appropriate for your research study.

Justify your need to sample specific sex, age class, sub-populations, etc., particularly if you are requesting to sample dependent young or other particularly vulnerable groups.

For each species, demonstrate how your research activity would contribute to the basic knowledge of the biology or ecology of the species, or how your activity will identify, evaluate or resolve conservation problems.

As applicable, also address the following:

For **ESA-listed and MMPA-depleted** species:

- Why must your study involve ESA-listed or depleted species? Discuss the use of possible alternatives (e.g., surrogate non-ESA listed species).

- How will your project contribute to the objectives identified in the species' recovery or conservation plan? Please be sure to identify specific priorities of these plans.

- Does your project have broader significance than your individual goals? For example, does your project respond to recommendations (other than those listed

in a recovery or conservation plan) of a scientific body charged with management of the species? If so, describe.

- If there is no recovery or conservation plan, how and to what degree will your project otherwise contribute to conservation and/or recovery of the species?

- How will your research directly benefit the species or fulfill a critically important research need?

- How will your enhancement activities contribute to maintaining or increasing distribution or abundance, enhance the health or welfare of the species, or ensure the survival or recovery of the species in the wild?

- Will captive maintenance for enhancement maintain a viable gene pool, increase productivity, provide necessary biological information, or establish animal reserves?
    - How does the benefit of removing animals from the wild into captivity outweigh alternatives that do not require removal from the wild?
    - What plans are in place for returning animals and any offspring to the wild? If animals are going to remain in permanent captivity, additional justification is required.

Project Description

This section should clearly describe the methods you will use, the number of animals you will take, and the locations in which you will take them. This section should provide the reader with a clear picture of what will systematically happen during a typical day/field season of research or enhancement activities.

Describe the **number of individuals, by species, sex, age class, manner, and location** in which you will take[1] animals and animal parts/specimens over a specified period (annually or per field season if less than one year).

If you will take the same animals **in more than one manner**, list the number of animals and all procedures that you would conduct.

[1] A take under the MMPA means to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal. This includes, without limitation, any of the following: The collection of dead animals, or parts thereof; the restraint or detention of a marine mammal, no matter how temporary; tagging a marine mammal; the negligent or intentional operation of an aircraft or vessel, or the doing of any other negligent or intentional act which results in disturbing or molesting a marine mammal; and feeding or attempting to feed a marine mammal in the wild.
Under the ESA, a take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to do any of the preceding.

If individuals will be **taken more than once** (e.g., recapture for instrument retrieval or multiple tagging attempts), indicate the frequency and type of take activity per individual per year or per field season if less than one year.

Provide **detailed methods** for each take activity, including but **not limited to** descriptions of the following:

- Platform types (vessel or aircraft description)
- Aerial and vessel survey type and routes (attach figure if possible)
- Approach distances (by aerial, vessel, or ground)
- Approach techniques (speed, direction in relation to animals)
- Photo-identification (techniques and analysis)
- Capture techniques (hand, net [type and mesh size], cage [type and dimensions])
- Handling/restraint (methods and number of persons to restrain, maximum time)
- Sedation/anesthesia (type, route/site, dosage, duration, reversal/other drugs)
- Marking (flipper and PIT tagging, branding, bleach/other temporary marking)
- Instrumentation (attachment method, types of sensors, dimensions, weight, battery life, duration of attachment)
- Biological sampling (type, volume/size, site, analysis, shipment, storage)
- Acoustic sampling (passive recording or auditory evoked potential) or acoustic playbacks (frequency, source level, signal duration, duty cycle, and energy output).

Please make sure your methods are detailed enough for us to evaluate potential effects. Refer to Appendix II for guidance on what level of detail is required.

Cite **references** for the methods where applicable, but do not substitute a literature citation in lieu of a complete description of the methods.

You are encouraged provide **figures or photographs to illustrate** your methods (e.g., tags and instrument attachment devices, nets and net deployment).

Include the **purpose of each take activity** (including the purpose of specific samples taken). How do each of these take activities relate to meeting your objectives?

Indicate the **estimated number and type of non-target species** that you may affect each year, and the manner in which you may affect them during your research. This includes but is not limited to marine mammals, ESA-listed species, sea birds, sharks, plants, etc.

If you were to encounter a non-target species in the same area of your study but you do not expect to affect them in any way, please describe why and any actions you will take to prevent impacts (e.g., not in area during time of study; would not approach closer than 100 meters; would halt operations until non-target species moved out of study area).

Describe how your proposed activities coincide with or avoid sensitive biological periods such as reproductive seasons and maternal care of both target and non-target species.

For import and export activities, answer in detail the following:

- What methods will be used to take samples from animals (live or dead) in foreign countries?

- If samples will be obtained from dead animals, describe how the animals died or how they were killed.

- What is the authorizing government agency for the legal collection of animals or specimens in the country of origin? Be prepared to provide documentation regarding the legality of the take in the country of origin for your annual reports.

- What are the shipment/transport methods, including safe handling protocols?

- What are the methods for sample preservation, analysis, and curation (for samples not destroyed in analyses), including safety protocols for laboratory work?

- If an import would be necessary for the protection or welfare of a live marine mammal, discuss the circumstances involved and any alternatives considered.

For exports of living marine mammals from the U.S., the appropriate agency of the foreign government must certify that:

- The information in the application is accurate;

- The laws and regulations of the foreign government involved allow enforcement of the terms and conditions of the permit; and

- The foreign government involved will afford comity to any permit amendment, modification, suspension, or revocation decisions.

Project Supplemental Information

Status of the Affected Species

As applicable, indicate the status of each target species or stock as follows:

- ESA - threatened or endangered
- MMPA - depleted or strategic
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) - Appendix I, I, or III

Species information is available at the following web sites:

http://www.nmfs.noaa.gov/pr/species/
http://www.fws.gov/
http://www.cites.org/

Lethal Take

If you **do not** expect to kill or seriously injure any animals, intentionally or unintentionally, indicate "Not Applicable" and explain why.

If **intentional** lethal take is involved, provide an explanation of why a non-lethal method is not feasible or why lethal take is unavoidable. For ESA-listed or MMPA depleted species, also describe how the results will directly benefit the species or fulfill a critically important research need.

- Provide methods of lethal take, number of animals to be taken per year, and protocols for tissue collection, analysis, and carcass disposal if not previously described in the "Project Description" section.

Note: Requests to euthanize animals are considered intentional lethal takes.

If **unintentional** mortality or serious injury[2] is possible incidental to, or as a result of, the proposed activities, indicate the following if not previously described in the "Project Description" section:

- Maximum number of animals from each species that could die or be seriously injured per year and how you arrived at that number;

- Potential ways that animals may die incidental to the proposed activities; and

- Protocols for tissue collection, analysis, and carcass disposal.

  Note: Unintentional mortality refers not only to a death during research, but also to those that succumb at a later time (e.g., death due to effects of stress from handling, adverse reactions to drugs, complications from a pre-existing condition, or abandonment of dependent young).

Anticipated Effects on Animals (refer to Appendix II for guidance on what level of detail is required)

- What are the anticipated effects of each of the activities alone or cumulatively on the behavior and physiology of the target animals? How will animals react to your actions and what are the consequences of those reactions? Identify both short- and long-term potential effects.

