National Marine Fisheries Service

Marine Mammal Scientific Research and Enhancement Permit Application

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Introduction

This application is for requesting a Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA) scientific research or enhancement permit to take[1], import, or export National Marine Fisheries Service (NMFS) protected marine mammals:

- Cetaceans (dolphins, porpoises, and whales)
- Pinnipeds (seals and sea lions, except walrus)

Need help or have other questions?

We recommend you visit our MMPA scientific research and enhancement permit web page, see the FAQ on page 27, or contact our office (301-427-8401).

When filling out your application:

- Refer to Chapter 2 for guidance on how to use APPS.
- **Save your application every 20 minutes or you will lose information!**
- You do not have to complete your application in one session. Your application will remain in draft mode until you submit.
- An * means it is a required field.
- You may want to use these instructions as a template to draft your application in a Word doc and then cut and paste into APPS. However, note that special characters may be either lost or migrated incorrectly.
- Attachments cannot be larger than 20MB – contact us if you need to attach larger files.
- Your application must be a stand-alone document that describes all proposed activities and is readable to a layperson.

[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 you do not follow these instructions, your application will be returned and you will be asked to resubmit a new application that includes the information required.

- We can only consider those activities that you describe in your application.

- We will not consider your application if you have overdue reports for your most recent permit.

Application Instructions

Project Information

File Number: This number is generated by APPS and cannot be changed. To facilitate processing, reference this File No. in correspondence with our office.

***Project Title** (up to 255 characters): Provide a concise title that includes activities, species (or taxa if multiple species), location, and purpose of the research. For example:

- *Vessel surveys, sampling, and tagging cetaceans in the Gulf of Mexico to characterize population structure, foraging ecology, and movement patterns.*

***Project Status**: The project status (New or Renewal) is automatically selected based on your answers in the APPS pre-application guide (PAG). Do not change this field.

Previous Federal or State Permit #: If applicable, enter your most recent and closely related NMFS permit number. Otherwise leave blank.

***Permits Requested:** One or more permits will be listed based on your answers in the APPS pre-application guide. If the options are incorrect, please contact us at 301-427-8401.

***Where Will the Activities Occur?** One or more general locations will be listed based on your answers in the APPS pre-application guide.

***Research Timeframe:** Enter the desired start and end dates of the entire project in the following format: MM/DD/YYYY. Currently, the maximum duration for an MMPA scientific research or enhancement permit is 5 years. Please see the FAQ for details about when to apply.

***Sampling Season/Project Duration** (up to 1,000 characters)
Describe the annual field season(s) including the months and frequency of fieldwork (*i.e.*, when and how many times per year/how frequently will you conduct your

activities?). If this includes year-round research, indicate when activities are most likely to occur and how frequently.

***Abstract** (up to 2,000 characters): provide a short summary that must include:

- Purpose of the research or enhancement.
- Species that may be taken, imported, or exported (common names). If you are requesting takes of a large number of species, you can list taxa instead of all species. For example: *20 species of cetaceans and 10 species of pinnipeds*.
- Proposed activities take activities (*e.g.*, vessel based surveys, remote biopsy sampling, tagging), import, or export.
- Where your activities will occur and where animals or samples will be imported or to which they will be exported.
- Requested duration of the permit (see FAQ).

Project Description Page

***Project Purpose: Hypothesis/Objectives and Justification** (up to 64,000 characters)

We recommend you provide the information in this order:

1. Identify and discuss the research question(s) or purpose of your project.

2. Briefly summarize published findings related to your research.

    - If you previously held or worked under a research or enhancement permit, use literature citations from that support how you previously met your objectives; and/or

    - Use other published literature on the subject.

3. Describe how this study is different from, builds upon, or duplicates past research.

4. If proposing novel procedures, include a discussion on results from pilot studies or studies on other species, if available.

Bona Fide Research

The information in your application should demonstrate how your proposed research is *bona fide*, including how the results of your research:

- are likely to be accepted for publication in a refereed scientific journal;
- are likely to contribute to the basic knowledge of the species biology or ecology; or
- are likely to identify, evaluate, or resolve conservation problems

5. For **ESA-listed and MMPA-depleted species**:
   - Discuss why your project must involve ESA-listed or MMPA-depleted species.
   - Discuss how your project will, as applicable:
     - Contribute to the objectives identified in the species' recovery or conservation plan or otherwise respond to recommendations of a scientific body charged with management of the species;
     - Contribute significantly to understanding the basic biology or ecology of the species; and/or
     - Contribute significantly to identifying, evaluating, or resolving conservation problems.

   If your goals are to **directly enhance the survival or propagation** of an ESA-listed or MMPA-depleted species, you must also:
   - Explain how your project will:
     - Contribute to maintaining or increasing distribution or abundance,
     - Enhance the health or welfare of the species, and/or
     - Ensure the recovery of the species in the wild.
   - For captive maintenance for enhancement, explain how you will:
     - 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? Justify maintaining animals in permanent captivity.

6. Identify your objectives or hypotheses based on the above information.

7. Take Number Rationale: Explain how you determined your sample size/take numbers and how they are needed to meet the objectives.

