

National Marine Fisheries Service

Endangered Species Scientific Research and Enhancement Permit Application

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Introduction

This application is for requesting an Endangered Species Act (ESA) scientific research or enhancement permit to take¹, import, or export National Marine Fisheries Service (NMFS) protected species, including:

- Sawfish (largetooth and smalltooth)
- Sea turtles (in-water)
- Sturgeon (Atlantic and shortnose)

What is this application **not** for?

Research or enhancement activities on:

- Sea turtles on land or in rehabilitation
- Marine mammals
- Pacific marine and anadromous fish (*e.g.*, steelhead, eulachon, salmon)
- Protected species parts (only involving importing, exporting, or receiving parts)

Need help or have other questions?

We recommend you visit our [ESA scientific research permit web page](#), see the FAQ on page 24, 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 ESA 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 LOI.
- We will not consider your application if you have overdue reports for your most recent permit or LOC.

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 sea turtles in the Gulf of Mexico to characterize population structure, forging 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. IMPORTANT: Refer to the FAQ on page 26 for details about when to apply and consult our [programmatic consultation web page](#). The start date must be after the date you submit the application and should consider how long it may take to process your request, at least 6 months. Permits may be requested for up to a 10 year period only if the project fits within the scope of an ESA Section 7 programmatic biological opinion. All other permits may be valid for up to 5 years.

***Sampling Season/Project Duration** (up to 1,000 characters)

Describe the annual field season(s) including the primary months and frequency of fieldwork (i.e., how many field days per year and 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.
- Proposed take activities (*e.g.*, capture, 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

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

For research permits, the information you provide in your application must demonstrate that the permit, if issued, would further a bona fide and necessary or desirable scientific purpose, taking into account the benefits anticipated for the target species.

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 that support how you previously met your objectives; and/or
 - Use other published literature on the subject.
 - Describe how this study is different from, builds upon, or duplicates past research.
 - If proposing novel procedures, include a discussion on results from pilot studies or studies on other species, if available.

3. Discuss why your project must involve ESA-listed species (*e.g.*, explain why similar results could or could not be obtained by using a surrogate or captive species).
4. 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.
5. If your goals are to **directly enhance the survival or propagation** of an ESA-listed species, explain how your project will achieve these goals.
6. Identify your objectives or hypotheses based on the above information.
7. Take Number Rationale: Clearly 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 clearly demonstrate 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)

- Please see our [webpage on programmatic permitting](#) to determine if your methods may fall under an existing programmatic ESA Section 7 biological opinion. If you wish to have your work covered by a programmatic opinion, please ensure your described methods fit within its scope or contact our office.

- Provide a **brief overview** of a “day on the water” 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.
- For proposed studies on sturgeon species, provide the water body (i.e. specific river, bay, ocean basin) for each suite of methods described.

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:

- A clear description of all methods (*i.e.*, procedures) for each species, by Distinct Population Segment (DPS) where applicable. See examples in Table 1 below.
- A brief statement of each method’s **purpose** (*i.e.*, how the activity relates to meeting your objectives).
- Figures and photographs that illustrate your methods (*e.g.*, tags and instrument attachments, nets and net deployment). You can attach them on the Supplemental Information page.
- Indicate if you will **intentionally take a known animal more than once per day and/or year** as driven by your objectives and study design (*e.g.*, active acoustics, recapture for instrument retrieval or multiple biopsy samples per year).
- If recapturing animals, indicate under what circumstances they will be immediately released without processing or fully or partially processed (*i.e.*, what will be done to them on recapture).
- Discuss whether non-target animals of the same species (*i.e.*, conspecifics) may be **taken** (*e.g.*, harassed, captured) during your work.

- List out the suite of procedures that will be performed on only a subset of animals and explain how you will decide which animals will receive which procedures. Is this based on sex, life stage, body size, body condition, health or appearance, needed sample size, etc?
- If animals will be **captured under another legal source** (*e.g.*, bycaught in commercial federal fishery) prior to research or enhancement, cite the specific legal authority by name, title, or permit number for the capture of these animals. Clarify which activities you are requesting to perform after the capture and how they will occur in relation to the other legal action. Example citations: “ESA Section 7 biological opinion for the Gulf of Mexico and South Atlantic spiny lobster fishery (NMFS 2009)” or “ESA Section 10 Permit No. XXXXX”.

Note: You must demonstrate that the annual Expected Take numbers requested for your activities do not exceed the number authorized for the original capture authority, such as the cited biological opinion’s incidental take statement.