  Note: If you have conducted this work previously, please clearly describe and quantitatively summarize the types of reactions of animals from past research. Include citations for any relevant references and be prepared to provide copies if

[2] For marine mammals, serious injury is defined by regulation as any injury that will likely result in mortality.

requested. Annual permit reports and other non-published works are acceptable citations.

- What are the anticipated effects on the population as a whole? On what is your determination based?

- Summarize any mortalities that have occurred during the previous five years of research or enhancement activities conducted by you using the same or similar techniques, including circumstances involved and cause of death.

- Describe how conspecifics or non-target species in the study area may react to or otherwise be affected by your activities (e.g., will you encounter them on your way to or from the study site? How will you avoid harassment?).

Measures to Minimize Negative Effects (refer to Appendix II for guidance on what level of detail is required)

- For each activity, what measures will you take to minimize impacts to wildlife? Provide information for both target and non-target species (e.g., plants, fish, coral). Describe measures you will implement to ensure your activities are conducted in a humane manner, with minimal disturbance, stress, and harm to the subject animals. Explain how you determined your methods are those that will have the least potential for pain and stress (e.g., summarize your alternatives search).

- Indicate what short- and long-term post-procedure monitoring you would conduct to evaluate the effects of your activities and/or to ensure animals have recovered.

- What efforts will you make to collaborate or coordinate research with others in your study area? Explain how this will occur and how it will minimize impacts. For example, will it involve sharing resources, samples or data; timing surveys, etc.?

- If the proposed activities may cause stress, discomfort, pain, suffering, injury, or mortality, you must explain why there are no feasible alternative methods to obtain the desired data.

  Note: Where an IACUC (Institutional Animal Care and Use Committee) review is required, include a copy of the protocols submitted to the IACUC, and the signed approval and comments. If the protocols have not been approved, indicate the status.

  For applications involving captive care of marine mammals, there is a separate section to attach your IACUC documents.

References

If your application contains citations to published work, include a list of references here. References contain bibliographic information that would allow a reader to obtain a copy of the referenced work.

> **Note**: Referenced materials must be made available to the Permits Division upon request, as needed for evaluation of the application, or preparation of any necessary ESA and/or NEPA analyses. Note that all documents referenced in support of your application must be available to the public upon request. Do not reference confidential documents, or other information you are not willing to provide to the public at the time your application is submitted.

Resources Needed to Accomplish Objectives

Explain how your expertise, facilities, and resources are adequate to successfully accomplish the objectives and activities stated in your application.

Include the name and address of sponsors, cooperating institutions/researchers, or contractors, if not listed as Co-investigators on the application, and clearly indicate their role.

If the proposed take activities will be conducted by a contractor, provide a statement as to whether a qualified member of your staff (include name(s) and qualifications) will supervise or observe the taking. Attach copies of any relevant formal research proposals, contracts, or letters of agreement that would demonstrate the financial or logistical resources available to you to conduct and complete the proposed activities.

Indicate whether you have applied for, secured, or will apply for other federal, local, or state permission to conduct your proposed work, and what those approvals include.

> **Note:** You may attach additional information such as funding proposals, letters of agreements, lists of cooperators and their roles to your application.

Disposition of Tissue Samples

If you will not collect, receive, possess, transport, or import/export tissue samples, indicate "Not Applicable."

This section is applicable if you will collect, receive, possess, transport, or import/export tissue samples. Provide a description of the disposition of any parts or samples remaining after the research or enhancement activities are complete. If you have made arrangements with a museum or other institutional collection to ensure that remaining tissues will be available for scientific research or enhancement purposes, include information on where the samples will be stored, transferred, and how/when/where they will be disposed. Include contact information for each of researchers, laboratories,

museums, and/or institutional collections that would receive these tissue samples or specimens. If you will not retain or transfer samples, state whether samples will be consumed in analysis or will be destroyed after analysis.

Public Availability of Product/Publications

Describe the end product(s) of your proposed research and how they will be made available to the public.

Transport and Captive Information

1) **Transport**: If you will be transporting live animals during your research or enhancement activities describe the following information about the transport.

a) **Mode(s) of transportation**: Describe the mode of transportation (e.g., boat, ship, truck, plane). Include a description of the platform used to transport animals.

b) **The name of the transportation company, if applicable, and the qualifications of the common carrier to transport live animals**: If a contractor or other entity will do the transportation, provide this information. Otherwise, indicate N/A.

c) **Maximum length of time from capture to arrival at destination**: How long will the animal(s) be in transport?

d) **Description of the container (e.g., cage, tank) used to hold the animal during transit**: Include the material of the container and its dimensions.

e) **Any special care procedures (e.g., moisture, medicines, aeration) to be administered during transport**: How will the animals be cared for during transport?

f) **A statement as to whether the animals will be accompanied by a veterinarian or some similarly qualified person**: If so, give the name, affiliation, contact information for each person.

g) **Destination**: Indicate the final destination. If the animals will be taken to a laboratory, classroom, or aquarium, provide details of the location. If the animals will be released in another waterbody, provide details of the location.

h) **How will the animals be contained at the destination facility?**: Describe the containment system for the animals, quarantine procedures, and effluent treatment.

i) **The final disposition of the animals**: Describe, for example, whether the animals will be released, sacrificed, or deposited in a museum collection (e.g., "Retain alive for six months, then release").

2) **Captivity**: If you will be working with animals in captivity (permanent or temporary), which includes removing animals from the wild into captivity and research or enhancement on captive or rehabilitating animals**, address the following as applicable:**

a) Explain why removal from the wild is necessary and why you cannot obtain suitable animals from captive or rehabilitated stock.

b) If the source stock is to be beached/stranded marine mammals undergoing rehabilitation, indicate the name and location of the rehabilitation facility.

c) If the source stock is from animals already in captivity (other than animals in rehabilitation) indicate the name and location of the facility and, where possible, identify the specific animals (by NOAA ID number if applicable) to be involved in the proposed activity.

d) Include a copy of any license or registration issued by the Animal and Plant Health Inspection Service (APHIS) of the U.S. Department of Agriculture, any outstanding variances granted, and the most recent APHIS inspection report.

e) Include the proposal submitted to the appropriate Institutional Animal Care and Use Committee (IACUC) established under the Animal Welfare Act (AWA), the IACUC approval, and any comments and recommendations of the IACUC.

f) Provide a written statement from the responsible veterinarian or expert certifying that the facilities, methods of care and maintenance, and methods of transport will be adequate to ensure the well-being of the animals *and, for marine mammals*, will comply with all care and transport standards established under the AWA.

g) *For ESA-listed species*: Describe the care and maintenance of the animals, including a complete description of the facilities where they will be maintained. This includes the dimensions of the pools or other holding facilities; the number, sex, and age of animals by species to be held in each; the water supply, amount, and quality; the diet, amount and type; sanitation practices; and qualifications and experience of the husbandry staff.

h) Indicate whether a captive breeding program will be established and, if so, provide justification in accordance with the species conservation or recovery plan as applicable for enhancement activities. *For ESA-listed species*, indicate if you are willing to participate in a captive breeding program if requested by NMFS.

i) Indicate the disposition of captive animals at the termination of research or enhancement activities.

j) If release of captive animals to the wild is proposed, state the length of time the animals will be held, no matter how temporary, and describe the protocols for the release, including post-release monitoring protocols. Include in the release protocol mitigation for the following:
   - Disease transmission between released animals and the wild population;
   - Potential genetic exchanges between introduced and endemic stocks;
   - Ability of the released animals to forage and protect themselves from predators; and
   - Elimination of behavioral patterns acquired during captivity that could prove detrimental to the released animals or the social structure of local populations.