- For example, did you base your numbers on previous encounter rates or abundance estimates for your study area and the number of surveys to be conducted?

- If appropriate for your study, include a power analysis or other sample size estimation to show whether the sample size is sufficient to provide statistically significant or otherwise robust results.

- Indicate the number of times known individuals will be intentionally taken in a year (e.g., recapture for instrument retrieval, multiple biopsy samples per year, or repeat surveys in the same area for identifiable individuals). Explain why multiple takes are needed to meet your objectives.

***Project Description** (up to 64,000 characters)

- For work with endangered species, please see our webpage on programmatic consultations by species group to determine if your methods fall under a programmatic ESA Section 7 consultation. If you wish to have your work covered by a programmatic consultation, please ensure that your described methods fit within its scope. Please contact us if you have questions.

- Provide a **brief overview** of a day in the field and the suite of activities you intend to perform on each animal during an encounter or capture event including where your work will happen, especially if different projects occur in different locations.

Methods

Describe your methodologies. Your narrative description must match your APPS take table (see Take Table section below). Every procedure listed in the take table must be described in the Project Description. It is helpful to reference take table lines in the narrative that correspond to the take actions and procedures. If you have multiple projects, it is also helpful to name them by project number or title and include project names in the Details column of the take table.

You must provide:

- Clear descriptions of all methods (*i.e.*, procedures) for each species (see examples in Table 1 below).

- A brief statement of each method's purpose (*i.e.*, how the activity relates to meeting your objectives).

- Define how you differentiate age classes (e.g., neonate, calf/pup, juvenile, subadult, adult). If applicable, distinguish by taxa or species.

- For each method, state if you will target:
    - calves/pups (specify age);
    - females accompanying calves/pups (specify age); and/or
    - pregnant females, and if so, include estimated trimester.

  You may attach a table indicating which ages and sex will receive each procedure if needed (e.g., complex studies or multiple projects).

- For invasive procedures, sensitive life stages (e.g., pregnant females, calves/pups) should be on separate rows in the take table if they will be sampled/handled differently to other life stages and can be easily identified.

- For procedures requiring sterilization and/or disinfection protocols, see the FAQ for definitions and references.

- Indicate if you will intentionally take an animal more than once per day and/or year by active acoustics, capture, or invasive procedures.

- If your fieldwork will occur concurrent with other legal takes of marine mammals (e.g., tagging or sampling an animal following its exposure to an acoustic trial under another authority), clarify which activities you are requesting and how they will occur in relation to the other legal action. Specify how the associated activities are legally covered under the MMPA, and ESA if applicable.

- Cite **references** for the methods where applicable, but do not substitute a literature citation for a complete description of the methods. You can attach a Literature Cited on the Project Supplemental Information page. References must be made available upon request.

- On the Supplemental Information page, attach figures and photographs that illustrate your methods. For example, photos of tags and attachment methods.

- Mitigation measures that are inherent to your methods may be included in this section or in the Effects and Mitigation section below.

Table 1. Guidance for Commonly Used Methods

When describing your methods, be sure to include the following specific information, as applicable.

Take action/ procedures	Details to include in methods
Active acoustics	Sound source (e.g., sidescan sonar, underwater speaker, acoustic deterrent device) Source depth in water column Frequency (bandwidth) Maximum source level (specify metric SEL_{cum} or SPL RMS) Maximum received level Distance of source to target and non-target animals Signal duration and duty cycle Number of playback sessions in a day and whether you will target the same animal(s) more than once Duration of each playback session and maximum total duration of sound emission per 24-hr period How many sound source types might be used within a 24-hr period Ambient sound level, when known Distance to the relevant 120 dB/ 160 dB re 1µPa Level B Harassment thresholds and permanent threshold shift (Level A harassment threshold) Post playback monitoring (monitoring distance and duration)
Active acoustics (for behavioral response studies)	We strongly recommend consulting the NMFS 2018 User Spreadsheet and accompanying instructions. Be sure to specify if your source is impulsive (direct from source) or non-impulsive (playback via speaker). Please include all of the details above in the Active Acoustics section. If working with a variety of sound sources, be sure to include these details for a "typical" playback scenario as well as a worst-case scenario (e.g. source level, received level, duty cycle, frequency etc.). Make sure to consider all functional hearing groups, including target and non-target exposures. Please provide propagation loss model results, when available.

Take action/ procedures	Details to include in methods
Administer drugs or other substances (*e.g.*, stable isotopes)	Name of each drug/chemical and its purpose Name of any drug reversal Emergency response and euthanasia drugs and protocols Dosage of each drug/chemical Delivery method and route (*e.g.*, dart gun, inhalation, intramuscular, intravenous, subcutaneous, topical); if dart gun, distance of animal to water Location of administration on body Duration of drug Personnel that would administer drug (e.g., veterinarian or veterinary technician; and if they possess any required state licenses) Post drug administration monitoring Optional: you may include a drug table with the information requested above
Aerial and vessel surveys (manned)	Type of survey craft and vessel Number of platforms (aircraft and vessel) to be operated at the same time Type of survey (e.g., line transect, photogrammetry) Number of surveys per year Minimum altitude/approach distance Air/vessel speed Protocols for breaking track to ID species Duration spent with group or individual/day
Aerial surveys using unmanned aircraft systems (UAS)	Same general questions above for aerial surveys and also the following: Type of UAS – fixed wing or vertical takeoff and landing (VTOL) Payload components – what is the UAS carrying and for what purpose (e.g., camera, sensor)? Ground control station description (what it is, where it will be located-on shore or on vessel, number of stations, and how close the station will be to animals) Do you have the appropriate FAA permits/authorizations (including pilot licenses)? Encounter duration Number of platforms (UAS) to be operated at the same time

Take action/ procedures	Details to include in methods
Auditory brainstem response or evoked potential	Type of measurement equipment (suction cup or needle electrodes) Type of sounds emitted (e.g., pips, clicks) Maximum source level Distance and position from speaker relative to target animal Signal duration, duty cycle, and frequency of sound emitted Total duration of sound emission (including total exposure duration within a 24-h period) Handling/restraint methods (including anesthesia/sedation, see above) Handling duration Data collection and analysis method Whether animal will be transported to a facility (complete the Transport Section in Take Table)
Capture and restraint	Type of capture (e.g., hand, hoop net, trap) and gear description (e.g., net dimensions and mesh size) Deployment methods (e.g., on foot or boat approach and net deployment) Configuration, duration, and monitoring of net sets (how often net set is checked) Number of animals captured at a time Number of animals processed at a time Anesthesia/sedation (see Administer Drugs above) Dimensions and type of holding container/manner of restraint Number and roles of personnel (must be adequate to perform all activities without harming excess captured animals; else animals must be released immediately) Additional equipment or personnel necessary for capturing and handling excess numbers Duration of restraint/holding from capture to release If capturing females with calves/pups, describe how calves/pups would be held, what procedures would be conducted on the moms and the calves/pups, duration separated, and how they would be reunited Manner of release
Export/import samples	Sample type (*e.g.*, blood, muscle) Where are samples going: person and country Where are samples coming from: high seas or origin country Designated port of entry/import or export How sample/animal is taken in foreign country or on the high seas and legal take authority Sample preservation, storage/shipping, and analysis Re-import/export or retain/archive if samples remain after analysis

Take action/ procedures	Details to include in methods
External instruments (*e.g.*, external instruments attached with epoxy, suction-cup, dart, or deep-implants; a table is helpful for multiple tag types)	Type of instrument Location on body For cetacean deep-implant tags with external instrumentation, please include the tag penetration depth and describe if the tag is intended to penetrate the blubber/muscle interface Dimensions of instrument and attachment Mass in air or water Percentage of body mass for all tags combined Maximum footprint/maximum number of tags/animal Cleaning/sterile preparation Attachment method (*e.g.,* remote deployment of suction cup or dart barb fired from crossbow; restraint and epoxy or harness) For remote deployment: ● minimum approach distance and angle ● number of attempts per animal/day (*i.e.,* successes and misses) ● include total number of attempts needed for all work if requesting multiple procedures (*e.g.*, tag and biopsy) on same animal during same encounter Whether instrument will be coated with antifouling paint Whether attachments will be coated with antibiotics Duration of attachment procedure Duration of instrument retention on animal Release mechanism or recapture to remove Type of data collection (*e.g.*, archival requiring retrieval) How you determine tag types and number of tags on an animal Post-tag monitoring

Take action/ procedures	Details to include in methods
Internal instruments (*e.g.*, stomach temperature pills, life history tags, internal deep-implant tags)	Type of instrument Dimensions of instrument Location within body For cetacean deep-implant tags with internal instrumentation, please include the tag penetration depth and describe if the tag is intended to penetrate the blubber/muscle interface Mass in air Percentage of body mass for all tags combined Cleaning/sterile preparation Insertion method (describe *e.g.*, surgical implant, injection, stomach tube, remote deployment) For remote deployment: ● minimum approach distance and angle ● number of attempts per animal/day (include total number of attempts needed for all work if requesting multiple procedures [*e.g.*, tag and biopsy] on same animal during same encounter) Use of local anesthetic or anesthesia/sedation (see Administer drugs) Administration of prophylactic antibiotics (see Administer drugs) Whether attachments or tags will be coated with antibiotics Duration of insertion procedure Duration of instrument retention How instruments are voided Type of data collection (*e.g.*, archival requiring retrieval) How you determine tag types and number of tags on an animal Post-tag monitoring
Intrusive sampling (*e.g.*, blood, blubber, muscle, skin); remote or under restraint	Type of tissues Size or volume of sample (diameter and depth or total volume) Location on body Number of samples per animal per capture event and per year Sampling intervals (*e.g.*, for serial blood or biopsy samples) Equipment (*e.g.*, dart and stopper depth, needle, punch, scalpel) Equipment sterilization or disinfection If restrained: cleansing site; left open or wound closure If remote: ● collection method (*e.g.*, dart fired from rifle) ● minimum approach distance ● number of attempts per animal/day (*i.e.,* successes and misses) ● include total number of attempts needed for all work if requesting multiple procedures (*e.g.*, tag and biopsy) on same animal during same encounter Sample preservation, storage, and analysis