Project Locations

*If you are working in **multiple locations** (e.g., multiple oceans or rivers), you must describe each location **separately** and each location should have an affiliated take table.*

Describe the area(s) where you will be working.

1) For each location you must provide the following information:
   a) A bulleted list including (as applicable):
      - Ocean basin(s)
      - States or State waters where you will be working
      - Waterbodies: names of rivers, estuaries, bays, etc.
      - Land masses where research will occur (e.g., islands, rookeries)
      - Limits of your study area
        - Latitude and longitude
        - River miles
        - Other (e.g., to the U.S. EEZ, to the edge of the continental shelf, to 50m depth)
      - Protected areas (e.g., National Marine Sanctuaries, National Parks)
      - If you are requesting to **receive or import/export parts** of animals, the country of import/location of sample origin, and to where samples will be shipped/exported
      - If you are requesting to **work with captive animals**, including those in rehabilitation, the names and addresses of the captive facilities

b) Narrative description

Include additional information about your study area(s), such as a brief physical description, how researchers access the study site(s), information on protected areas, etc.

*NMFS does not have jurisdiction in the **territorial waters** of other countries and therefore cannot authorize the take of protected species in those waters. For U.S. citizens, activities beyond territorial waters are considered to occur on the high seas and need coverage by a NMFS permit. A permit is needed to import specimens into the U.S. from either of these areas.*

2) Attach maps or other information to provide detailed descriptions about the locations where you will be working. If you have multiple study areas and species, identify species locations on a map. Formats such as PDF files, MS Excel, MS Word, and Word Perfect are acceptable.

Take Table Information

Overview

In this section of the application indicate the species to be taken, by age and sex class, the number of individuals, methods (e.g., capture, intrusive procedures), and sample dates for each location in which you will be working.

- You need to have a separate row for each unique combination of species, production type (wild or captive), life stage, take action, capture method, and procedures.
- The take table is available as an Excel file for you to complete and submit with your application.

Entering Take Information

The take table represents **annual** takes for the duration of your project. Enter the following information to add takes for each location in the application to the take table Excel file provided on our web site.

Note: See Appendix III for a list of the options to use to describe take information for a particular species group (e.g., marine mammals).

Columns in the take table appear in the following order:

1) **Species**: Indicate one species by common name and/or category (e.g., whale, sperm).

   Note: For a complete list of species, see: https://apps.nmfs.noaa.gov/docs_cfm/species_lists.cfm

2) **Listing Unit/Stock**: Provide the name of the stock/DPS/ESU, where applicable.

3) **Production/Origin**: Specify if the animals will be "wild" or "captive," or for marine mammals, "rehabilitation facility." If you will be entering take information for more than one type of Production/Origin, you will need to enter a separate row for each one.

4) **Life Stage**: Indicate the applicable life stage. You may enter take information for more than one life stage (e.g., adult versus juvenile) on separate rows or select a combination of life stages for one take category.

5) **Sex**: If your activity targets only one sex, indicate which. If it targets both and they can be targeted separately, enter separate rows for male and female; otherwise select "Male and Female."

6) **Expected Take**: This represents the maximum number of animals you expect to take or import, annually. Enter the number of animals you expect to capture, observe, etc. for the "Take Action" you select. For actions where a number is difficult to determine (e.g., abalone spawning, import/export of parts), contact the Permits Division at (301) 427-8401.

7) **Takes Per Animal**: Indicate the maximum number of times an individual will be subject to the take actions, etc., annually. For surveys or incidental disturbance, if the same animals may be present on more than one occasion, but not individually identifiable, use the maximum number of times the survey or disturbance event would occur in a year.

8) **Take Action**: The "Take Action" is a generalized overview of how animals will be taken. Select **only one** action from the applicable species list in Appendix III. If more than one action is proposed, you must enter the takes on separate rows.

9) **Observe/Collect Method**: Use the list in Appendix III to select the method of observation (e.g., survey, vessel) or capture (e.g., net). Select **only one** observe/collect method per row. If various methods will be used, you must provide take information in separate rows for each observe/capture method.

10) **Procedures**: This column is where you provide specific information on the research or enhancement activities that will be conducted. Select options from the appropriate list in Appendix III. You may have **multiple procedures** per row.

Note: The procedures list includes both intrusive activities such as "insert ingestible telemeter pill" and non-intrusive activities such as "observations, behavioral," "photo-id," and "acoustics, passive recording."

Refer to Appendix III for a complete listing of "Take Actions," "Observe/Collect Methods" and "Procedures" by species groups.

11) **Begin Date**: Insert the "Begin Date" you provided in the Project Information section above OR you may change the date to coincide with a specific project time shorter than the overall duration of the project.

12) **End Date**: Insert the "End Date" you provided in the Project Information section above OR you may change the date to coincide with a specific project time shorter than the overall duration of the project.

13) **Details**: Use this column to provide details on each take table row, as appropriate. For example, if you chose "instrumentation, external" as a procedure, use this box to describe what type of instrument you will be deploying (e.g., satellite tags).

National Environmental Policy Act (NEPA) Considerations

You are required to respond to all five environmental impact consideration criteria below. Please answer each question completely. **"Yes" or "no" or "not applicable" are not sufficient answers** and your application will be considered incomplete.

1) If your activities will involve equipment (e.g., scientific instruments) or techniques that are new or may be considered experimental or controversial, please discuss whether they could be more broadly applicable or are likely to be adopted by other researchers for similar or unrelated studies.

2) If your activities involve collecting, handling, or transporting potentially infectious agents or pathogens (e.g., biological specimens such as blood), or using or transporting hazardous substances (e.g., toxic chemicals), provide a description of the protocols you will use to ensure public health and human safety are not adversely affected, such as by spread of zoonotic diseases or contamination of food or water supplies.

3) Describe the physical characteristics of your project location, including whether you will be working in or near unique geographic areas such as state or National Marine Sanctuaries, Marine Protected Areas, Parks or Wilderness Areas, Wildlife Refuges, Wild and Scenic Rivers, designated Critical Habitat for endangered or threatened species, Essential Fish Habitat, etc. Discuss how your activities could impact the physical environment, such as by direct alteration of substrate during use of bottom trawls, setting nets, anchoring vessels or buoys, erecting blinds or other structures, or ingress and egress of researchers, and measures you will take to minimize these impacts.

4) Note whether there are important scientific, cultural, or historic resources (e.g., archeological resources, animals used for subsistence, sites listed in or eligible for listing in the National Register of Historic Places) and discuss measures you will take to ensure your work does not cause loss or destruction of such resources. If your research will target animals in Alaska or Washington, discuss measures you will take to ensure your project does not adversely affect the availability (e.g., distribution, abundance) or suitability (e.g., food safety) of these animals for subsistence uses.

5) Discuss whether your project involves activities known or suspected of introducing or spreading invasive species, intentionally or not, (e.g., transporting animals or tissues, discharging ballast water, use of equipment at multiple sites). Describe measures you would take to prevent the possible introduction or spread of non-indigenous or invasive species, including plants, animals, microbes, or other biological agents.

Project Contacts

Provide information about the people who will be responsible for overseeing the project and others who will be working under the permit. The following table and Appendix IV explain the differences between the personnel roles.

	Able to make changes to application	Must be named in the permit application	CV, resume, or list of qualifications required	Can request modifications and submit annual reports
Applicant/Holder	Yes	Yes	Yes	Yes
Responsible Party	Yes	Yes (only if Holder is an entity)	No (If they are participating in the research they should also be listed as a Co-investigator)	Yes
Principal Investigator	Yes	Yes	Yes	Yes
Primary Contact	Yes	Yes	No	Yes
Co-Investigator	No	Yes	Yes	No

Other personnel (e.g., Research Assistants)	No	No	No	No

1. You must designate an Applicant, Principal Investigator and Primary Contact for your application. For each person provide:

- Name
- Affiliation
- Mailing address
- Phone/fax numbers
- Email address

Note: The Applicant, Principal Investigator, and Primary Contact can be the same person.

2. If the Applicant/Permit Holder is an organization, institution, or agency, then you must also designate a **Responsible Party.** The Responsible Party is an official who has the legal authority to bind the organization, institution, or agency and is ultimately responsible for all activities of any individual operating under the authority of the permit. Please provide the Responsible Party's contact information.

Note: The Responsible Party is most often used when there is a likelihood of staff changes. For example, permits cannot be transferred from one individual to another. If the Permit Holder changes, NMFS has to issue a new permit. However, the Responsible Party role can be transferred to another individual. Long-term research projects held by public agencies tend to encounter staff changes and in many cases, NMFS has assigned the Permit Holder role to the agency. It is up to the applicant to decide if this is appropriate for their project.

3. In addition to the roles described above, you must include **Co-investigators** if the Principal Investigator will not always be present during the permitted activities. Co-investigators are individuals who are qualified and authorized to conduct or directly supervise activities conducted under a permit issued for scientific research or enhancement purposes without the on-site supervision of the Principal Investigator. Please provide contact information for all Co-investigators.

Qualifications and Experience

You are required to submit the following information about the qualifications and experience of the Principal Investigator and all Co-investigators.

Note: All documentation submitted will be publicly available. **DO NOT include personal information**[3] in your documentation.

[3] **DO NOT** include social security number, date of birth, nationality, marital status, home phone or address (unless it is also the business address), salaries, or other personal information.

Contact Information

- Full Name (as it appears on driver's license, passport, etc.)
- Email address
- Business mailing address, phone, and fax

Education & Training

- Degree, year, major, name of institution
- Certificates or Licenses, relevant dates (year received, expiration date)
- Other training or certification relevant to the permitted activity, date (e.g., dive certification, animal handling course)

Experience[4]

- Current position title, name of employer
- Relationship to Applicant/Principal Investigator
- List of duties to be performed under the permit
- Brief description of when and how you obtained expertise in the proposed methods you will be conducting and supervising, whether you have performed them without supervision and when you supervised others performance

Annotated Publication History[5]

- Authors, Date, Title, Journal (or book, etc.), applicable permit number

As the Applicant, it is your responsibility to notify your Co-investigators that their names and resumes will be available to the public.

You may also add personnel who perform other roles (Research Assistants, Veterinarians, Tissue Sample Disposition) to the application.

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[4] Address how you are qualified to perform the proposed activities and to supervise the performance of others acting under the permit (e.g., research assistants, vessel operators).

[5] This does not need to be exhaustive. The intent is to show that the individual has or is reasonably likely to publish in peer-reviewed journals or otherwise make results of permitted research available.

Certification and Signature

The following Certification, followed by the signature, name, and title of the applicant or Responsible Party, must be submitted as the concluding section of the application. Note that the list of statutes (ESA, MMPA, and FSA) in this certification should include only those applicable to your proposed work.

"I hereby certify that the foregoing information is complete, true, and correct to the best of my knowledge and belief. I understand that this information is submitted for the purpose of obtaining a permit under one or more of the following statutes and the regulations promulgated there under, and that any false statement may subject me to the criminal penalties of 18 U.S.C. 1001, or to penalties provided under the appropriate Act(s) below."

The Endangered Species Act of 1973 (16 U.S.C. 1531-1543) and regulations (50 CFR Part 222); and/or

The Marine Mammal Protection Act of 1972 (16 U.S.C. 1361-1407) and regulations (50 CFR Part 216); and/or

The Fur Seal Act of 1966 (16 U.S.C. 1151-1175).

Signature of Applicant and Date of Signature

Typed or Printed Name of Applicant

Title of Applicant

Submitting Your Application

Submit one signed original and an electronic copy of the application to the Chief, Permits, Conservation and Education Division, Office of Protected Resources, 1315 East-West Highway, F/PR1 Room 13705, Silver Spring, Maryland 20910-3226. The electronic copy must be in Word, WordPerfect, or PDF, and can be included on a CD, or sent as an email attachment (contact the Permits Division for a current email address).

Requesting Changes to Your Permit

The Director, Office of Protected Resources, may amend or modify scientific research and enhancement permits in response to or independent of a request from the Permit Holder. Amendments and modifications are subject to additional analyses under NEPA and the ESA.

Requests to modify the following permit specific conditions may require a new 30-day public review and comment period:

- changing the species to be taken or imported/exported;
- increasing the number of animals to be taken or imported/exported;
- changing or adding locations;
- changing methods; and
- extending the expiration date.

Other requests such as changing personnel or allowing a film crew to accompany the researchers may be authorized without public review.

You may also request a modification by using our on-line application system, APPS (Authorizations and Permits for Protected Species) found at: https://apps.nmfs.noaa.gov/. Please contact the Permits Division at (301) 427-8401 for instructions on how to access your permit online.

Modification Request

1. Determine what type(s) of modification(s) you are requesting. The different types are:
    - Edit/Add Location
    - Edit/Add Take Information
    - Edit Personnel
    - Permit Extension for a year or less
    - Authorization to allow a film crew to accompany researchers
    - Change Study Objectives/Hypotheses
    - Other

2. Prepare a document with the appropriate information and the following sections:

Provide a Title for your request

In one sentence describe the modification as concisely and descriptively as possible.

Describe your request

A request to modify an issued permit should **address the pertinent sections of these instructions relevant to the requested change**. Your request should include the

following information, as applicable. See corresponding sections of application instructions above for information required under each category below. Disregard those that do not apply to your modification request.

- Brief narrative summary of the changes requested
- Research timeframe and sampling season/project duration
- Purpose: hypothesis/objectives and justification (also include a report of takes used annually to date when requesting a take increase)
- Project description (include specifications for changes in methods or gear, such as tags)
- Captive information
- Status of the affected species (if requesting a change in species)
- Lethal take (intentional or unintentional)
- Anticipated effects on animals
- Measures to minimize negative effects
- Resources needed to accomplish objectives
- NEPA information, especially for changes in methods or locations
- References
- For personnel changes, include qualifications/experience in each take activity
- For filming authorizations, include who (names and roles of crew), what, when, where, why, how, and products that will be developed.

Depending on the type of changes you are requesting, below is additional guidance on requesting modifications to your existing permit.

Edit/Add Location

You may propose changes to the locations where you are already authorized to work or you can add a new location. Please note that if you are going to add a new location, you will also have to create a new take table that specifies what species will be taken and what activities will be conducted in the new location.

For new or modified locations, include a relevant description of the location. For changes in field equipment or study areas, we highly recommend that you attach figures, maps or illustrations drawn to scale. Follow the instructions in the section about Location Information earlier in these instructions.