Take action/ procedures	Details to include in methods
Marking (*e.g.*, bleach, flipper tag, freeze brand, hot brand, paint, PIT tag)	Type of mark Number of tags or brands Location on body Method of application Disinfection procedures Duration of mark (*e.g.*, until molt) Whether marks would be reapplied, if lost Dimensions of tag or mark Total number and combination of tags or marks on each animal
Non-intrusive sampling (*e.g.*, behavioral observations via focal follows and ground surveys; breath sampling; collecting molt/scat/spew; passive acoustic monitoring; photo-ID; photogrammetry; remote video monitoring; underwater photography)	Approach method Sampling method Minimum and maximum approach distance Within sight of animals or not (*e.g.*, from a blind)? Frequency of observations/sampling Number of approaches per animal/day for biological sampling Duration of observations/sampling/day Data or sample collection and analysis If conducting underwater photography/videography, specify the method (*e.g.*, snorkeling, underwater pole cam, or divers that could use typical gear or rebreathers) and number of individuals in the water at a given time, including safety divers
Remotely operated vehicle (ROV), vessel or amphibious	For underwater and amphibious ROVs, same details as for vessel surveys and also: Description and size of ROV Whether it is tethered or wireless, tether material and length Deployment method, in relation to capture and release of animal, if applicable Describe any light sources Whether there will be a live video feed monitored Encounter duration

Non-target Marine Mammals:

Discuss whether and how non-target marine mammals may be incidentally harassed, captured, or otherwise affected. These are species that co-occur with your target species and that could be harassed or taken during your research. Include these on separate rows in the Take Table if you expect incidental take (*e.g.*, harassment or capture). For ESA species designated by DPS, specify the DPSs.

Non-target taxa (e.g. sea turtles, seabirds) should be addressed in the Effects and Mitigation section below.

Project Supplemental Information

Attach a Supplemental Information File

You can attach up to 10 files to provide additional information.

- Preferred file formats: Microsoft Word, Excel, or PDF.
- The maximum file size allowed is 20 MB.
- Audio and video files (such as mp3, m4b, wav) cannot be uploaded. Contact us if you need assistance.
- On the Location screen you will be asked to attach a map.

Status of the Affected Species (up to 2,000 characters)
If choosing "range-wide" in the Stock/Listing Unit column in your take table, indicate which stocks or DPSs you are targeting.

***Mortalities** (up to 2,000 characters)
If authorization for serious injury[2] or mortality[3] (euthanasia/intentional[4] or accidental/unintentional) is proposed:

- What activities could result in mortality?
- Briefly summarize mortalities that have occurred during the previous five years of your permitted activities using the same or similar techniques; include circumstances and cause of death, and how a similar outcome can be prevented.
- Explain why it's not feasible to use other methods that won't result in mortality.

[2] A serious injury is an injury that will more likely than not result in mortality.

[3] Caused by the presence or actions of researchers including but not limited to deaths or serious injuries sustained during capture and handling, while attempting to avoid researchers or escape capture, or resulting from infections related to intrusive procedures such as sampling or tagging. This does **not** include a fetus if a pregnant female dies.

[4] This includes euthanasia for humane reasons (*e.g.*, due to serious injury during research).

- If authorization for mortalities of ESA-listed or MMPA-depleted species is proposed, explain how the research or enhancement will directly benefit the species or fulfill a critically important research need.

- What is the maximum number of animals of each species/DPS that could be seriously injured, unintentionally die, or be euthanized annually and over the life of the permit? For example, 10 mortalities across the life of the permit, not to exceed five mortalities in any one year.

- Justify the number of mortalities.

- How is euthanasia decided, conducted, and who conducts it?

- What are the protocols for necropsy and carcass disposal? If necropsy cannot occur, explain why.

- What are the protocols for disposition of dependent pups or calves if lactating females may die as a result of your actions?

***Effects and Mitigation** (up to 64,000 characters)

Discuss how Take Action, Observe/Collect Method, and Procedure, except mortalities, in the take table will affect target and non-target animals. Effects of mortalities only need to be discussed above in the Mortalities section.

Cite the **best available science** (*i.e.*, peer-reviewed literature or other published data sources) and your experience (*e.g.*, personal communication). References must be made available upon request.

For each method and take action include:

- Typical behavioral and physiological responses,
- Worst-case responses,
- % of animals that exhibit each response type,
- Average/estimated recovery time, and
- Wound healing time.

Also include an assessment of:

- Condition of animals on recapture/resight
- Recovery from sedation and handling
- Post-release behavior (immediate and long-term)

- Time to repopulate rookeries/haul outs after flushing
- Healing from intrusive sampling
- Healing from intrusive tag deployments
- Tag retention
- Effects to lactating females and their dependent young

- For **novel procedures**, discuss the most likely anticipated responses based on literature from studies on other species, if available, and any results from testing, if applicable.

- Discuss the anticipated effects on the species or stock, especially if mortalities or reproductive effects are possible. On what is your determination based?

You may include mitigation and monitoring protocols here, or in the Project Description section. Do not restate them here if they are included above; simply reference the section where the following information is found.

- Describe if you will employ mitigation measures when you observe **unintended adverse reactions**. If you will take the same measures for a suite of activities, such as those resulting in Level B harassment vs Level A harassment, you may provide one discussion for each suite.

- Describe your short- and long-term **post-procedure monitoring** protocols.

- Explain why monitoring or mitigation is not feasible for specific procedures, species, situations, etc. as needed.

- **Humane[5] determination**: Explain how you determined your methods involve the least possible degree of pain and suffering possible and why there are no feasible alternative methods to obtain the desired data or results.

- Where an IACUC (Institutional Animal Care and Use Committee) review is required[6], to support a humane determination under the MMPA and compliance with the Animal Welfare Act, attach

[5] Humane means using the method that involves the least possible degree of pain and suffering possible.

[6] Any marine mammal research that involves an invasive procedure, and which can harm or materially alter the behavior of the animals under study **requires an IACUC review and approval.** If an applicant does

- the IACUC protocols submitted
- any IACUC comments or recommendations
- the signed IACUC approval (or status of your application)

- Please describe any mitigation you will take to avoid or minimize impacts to non-target protected species (e.g., sea turtles, corals, USFWS species). Discuss whether and how they may be incidentally harassed, captured, or otherwise affected. For ESA species designated by DPS, specify the DPSs. Identify if you require takes of these species.

Research Coordination:

- Describe how you will collaborate or coordinate with other researchers in your action area.

- List these researchers and their institutions and explain how you will work together. For example, will you share vessels, samples, or data? Will you coordinate the timing of surveys to avoid repeated take of the same animals?

Attach a References File

Attach a **bibliography** of references cited in this application. Referenced materials must be made available upon request, as needed for evaluation of the application, or preparation of any necessary ESA or NEPA analyses. If a link to your referenced material is available, add the link to your References File.

***Resources Needed to Accomplish Objectives** (up to 2,000 characters and attach files if necessary)

- Explain how your expertise, facilities, and resources (people, physical, and monetary) are adequate to accomplish your proposed objectives and activities.

- Attach copies of relevant formal research proposals, contracts, grant awards, or letters of agreement that would demonstrate financial or logistical resources.

- Indicate the status of other international, federal, state, or local authorizations and permits you have applied for, secured, or will apply for.

not have an IACUC, an alternate IACUC (*e.g.*, of a Co-Investigator or a local university/research institution) may be used.

***Disposition of Tissue Samples** (up to 2,000 characters)
Indicate the disposition of any remaining samples after your project is complete.

- State whether samples will be consumed in analysis, destroyed, retained/archived, or returned to a facility/researcher.

- List the name and location of any person or institution that will store/curate/receive samples. Indicate if you will retain legal custody of the archived samples or if you wish to permanently transfer the samples once your project is complete.

***Public Availability of Product/Publications** (up to 800 characters)
Describe the end products of your proposed project and how they will be made available to the public.

Captive Information

If you will be working with animals in captivity (permanent or temporary), including removing animals from the wild into captivity and research or enhancement on captive or rehabilitating animals**,** address the following (explain if not applicable):

1. If removing animals from the wild, explain why removal is necessary and why you cannot obtain suitable animals from captive or rehabilitated stock.

2. If the animals are beached/stranded marine mammals undergoing rehabilitation, indicate the name and location of the rehabilitation facility.

3. If the animals are 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).

4. Attach 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.

5. Attach the protocol forms 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.

6. Attach 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 will comply with all care and transport standards established under the AWA.

7. Describe the care and maintenance of the animals, including a complete description of the facilities where they will be maintained. This includes:
   - dimensions of the pools or other holding facilities
   - water supply, amount, and quality
   - sanitation practices
   - number, sex, and age of animals by species to be held in each
   - quarantine procedures and acclimation plan for introducing new and currently held animals and contingency plans if adverse responses are observed
   - diet, amount and type.

8. Will a captive breeding program be established? If so, provide justification in accordance with the species conservation plan or recovery plan. For ESA-listed marine mammals, indicate if you are willing to participate in a captive breeding program if requested by NMFS.

9. Indicate the disposition of captive animals at the end of your research or enhancement activities.

10. If you're proposing to release of captive animals into the wild, state how long the animals will be held, no matter how temporary. Describe the protocols for the release, which must include:

    - post-release monitoring protocols
    - 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
    - elimination of behavioral patterns acquired during captivity that could prove detrimental to the released animals or the social structure of local populations.

Project Locations

First, describe where you plan to work. Then, for each location, use the Take Table to list the species you expect to encounter and the procedures you will conduct.

- Add **New Location**: provide information about one or more study areas
  - General area (ocean basin)
  - State(s), as applicable.