Edit Take Information

You may request changes to your take table. Some of the typical types of modification requests include the addition of new methods, an increase in the number of animals taken, and the addition of new species. Please be sure to attach an Excel take table of your authorized takes and highlight what you wish to change or add.

When requesting an increase in the number of animals to be taken, make sure that you request the total number of animals to be taken (i.e., the number of takes you are currently authorized plus your proposed increase). Please note that requests for increases in take of species/stocks currently authorized by the permit must demonstrate valid justification, including a **reporting of how many authorized takes you have used**. Requests that do not provide this information may be considered incomplete.

Edit Personnel

To add personnel, you must include the person's name and contact information, attach a CV or resume that includes their relevant qualifications/experience, and indicate what activities the person will be conducting. See the previous section about Contacts for instructions on what information is required. See Appendix IV for definitions of personnel roles.

Note: Resumes and CVs are considered **part of an application's public record** and are available to reviewers and the public. Refer to the Additional Information at the end of this chapter. **DO NOT** include personal information such as home address/phone number, date of birth, social security number, nationality, marital status, or salary.

As the Applicant, it is your responsibility to notify your Co-investigators that their names and resumes will be available to the public.

Permit Extension for a year or less

If you wish to apply for a permit extension, include your proposed extended expiration date and justification in the description of your request.

Authorization to allow a film crew to accompany researchers

If you wish to apply for an authorization to allow a film crew or photographers to accompany you during research, provide information on who will accompany you (i.e., production company, names and roles of the crew), what will be filmed, where and when filming would occur, and the purpose of the filming (e.g., documentary on humpback whales).

Change Study Objectives/Hypotheses

If you wish to modify the study objectives/hypotheses, include the new objectives or hypotheses in the description of your request.

Submitting Your Modification Request

Submit one signed original and an electronic copy of the application to the Chief, Permits, Conservation and Education Division, Office of Protected Resources, 1315 East-West Highway, F/PR1 Room 13705, Silver Spring, Maryland 20910-3226. The electronic copy must be in Word, WordPerfect, or PDF, and can be included on a CD or sent as an email attachment (contact the Permits Division at 301-427-8401 for a current email address).

Additional Information

Under section 104(c) of the MMPA and section 10(a)(1)(A) of the ESA, persons may be authorized to take marine mammals and threatened and endangered species, respectively, for purposes of scientific research or enhancing the survival of the species. Interested persons are required to submit an application in accordance with the Acts and the implementing regulations at 50 CFR part 216, subpart D, and 50 CFR part 222. These instructions for applying for a research or enhancement permit are drawn from, but do not substitute for, ESA regulations and MMPA regulations. These regulations are available at the following web site:
http://www.access.gpo.gov/nara/cfr/waisidx_08/50cfrv7_08.html.
MMPA section 104 is available at:
http://www.nmfs.noaa.gov/pr/pdfs/laws/mmpa104.pdf.
ESA section 10(a)(1)(A) is available at:
http://www.nmfs.noaa.gov/pr/pdfs/laws/esa_section10.pdf.

Paperwork Reduction Act Statement

The information requested in this application is required and is used to determine whether the activities described in the application are consistent with the purposes and policies of the Acts and their implementing regulations.

Public reporting burden for this collection of information is estimated to **average** 50 hours 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. For annual permit reports, NMFS estimates average response time at 12 hours per report. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Chief, Permits Conservation and Education Division, Office of Protected Resources, F/PR1, NOAA/National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910.

All permit documentation, including the application, permit and amendments, reports, inventory information, and any other associated documents are considered public information and as such, are subject to the Freedom of Information Act.

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

OMB No. 0648-0084
Expires: June 30, 2013

Appendices

Appendix I

I: Overview of Authorization and Permit Types

*The **National Marine Fisheries Service (NMFS)** administers the following types of permits and authorizations pursuant to the Endangered Species Act of 1973 (ESA) and Marine Mammal Protection Act of 1972 (MMPA).*

> **Note**: To determine what type of permit coverage you need, use the "Pre-Application Guide" found on the left navigation bar in our online system, APPS (Authorizations and Permits for Protected Species): https://apps.nmfs.noaa.gov/.

Scientific Research and Enhancement Permits

Under Section 10 of the ESA, permits may be issued to take threatened or endangered species for scientific purposes or to enhance the propagation or survival of a species. Research conducted pursuant to a permit issued under the ESA must be consistent with the objectives identified in the species recovery or conservation plan. NMFS regulations implementing the provisions of the ESA section 10 can be found at 50 CFR Parts 222-226.

Permits to conduct research and/or enhancement on endangered or threatened salmon are issued by the NMFS Northwest and Southwest Regional Offices. Information may be obtained by visiting their web sites: Northwest Region main page: http://www.nwr.noaa.gov and the Southwest Region main page: http://swr.nmfs.noaa.gov or by calling the Endangered Species Division, Office of Protected Resources at (301) 427-8403 for further information.

Permits to conduct scientific research on other (non-salmonid) threatened and endangered species under NMFS' jurisdiction (sea turtles in water, shortnose sturgeon, smalltooth sawfish, and white and black abalone) are issued by the NMFS Permits, Conservation, and Education Division (Permits Division). More information and instructions for

applying for these permits may be found at the following web site: http://www.nmfs.noaa.gov/pr/permits/esa_permits.htm.

Under Section 104 of the MMPA, permits may be issued for the taking or importing/exporting of marine mammals and marine mammal parts for scientific research and/or enhancement purposes. Research conducted on marine mammals must be *bona fide* (i.e., scientific research on marine mammals, the results of which – likely would be accepted for publication in a referred scientific journal; are likely to contribute to the basic knowledge of marine mammal biology or ecology; or are likely to identify, evaluate, or resolve conservation problems). NMFS regulations implementing the provisions of the MMPA Section 104 can be found at 50 CFR Part 216. More information and instructions for these permits may be found at the following web site: http://www.nmfs.noaa.gov/pr/permits/mmpa_permits.htm.

Incidental Take Permits/Authorizations under the MMPA and/or ESA

If you are conducting an activity that may affect marine mammals or ESA-listed species (but do not directly target them), you may be required to obtain some type of authorization or permit. Examples of such activities include: oil and gas development, research on other species, and fisheries. Coverage may be in the form of an incidental harassment authorization, letter of authorization, incidental take permit, and/or coverage through the ESA Section 7 process (and issuance of an incidental take statement under section 7(b)(4)), depending on the circumstance.

For additional information visit the following web sites:

http://www.nmfs.noaa.gov/pr/permits/incidental.htm

http://www.nmfs.noaa.gov/pr/permits/esa_permits.htm.

Commercial or Educational Photography Permits for Marine Mammals

The 1994 amendments to the MMPA provided new authority to issue permits for educational and commercial photography involving only Level B harassment of non-ESA listed marine mammals. Presently, NMFS is reviewing such applications on a pilot basis and may publish a Proposed Rule in the *Federal Register* based in part on the information obtained from these applications (50 CFR 216.42). The commercial photography application instructions can be obtained at the following web site: http://www.nmfs.noaa.gov/pr/permits/mmpa_permits.htm#photo.

> **Note**: These permits do not provide any authorization for activities involving ESA-listed species, methods involving Level A harassment, or scientific research.