- Enter **Location Details**, as applicable:
  - Waterbody: enter names of rivers, estuaries, bays, etc.
  - Latitude and longitude of your study area
  - River miles (Being Mile and End Mile)
  - Limits of your study area (*e.g.*, to the U.S. EEZ, to the edge of the continental shelf, to 50m depth)
  - Names of land masses where research will occur (*e.g.*, islands, rookeries).

- **Attach File**: Include a high quality map(s) to scale that clearly shows the location of your proposed activity and any environmental areas of interest. If possible, include a shapefile, Google Earth kmz/kml, or ASCII text file with lat/long data and the associated basic metadata with your application.

Take Table

The take table represents the **estimated** number of animals you proposed to take **annually** during your research.

How to count takes of pinnipeds

Count 1 take per animal per day for those **hauled-out animals** that react to the research, regardless of the number of responses, including:

- movements of twice the animal's body length or more,
- changes of direction greater than 90 degrees, or
- retreats (flushes) to the water.

Count 1 take per animal per day for those **animals in water** that exhibit a noticeable adverse behavioral response from your activities

Do not count alert behaviors such as:

- turning head towards the disturbance,
- craning head and neck while holding the body rigid in a u-shaped position,
- changing from a lying to a sitting position, or
- brief movements of less than twice the animal's body length.

Columns you will fill out in the take table:

1. **Select**: Leave this box blank unless you need to copy, move, or delete the row.

2. **Species**: Use the drop down list.

3. **Listing Unit/Stock**: Select the applicable MMPA stock or ESA listing unit. Choose Range-wide if your location has multiple stocks of the same species and you cannot distinguish between them while in the field.

4. **Production/Origin**: Select from the drop-down list. Categories include Wild, Captive, Rehabilitation Facility, or All.

5. **Life Stage**: Select from the drop-down list. 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.

6. **Sex**: Select from the drop-down list. If your suite of activities targets only one sex, indicate which. Otherwise select Male and Female.

7. **Expected Take**: This represents a reasonable estimate of the maximum number of individuals you will take, import, or export, annually.

8. **Take Action**: The "take action" is a generalized overview of how animals will be taken by your activities over the course of the year. If more than one action is proposed for your project, you must enter the takes on separate rows.

9. **Observe/Collect Method**: Select the method of observation (*e.g.*, survey, vessel) or collection/capture. Select only one observe/collect method per row.

How to count takes of cetaceans

Count every animal approached regardless of whether a behavioral reaction has occurred.

During vessel surveys, only count 1 take per animal per day including all approaches. An "approach" is defined as a continuous sequence of maneuvers involving a vessel, equipment, or researcher's body, including drifting, directed toward a cetacean or group of cetaceans closer than 100 yards for baleen and sperm whales and 50 yards for all other cetaceans.

During aerial surveys (manned or UAS) flown at an altitude lower than 1,000 feet, count 1 take per animal observed per day, regardless of the number of passes over the same animal.

10. **Procedures**: Provide specific information on the research activities that you will conduct. A separate pop-up window will appear with a species-specific

list of activities. Hold down the Control key to select all activities to be performed concurrently.

a. Choose Other if your proposed activity is not listed. In the Details box (see below), briefly describe what the Other means.

b. If some animals will only get a **subset of procedures**, list this subset on a separate row in the take table. List out the suite of procedures that will be performed only on a subset of animals in the Project Description and explain how you decide which animals receive which procedures.

11. **Transport**: If you chose Transport as a Procedure, enter information about the transport when prompted.

a) Mode(s) of transportation: Describe the mode of transportation. Include a description of the vehicle or other 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, enter information in the box. Otherwise, click on N/A.

c) Maximum length of time from capture to arrival at destination: How long will the animals 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) to be administered during transport: How will the animals be cared for during transport?

Acoustic Playbacks

For acoustic playback trials in the wild, estimate take for each target and non-target species based on the isopleth distances that result from the following thresholds:

- Level B harassment behavioral threshold of a received level of 120db re 1µPa (continuous sounds) and 160 dB re 1µPa (intermittent sounds), and
- Level A harassment threshold for permanent threshold shift (injury). This varies by functional hearing group. Refer to our acoustic guidance at: https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance

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: Use the drop down list to select the destination. If your destination is not on the list, click on the "New Facility" button to add it. If the animals will be taken to a laboratory 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?: Discuss the quarantine procedures. Describe the quarantine and permanent holding spaces, including effluent treatment.

i) The final disposition of the animals: Describe, for example, whether the animal will be released or retained in permanent captivity.

12. **Begin Date**: Populated with the Begin Date you entered on the Project Information page. You may change the date to coincide with a specific project time shorter than the overall duration of the project. You cannot enter a date that is earlier than your original Begin Date.

13. **End Date**: Populated with the End Date you entered on the Project Information page. You may change the date to coincide with a specific project time shorter than the overall duration of the project. You cannot enter a date that is later than the End Date you previously entered.

14. **Details (Optional)**: You may enter up to 255 characters in this text box to provide details on each take table line. This is especially useful for clarifying age class, takes, intentional repeated takes (e.g., recapture for instrument removal), endangered DPSs where mixing occurs, specific activities, or projects.