Letters of Confirmation under the General Authorization for Marine Mammals

The 1994 amendments to the MMPA established a streamlined "General Authorization" (GA) procedure for obtaining permission to conduct research activities involving only Level B harassment (e.g., photo-identification, aerial surveys) on non-ESA listed marine mammals (i.e., species not listed as endangered or threatened under the ESA). If your research meets these criteria, you may be eligible to obtain a letter of confirmation under the GA. You should contact the Permits Division to confirm whether your research can be covered under the GA. Interim Final Regulations implementing the GA (50 CFR 216.45) were published by NMFS in the *Federal Register* on October 3, 1994 (59 FR 50372) and are available on the following web site: http://www.nmfs.noaa.gov/pr/permits/mmpa_permits.htm#ga.

> **Note**: In the event that your proposed research activities involve either (1) both ESA listed and non-ESA listed species, and/or (2) both Level A and Level B harassment activities, the scientific research permit requirements take precedence over the GA.

Public Display of Marine Mammals

Public display permits are required for the capture of marine mammals in the wild, for the importation of marine mammals, and for obtaining releasable rehabilitated marine mammals for purposes of public display. A permit is not required for the public display of marine mammals or for the exportation of marine mammals for public display. Exports of marine mammals require documentation from the foreign government. Applications for a public display permit and more information can be found at http://www.nmfs.noaa.gov/pr/permits/mmpa_permits.htm#display or by calling the Permits Division at (301) 427-8401.

Possession, Import and Export of Pre-Act Marine Mammal Parts (i.e., parts taken prior to 1972)

Marine mammal parts include any part of a marine mammal, both hard and soft, but do not include urine or feces. A letter of authorization is required for possessing, importing or exporting "pre-Act" marine mammal parts under NMFS jurisdiction for commercial or personal use. Pre-Act parts are either those marine mammal parts taken prior to enactment of the MMPA or those parts of species listed under the ESA that are at least 100 years old. Instructions for how to apply for authorization to import or export pre-Act marine mammal parts may be found at the following web site: http://www.nmfs.noaa.gov/pr/permits/parts_instructions.htm.

Receipt of Marine Mammal Parts from the NMFS Stranding Network under the MMPA

If you would like to receive marine mammal parts taken from stranded marine mammals after 1972 for use in scientific research, education, or curation, please contact the appropriate NMFS Stranding Network Coordinator at the following web site: http://www.nmfs.noaa.gov/pr/health/coordinators.htm.

> **Note**: If you intend to develop cell lines from such parts for research purposes, you must apply for an MMPA and/or ESA scientific research permit.

Appendix II

II: Methods, Effects, and Mitigation Details

Descriptions of research activities should contain sufficient details about protocols, effects, and mitigation to allow reviewers to evaluate environmental impacts of the project. The following are examples of minimum information that should be provided for the application to be considered complete for the following species:

- *Abalone*
- *Cetaceans*
- *Pinnipeds*
- *Sea Turtles*
- *Sturgeon/Sawfish*

Procedures for Surveys, Sampling, Capture, Etc.

This table describes the type of information to include in the narrative section of an application for commonly permitted activities. If your procedure is not in this table, please contact us if you have questions about what information to include when describing your procedure. The "take table option" column indicates the standardized procedure name to select in the take table portion of your application (see Appendix III). Brackets in this column indicate there are multiple menu options corresponding to a particular procedure.

There should be a narrative description for each activity in the table, and vice versa. You are encouraged provide **figures or photographs to illustrate** your methods (e.g., tags and instrument attachment devices, nets and net deployment).

In general, you should always indicate

- how long a procedure will take, including average and maximum times
- the number of times a procedure will be performed on an animal or group over a specified time period (e.g., per day, season, year)

Procedure	**Take table option**	**Details to include in narrative**
Aerial Survey	Survey, aerial	Type of survey (e.g., line transect) Description of survey area (include latitude and longitude) Season (time of year) Type of survey craft (e.g., fixed wing, helicopter) Altitude and air speed Number of passes per group/animal Duration per group/animal
Active acoustics	Acoustics, active (playback/broadcast)	Signal source (e.g., sidescan sonar, underwater speaker) Source depth in water column Frequency (bandwidth) Maximum source level Maximum received level Distance to target animals Signal duration and duty cycle Duration of exposure Ambient noise level, where known Propagation model, where available
Administer drugs or chemicals	Administer, drug	Name of drug/chemical Dosage Delivery route (e.g., intramuscular, intravenous) Location of administration

Procedure	Take table option	Details to include in narrative
Auditory brainstem response or evoked potential	Auditory brainstem response test	Type of measurement equipment Data collection method Data analysis method (include handling/restraint protocols)
Behavioral observations	Observe, behavioral	Approach method (e.g., from blind or vessel) Closest approach distance Within sight of animals or not? Frequency and duration of observations
Biopsy sampling (restrained animals)	Biopsy, [blubber, muscle, skin]	Type of tissue(s) Location on animal (e.g., dorsal, shoulder, flipper) Size of sample (diameter X depth) Biopsy equipment (e.g., dart, needle/punch, scalpel) Left open or method of wound closure Sample analysis
Biopsy sampling (remote biopsy)	Biopsy, [blubber, muscle, skin]	Type of tissue(s) Location on animal (e.g., dorsal, shoulder, flipper) Size of sample (diameter X depth) Biopsy equipment (e.g., dart) and stopper depth Collection method (e.g., dart fired from rifle) Number of attempts per animal Sample analysis
Blood sampling	Sample, blood	Location of sampling (i.e., which blood vessel) Volume needed for specific assays (including amount needed for replicates and back-ups) Volume to be collected Number of samples per animal Sampling interval (e.g., for serial samples)
Capture	Capture, [various methods]	Type of equipment (e.g., net, trap, pen) and dimensions Deployment method If netting, describe how often net is checked Duration of restraint Describe release protocols
Captive maintenance	Captive, maintain [permanent, temporary]	Duration of captivity Describe facility, including size of enclosure, water supply and drainage, etc.

Procedure	Take table option	Details to include in narrative
Chemical restraint	Anesthesia, [various]	Name of anesthetic Dosage Delivery method (e.g., injection, intubation) Duration
	Dart, injectable immobilizing agent	Name of chemical Dosage Delivery method (e.g., CO2 rifle) Duration
External instrument attachment	Instrument, [external, suction cup, dart/barb tag, etc.]	**For restrained animals:** Location on body External dimensions Mass in air or water Method of attachment (e.g., epoxy, harness) Duration of instrument retention Duration of attachment procedure Release mechanism or recapture to remove Type of data collection (e.g., archival requiring retrieval)
		For remote attachment: Location on body External dimensions Mass in air Duration of attachment to animal Release mechanism Attachment mechanism (e.g., suction cup) Method of deployment (e.g., fired from crossbow) Type of data collection (e.g., satellite linked) Number of attempts per animal Minimum approach distance and angle
Internal instrument placement	Instrument, internal	Location within body Insertion method (e.g., surgical implant, injection, stomach tube) External dimensions Duration of instrument retention Duration of insertion procedure
Mark (flipper tags, bleach, paint, brand, etc)	Mark, [various types]	Type of mark (e.g., plastic or metal tag, bleach) Location on body Method of application (e.g., branding iron, pliers, paint pellet rifle) and disinfection procedures Duration (e.g., until molt) Dimensions of tag or mark

Procedure	Take table option	Details to include in narrative
Photo-identification	Photo-id	Approach method (aerial, ground, vessel) Closest approach distance Approaches per animal (e.g., per day) Duration per animal/group
Physically restrain	Restrain, [various methods]	Describe equipment if other than by hand (e.g., type of net or enclosure) Duration
Vessel survey	Survey, vessel	Type of survey (e.g., line transect) Description of survey area (include latitude and longitude) Season (time of year) Number of surveys per year Type/size of survey vessel Vessel speed when approaching animals Approach distance, angle, and duration per animal/group, for off-track observations
Import samples	Import/export/ receive, parts	Type of sample (e.g., blood, muscle) Country of origin or high seas How sample/animal is taken in country of origin Type of storage/shipping container, including preservatives, etc. Analytical techniques

Effects of Research

For each type of research procedure, describe the potential side effects and reactions (behavioral and physiological responses), as they would be without best practices, before mitigation, etc. If you will be working with more than one species, sex, or age class, be sure to discuss how these side effects and reactions vary by group.