Anticipated Effects on the Environment

1. Will you be working in or near areas with unique environmental characteristics or important scientific, cultural or historical resources? Examples include:

   - Animals used for subsistence

- Archaeological resources
- Critical Habitat of ESA-listed species
- Essential Fish Habitat including wetlands, coral reefs, sea grasses, and rivers
- Federally recognized Tribal and Native Alaskan lands, cultural or natural resources, or religious or cultural sites
- Marine Protected Areas
- Minority or low-income communities
- National or State Parks
- National Marine Sanctuaries and National Monuments
- National Historic Landmarks
- Sites listed in or eligible for listing in the National Register of Historic Places
- Wild and Scenic Rivers
- Wilderness Areas
- Wildlife Refuges

a. If yes, please list those areas. As applicable, mention if you will need to or have already obtained permission (licenses, permits, authorizations) to work in these areas.

b. How would your activities affect such resources? What measures will you take to ensure your work does not cause loss or destruction of such resources?

c. For marine mammal activities in Alaska or Washington, how will you ensure your project does not adversely affect the availability (*e.g.*, distribution, abundance) or suitability (*e.g.*, food safety) of marine mammals for subsistence uses?

2. Discuss if your activities have the potential to impact the physical or biological environment, in particular coastal and marine environments. Impacts can be positive or negative. Examples of potential impacts include:

    - Altering substrate while anchoring vessels and buoys.
    - Using bottom trawls or other types of nets.
    - Erecting blinds or other structures.
    - Ingress and egress of researchers.
    - Injuring or killing benthic organisms (*e.g.*, sea grass, corals).

- Altering the physical or chemical characteristics of water (*e.g.*, oil spills)
- Affecting a species' abundance or distribution.

3. Does your project involve activities known or suspected of introducing or spreading invasive species, intentionally or not? Examples include transporting animals or other biological specimens, discharging ballast water, and using boats/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.
4. Will your activities involve collecting, handling, or transporting potentially infectious agents or pathogens, such as biological specimens (animals, blood, tissues)?

   Will your activities involve using or transporting hazardous substances, such as toxic chemicals?

   If yes to either question, describe the protocols you will use to ensure that public health and human safety are not adversely affected, such as by spread of zoonotic diseases, chemical injuries, or contamination of food or water supplies.

5. Do your activities involve equipment (*e.g.*, scientific instruments) or techniques that are new, untested, or have unknown or uncertain impacts on the biological or physical environment?

   If yes:

   a. Briefly describe the equipment or techniques and provide any information about the use of these in your study area, other areas, and/or with other taxa.

   b. Discuss the degree to which they are likely to be adopted by others for similar activities or applied more broadly.

Project Contacts

As the person entering the application, you will automatically be assigned the following roles: **Applicant/Permit Holder, Principal Investigator,** and **Primary Contact**.

1. You may need to change or add personnel. See Chapter 2 for directions on how to change who is assigned to these roles.
2. Use the guidance below to help you decide who should have what role.
3. To prevent duplicate entries, **ALWAYS search APPS for the person before entering a new contact.** Start with only putting the last name in APPS search box.
4. Include a table (see example Table 2) listing the names of the PI and CIs, and the specific procedures they will oversee or conduct. **Attach the table on the Supplemental Information page**.

5. As you add personnel, **check whether each person already has a Qualifications Form (QF) in APPS.** It will appear next to their name once you add them to your Contacts page. If there is not a QF in APPS, then attach one for the PI and each CI. See Qualifications and Experience below.

Descriptions of Personnel Roles

A project must have a **Responsible Party if the Applicant/Permit Holder is an organization, institution, or agency**. The Responsible Party or Applicant/Permit Holder is an official who has the legal authority to bind the organization, institution, or agency and is ultimately responsible for the activities of any individual operating under the authority of the permit.

The **Principal Investigator** (PI) is the individual primarily responsible for the take, import, export, and any related activities conducted under the permit. There can only be one PI on a permit. The PI:

- Must have qualifications, knowledge, and experience relevant to the activities authorized by the permit
- Must be on site during activities conducted under the permit unless a Co-Investigator is present to act in place of the PI
- May also be the Applicant/Permit Holder and Primary Contact.

The **Primary Contact** is the person primarily responsible for correspondence during the application review process and after a permit is issued. Typically this person administers the permit, requests amendments/modifications (*e.g.*, personnel

changes, filming requests), and submits reports. The Primary Contact may also serve other roles on the permit (*e.g.*, Applicant/Permit Holder, PI, CI).

The Applicant/Permit Holder or Responsible Party, PI, and Primary Contact will have access to APPS to enter and edit the application, submit reports and modification requests, and will receive automatic emails from APPS.

Co-Investigators (CIs) are individuals who are qualified and authorized to conduct or directly supervise activities conducted under a permit without the on-site supervision of the PI.

- You may add CIs to the application if the PI will not always be present during the permitted activities.
- CIs can also be added or removed once a permit has been issued.