Examples of types of responses include changes in swim speed and direction, movement of animals from land into the water, increase in stress hormone levels, and abandonment of behaviors or locations. Examples of effects include tissue trauma (e.g., from biopsies and other invasive procedures), temporary threshold shifts, increased risk of predation, failure to reproduce, reduced growth rates, and death.

Discuss the duration of these effects and responses as it relates to recovery to pre-research state. For example, describe the typical time for biopsy samples to heal, how long after a survey before animals return to pre-disturbance behaviors, how long after sedation before animals regain normal locomotor function.

Mitigation and Monitoring Measures

Discuss what measures you will take to avoid or minimize the potential for or adverse impacts of the side effects and reactions you described for each procedure.

For example, describe measures you will take to minimize the numbers of animals displaced or harassed by surveys or what you will do to avoid mortality associated with use of certain sedatives or immobilizing agents. Be sure to discuss how these measures would vary by species, sex, or age class.

Explain how you will monitor animals for signs of adverse reactions and side effects, including what behaviors or other factors you consider indicative. It is important to describe how effective your monitoring will be at detecting adverse effects as part of the discussion of how effective the actions you would take to avoid or minimize them will be.

For example, describe how often nets or in-water traps will be checked as it relates to the potential for drowning or serious injury. Or discuss how pinniped survey sights would be evaluated after a disturbance to determine whether dependent pups had been injured or abandoned. For cetaceans, describe resight protocols and photo-matching of tagged or biopsied animals.

If monitoring or mitigation is not feasible for specific procedures, species, situations, etc., explain why.

Appendix III

III: Take Table Information

The following pages contain a complete listing of the options for the Take Action, Observe/Collect Method, and Procedures columns in the Take Table, by the following species groups:

- *Abalone*
- *Cetaceans*
- *Pinnipeds*
- *Sea Turtles*
- *Sturgeon/Sawfish*

Abalone

Take Action

- Captive animals (research, enhancement, public display)
- Capture/Handle/Release
- Handle/Release
- Harass
- Harass/Sampling
- Import/export/receive only
- Incidental take
- Intentional (Directed) Mortality
- Release captive animals
- Removal from wild (permanent)
- Unintentional mortality
- Unknown

Observe/Collect Method

- Abalone iron
- Captive
- Other

Procedures

- Captive, maintain
- Collect
- Field planting
- import/export/receive, parts
- Mortality
- Other
- Research, genetics
- Research, other (invasive)
- Research, other (non-invasive)
- Research, Withering syndrome
- Sabellid testing
- Transfer/transport, dead
- Transfer/transport, live

Cetaceans

Take Action

- Captive animals (research, enhancement, public display)
- Capture/Handle/Release
- Handle/Release
- Harass
- Harass/Sampling
- Import/export/receive only
- Incidental take
- Intentional (Directed) Mortality
- Release captive animals
- Removal from wild (permanent)
- Unintentional mortality
- Unknown

Observe/Collect Method

- Captive
- Net
- Survey, aerial
- Survey, ground
- Survey, vessel
- Survey, aerial/vessel
- Other

Procedures

- Acoustic, active playback/broadcast
- Acoustic, passive recording
- Acoustic, sonar for prey mapping
- Auditory brainstem response test
- Captive, maintain
- Captive, research
- Collect, remains for predation study
- Collect, sloughed skin
- Count/survey
- Imaging, thermal

Procedures cont.

- Import/export/receive, parts
- Incidental harassment
- Insert ingestible telemeter pill
- Instrument, dorsal fin/ridge attachment
- Instrument, implantable (e.g., satellite tag
- Instrument, suction-cup (e.g., VHF, TDR)
- Intentional (directed) mortality
- Lavage
- Mark, freeze brand
- Mark, roto tag
- Measure
- Measure colonic temperature
- Metabolic chamber/hood
- Observations, behavioral
- Other
- Photogrammetry
- Photo-id
- Sample, anal swab
- Sample, blood
- Sample, blowhole swab
- Sample, exhaled air
- Sample, fecal
- Sample, milk
- Sample, muscle biopsy
- Sample, skin and blubber biopsy
- Sample, skin biopsy
- Sample, sperm
- Sample, tooth extraction
- Sample, urine
- Transport
- Ultrasound
- Underwater photo/videography
- Unintentional mortality
- Weigh

Pinnipeds

Take Action

- Captive animals (research, enhancement, public display)
- Capture/Handle/Release
- Handle/Release
- Harass
- Harass/Sampling
- Import/export/receive only
- Incidental take
- Intentional (Directed) Mortality
- Release captive animals
- Removal from wild (permanent)
- Unintentional mortality
- Unknown

Observe/Collect Method

- Captive
- Dart, injectable immobilizing agent
- Hand
- Net, Hoop
- Net, other
- Net, seine
- Other
- Survey, aerial
- Survey, ground
- Survey, vessel
- Trap, floating
- Underwater lasso

Procedures

- Acoustic, active playback/broadcast
- Acoustic, passive recording
- Acoustic, sonar for prey mapping
- Administer drug, IM
- Administer drug, intraperitoneal

Procedures cont.

- Administer drug, IV
- Administer drug, subcutaneous
- Administer drug, topical
- Anesthesia, gas w/cone or mask
- Anesthesia, gas w/intubation
- Anesthesia, injectable sedative
- Auditory brainstem response test
- Bioelectrical impedance (subcutaneous)
- Bioelectrical impedance (surface)
- Calipers (skin fold)
- Captive, maintain permanent
- Captive, maintain temporary
- Cognitive studies
- Collect, molt
- Collect, scat
- Collect, spew
- Collect, urine
- Count/survey
- Evan's blue dye and serial blood samples
- Hormones and serial blood samples
- Import/export/receive, parts
- Incidental disturbance
- Instrument, external (e.g., VHF, SLTDR)
- Instrument, internal (e.g., PIT)
- Intentional (directed) mortality
- Mark, bleach
- Mark, clip fur
- Mark, dye or paint
- Mark, flipper tag
- Mark, freeze brand
- Mark, hot brand

Procedures cont.