Research Assistants (RAs) are individuals who work under the direct and on-site supervision of the PI or a CI. RAs cannot conduct permitted activities in the absence of the PI or a CI. RAs do not need to be named in the application or permit.

Authorized Recipients (ARs) are persons or institutions authorized to receive samples for analysis or curation related to the objectives of your permit as discussed in the Disposition of Tissues section. Permit holders may designate ARs at their discretion with a letter. ARs do not need to be identified in the application or permit.

Qualifications and Experience

The PI and each CI must have a Qualifications Form (QF). Previously we accepted CVs, resumes, and biosketches, but often these did not include sufficient information about the person's field experience. The QF is designed to give us the information we need. Once you fill out a QF and attach it to your profile in APPS you won't have to do it again, unless your skills or experience change. Each contact should only have **1** QF file in their profile; they may **replace** the existing file with an updated version as they gain new experience.

Persons authorized as the PI or CIs must have qualifications corresponding to their duties. Note, if the PI or a CI will be supervising but not performing specific procedures, each person must have sufficient cumulative experience to oversee the project, personnel (e.g., other CIs, research assistants, veterinarians), and procedures.

If you do not provide sufficient information, we will not authorize the person(s) to conduct the research or enhancement activities.

In addition, you must submit a table (see Table 2) defining the roles and activities to be performed for the PI and each CI listed in the application.

Table 2. Example Personnel Roles

Name/Affiliation	Role	Activities
John Smith, Ph.D., University A, City, State	Principal Investigator	Supervise all activities under the permit; conduct all activities except anesthesia
Jane Smith, Institution B, City, State	Co-Investigator	All activities excluding UAS and anesthesia during captures and UAS
Mary Smith, D.V.M., Institution B, City, State	Co-Investigator and Attending Veterinarian	Oversee and conduct anesthesia and all biological sampling during capture activities
Jane Doe, Ph.D., Institution C, City, State	Co-Investigator	Conduct photo-ID
John Doe, Ph.D., University D, City, State	Co-Investigator	Collect remote skin/blubber biopsy samples and create cell lines
Bob Smith, City, State	UAS pilot	UAS pilot

Submit Application

See Chapter 2 for how to submit your application and check on its status.

Frequently Asked Questions

When should I apply?

- MMPA permits (no ESA-listed species): at least 6 months before your project will begin.
- ESA-MMPA permits: it depends on the species and activities you are proposing
    - Pinnipeds – at least 1 year before your project will begin.
    - Cetaceans – your project may fall under our programmatic consultation, which means you should submit your application 6 months prior to starting work, and following our application cycle. If

your proposed research is not covered under a programmatic, then you need to apply at least 1 year before your project will begin.

- Note: If you are requesting deep-implant tags for ESA-listed cetacean species, you **must apply on the cycle** indicated on our programmatic webpage if you wish to be covered by the programmatic consultation.

How are disinfection and sterilization defined?

Disinfection eliminates many or all pathogenic microorganisms, except bacterial spores, on inanimate objects usually by liquid chemicals (CDC 2008).

Sterilization destroys or eliminates all forms of microbial life and is carried out by physical or chemical methods (CDC 2008).

What is the process for getting a permit?

1. Follow these instructions and contact the Permits and Conservation Division at 301-427-8401 with any questions.
2. Submit your application via APPS.
    a. A permit analyst will review your application and contact you if additional information is needed.
3. Address any questions within 60 days or your application will be withdrawn.
    a. Once we consider your application complete, we will publish a notice in the Federal Register, which starts a mandatory 30-day public comment period.
    b. Concurrently, we will send your application to the Marine Mammal Commission and other subject matter experts in partner institutions and federal and state agencies for review.
    c. We will determine whether or not your proposed research requires an ESA Section 7 consultation. Your research may fall under a programmatic consultation. If it does not follow under the programmatic, we will need to request consultation to assess impacts to ESA-listed species. The ESA consultation can take up to 6 months.
4. Address any questions received during the comment period.
    a. We will draft the permit and supporting documentation (including National Environmental Policy Act analyses and documentation of MMPA and ESA issuance criteria).
    b. The documents will be reviewed by various NMFS offices including a legal review.

c. For individual consultations, a Biological Opinion will be issued if ESA-listed species may be taken and adversely affected to determine if the activity will jeopardize the species or adversely modify critical habitat.
d. The Office Director will decide whether to issue or deny your permit.

What is the process for requesting an amendment to a permit?

Use APPS to request an amendment to your permit. You'll need to provide a description of your proposed changes and include all the necessary details for those changes, as applicable. Use these application instructions as a guide. For example, changes to your objectives will require that you discuss all the points in the Project Purpose section. Additions to personnel require Qualifications Forms and descriptions of their roles.

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. Read the full text of the MMPA, including Section 104. Read the full text of the ESA, including Section 10(a)(1)(A). Under NEPA, Federal agencies must assess the effects of federal actions on the environment. Under Section 7 of the ESA, Federal agencies must ensure that the permitted activities will not jeopardize the continued existence of the species or result in adverse modification of critical habitat.

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. 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 and Conservation

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 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.