- Mark, other (e.g., neoprene patch)
- Measure (standard morphometrics)
- Metabolic chamber/hood
- Observations, behavioral
- Observation, mark resight
- Observation, monitoring
- Other
- Photogrammetry
- Photo-id
- Remote video monitoring
- Restrain, board
- Restrain, cage
- Restrain, hand
- Restrain, net
- Restrain, other
- Sample, blood
- Sample, blubber biopsy
- Sample, clip hair
- Sample, clip nail
- Sample, fecal enema
- Sample, fecal loop
- Sample, fecal swab
- Sample, milk
- Sample, muscle biopsy
- Sample, nasal swab
- Sample, ocular swab
- Sample, oral swab
- Sample, other
- Sample, skin biopsy
- Sample, stomach lavage
- Sample, swab all mucus membranes
- Sample, tooth extraction
- Sample, urine catheter
- Sample, vibrissae (clip)
- Sample, vibrissae (pull)
- Stable isotopes and serial blood samples
- Transport
- Ultrasound
- Unintentional mortality
- Weigh
- X-ray

Sea Turtles

Take Action

- Captive animals (research, enhancement, public display)
- Capture/Handle/Release
- Handle/Release
- Harass
- Harass/Sampling
- Import/export/receive only
- Incidental take
- Intentional (Directed) Mortality
- Release captive animals
- Removal from wild (permanent)
- Unintentional mortality
- Unknown

Observe/Collect Method

- Captive
- Capture under other authority
- Gear modification experiment
- Hand and/or Dip Net
- Net, Cast
- Net, breakaway hoopnet
- Net, encircle
- Net, Pound
- Net, Seine
- Net, Tangle
- Net, trawl
- Other
- Survey, aerial
- Survey, vessel

Procedures

- Epibiota removal
- Bioelectrical impedance analysis
- Bycatch reduction experiments

Procedures cont.

- Captive, lab experiments
- Count/Survey
- Collect, tumors
- Imaging (e.g., MRI, CT, CAT, X-Ray)
- Import/export/receive, parts
- Instrument, drill carapace attachment
- Instrument, epoxy attachment (e.g., satellite tag, VHF tag)
- Instrument, harness attachment
- Instrument, suction-cup attachment (e.g., camera)
- Intentional (directed) mortality
- Laparoscopy
- Lavage
- Mark, carapace (temporary)
- Mark, coded wire
- Mark, flipper tag
- Mark, living tag
- Mark, PIT tag
- Mark, visual marker (hatchling)
- Measure
- Necropsy
- Orientation research
- Other
- Photograph
- Salvage (carcass, tissue, parts)
- Sample, blood
- Sample, bone biopsy
- Sample, cloacal swab
- Sample, fat
- Sample, fecal
- Sample, muscle biopsy
- Sample, nasal swab
- Sample, organ biopsy
- Sample, scute scraping
- Sample, tissue

Procedures cont.

- Tracking
- Transport
- Ultrasound
- Unintentional mortality
- Weigh

Sturgeon/Sawfish

Take Action

- Captive animals (research, enhancement, public display)
- Capture/Handle/Release
- Handle/Release
- Harass
- Harass/Sampling
- Import/export/receive only
- Incidental take
- Intentional (Directed) Mortality
- Release captive animals
- Removal from wild (permanent)
- Unintentional mortality
- Unknown

Observe/Collect Method

- Captive
- Egg mat
- Electroshock
- Hand and/or Dip Net
- Hook and line/angler/rod and reel
- Longline
- Net, D-frame
- Net, Gill
- Net, seine
- Net, Trammel
- Net, trawl
- Other
- Remote Sensing
- Trot line

Procedures

- Anesthetize
- Boroscope
- Captive, breed
- Captive, field studies
- Captive, lab experiments
- Captive, maintain

Procedures cont.

- Captive, other
- Captive, public display
- Collect eggs
- Collect, sperm
- Instrument, external (e.g., VHF, satellite)
- Instrument, internal (e.g., VHF, sonic)
- Instrument, internal/external
- Intentional (directed) mortality
- import/export/receive, parts
- Laparoscopy
- Lavage
- Mark, bovine/DNA marking
- Mark, Carlin dangler
- Mark, coded wire
- Mark, dart
- Mark, disk anchor
- Mark, double barb tag
- Mark, elastomer
- Mark, Floy T-bar
- Mark, M-tag
- Mark, PIT tag
- Mark, roto tag
- Measure
- necropsy
- Other
- Photograph
- salvage (carcass, tissue, parts)
- Sample, barbel clip
- Sample, blood
- Sample, fin clip
- Sample, fin ray clip
- Sample, gonadal tissue biopsy
- Sample, other tissue
- Treatment, prophylactic
- Treatment, therapeutic
- Transport
- Unintentional mortality
- Weigh

Appendix

IV

IV: Personnel Definitions

Applicant/Permit Holder – The person, institution, or agency that is ultimately responsible for all activities of any individual who is operating under the authority of the permit. Where the Permit Holder is an institution or agency, the **Responsible Party** is the official who has the legal authority to bind the organization (see definition below).

> **Note**: The Applicant becomes the Permit Holder once a permit is issued. There can be only one Applicant/Permit Holder. Permits are not transferable from one Permit Holder to another and the Applicant/Permit Holder cannot be changed. In many cases, the Applicant/Permit Holder may be the same as the Principal Investigator (PI) and/or Primary Contact.

Responsible Party – This role is only used if the **Applicant/Permit Holder** is designated as an agency or organization. The Responsible Party is an official who has the legal authority to bind the organization, institution, or agency that is ultimately responsible for all activities of any individual who is operating under the authority of the permit.

> **Note**: Where an applicant for a permit is an organization, institution, or agency rather than an individual, the application and permit must be signed by the Responsible Party. An example is that the Responsible Party for a National Marine Fisheries Service (NMFS) Science Center is the Center Director. The Responsible Party can change with approval from the agency issuing the permit.

Principal Investigator (PI) - The individual primarily responsible for the taking, importation, exportation, and any related activities conducted under a permit issued for scientific research or enhancement purposes. The PI must have qualifications, knowledge and experience relevant to the type of research activities authorized by the permit.

Note: The PI must be on site during any activities conducted under the permit unless a **Co-Investigator** is present to act in place of the PI. There can be only one PI on a permit. The PI may also be the Applicant/Permit Holder and Primary Contact. Because the PI supervises the research, NMFS requires that the PI submit a CV/resume.

Co-investigator (CI) – Individuals who are qualified and authorized to conduct or directly supervise activities conducted under a permit issued for scientific research or enhancement purposes without the on-site supervision of the **PI**.

Note: CIs assume the role and responsibility of the PI in the PI's absence. There can be numerous CIs designated under a single permit. The CI is authorized to work independently in the field or lead a field crew. For example, there could be separate CIs in charge of distinct activities/projects under a permit, or responsible for distinct geographic areas under a permit. Because a CI can supervise research, NMFS requires that a CV/resume be provided for each CI. There can be only one PI per application. If a project has multiple principals, one person must be assigned the PI role and the others assigned CI roles.

Primary Contact – The person primarily responsible for correspondence during the permit review process and after a permit is issued.

Note: The Primary Contact may be separate from or hold any other role on the permit (Applicant/Permit Holder, PI, etc.). While the Primary Contact may engage in correspondence on behalf of the Applicant/Permit Holder (such as providing minor clarifications for information in the application, making inquiries as to the status of an application and the application process, and submitting reports on behalf of the Applicant/Permit Holder), any substantive changes or requests for modifications must be submitted by the Applicant/Permit Holder or PI.

Veterinarian – A licensed veterinarian who will be present to perform or oversee veterinary or research procedures during permitted activities.

Note: NMFS does not always require a veterinarian to be listed on a permit, but some activities may require the presence of a vet or identification of a vet available for emergencies.