- **Sea Turtle Aerial and Vessel Surveys:** Only request take for observations or monitoring surveys with no intent to contact or capture animals if:
 1. The encounter will last more than 5 minutes, **and**
 2. For in-water work, you will approach animals within 50 yards.

Contact us if you need help determining if your survey requires a permit.

- Describe the size and life stages of animals for which you are requesting take. You may attach a table indicating which ages and sex will receive each procedure if needed (*e.g.*, complex studies or multiple projects).
 - For sea turtles, indicate the minimum size in straight carapace length of the animals you expect to capture and for each procedure you are requesting.
 - For sturgeon:
 - Include total length for each age class proposed (*e.g.*, size ranges designating juvenile, sub-adults and adult life stages)
 - Make sure you have indicated in the Objectives section above the purpose of working with each life stage/size.
 - In the details of the Take Table, define the size range of the targeted life stage.
- Cite **references** for the proposed methods where applicable, but do not substitute a literature citation for a complete description of the methods. References must be made available upon request.

- **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, you must include the following specific information, as applicable:

Take action/ procedures	Example details to include in methods
Active acoustics	Sound source (<i>e.g.</i> , sidescan sonar, underwater speaker, acoustic deterrent device; actual source vs. playback; stationary vs. mobile) Source depth in water column Frequency (bandwidth) Maximum source level (specify metric SELcum or SPL RMS) Maximum received level for target and non-target species and how this was determined Distance of source to target and non-target animals (including marine mammals) Signal duration and duty cycle Duration of sound exposure to an individual animal as well as total potential duration of exposure within a 24-h period How many sound source types might be used within a 24-h period Ambient sound level, when known Post playback monitoring (monitoring distance and duration) Please provide propagation loss models, when available
Administer drugs or other substances (<i>e.g.</i> , stable isotopes, bone marking, anesthesia)	Name of each drug/chemical and its purpose Name of any drug reversal or emergency response drugs Dosage of each Delivery method and route (<i>e.g.</i> , intramuscular, intravenous, subcutaneous, topical, immersion) Location of administration on body Duration of anesthesia or sedatives Personnel that would administer drug (<i>e.g.</i> , veterinarian or veterinary technician; and if they possess any required state licenses) Post drug administration monitoring
Aerial and vessel surveys (manned)	Type of survey craft/ vessel and size Type of survey (<i>e.g.</i> , line transect, photogrammetry) Number of platforms (aircraft and vessel) to be operated at the same time 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

Take action/ procedures	Example details to include in methods
Auditory brainstem response or evoked potential	<p>Type of measurement equipment (suction cup or needle electrodes and location on animal)</p> <p>Type of sounds emitted (<i>e.g.</i>, pips, clicks)</p> <p>Maximum source level</p> <p>Distance and position of speaker relative to animal to target animal</p> <p>Signal duration, duty cycle, and frequency of sound emitted (including total exposure duration within a 24-h period)</p> <p>Would different sound types be played within 24-h period</p> <p>Handling/restraint methods (including anesthesia/sedation, see above)</p> <p>Handling duration</p> <p>Data collection and analysis method</p> <p>Whether animal will be transported to a facility (complete the Transport Section in Take Table)</p>
Captive experiments	<p>In addition to describing the procedures of the experiment on the animals, describe their care and maintenance, including a complete description of the facilities where they will be maintained. This includes but is not limited to:</p> <ul style="list-style-type: none"> • Dimensions of the pools or other holding facilities • Number, sex, and age of animals by species to be held in each tank/enclosure • Water supply, amount, quality, power supply, and backup redundancy • Diet, amount and type • Sanitation & quarantine practices. <p>Indicate the final disposition of animals after completion of experiments (<i>e.g.</i>, for sturgeon: continued maintenance, euthanasia or transfer to another permitted facility, if appropriate).</p>
Capture and restraint	<p>Type of capture (<i>e.g.</i>, hand or net (gill [drift or anchored], trawl, seine) and gear description including dimensions and mesh size</p> <p>Deployment methods (<i>e.g.</i>, boat approach and net set, tow or soak times)</p> <p>Configuration, duration, and monitoring of net sets (how often net set is checked)</p> <p>Numbers of animals captured at a time</p> <p>Number of animals processed at a time</p> <p>Anesthesia/sedation (see drug administration)</p> <p>Dimensions and type of holding container</p> <p>Number and roles of personnel (must be adequate to perform all activities without harming excess captured animals; else the animals must be released immediately)</p> <p>Additional equipment or personnel necessary for capturing and handling excess numbers</p> <p>Duration of restraint/holding from capture to release</p> <p>Sea turtles: Identify an on-call veterinarian and nearby permitted rehabilitation facility available for emergencies</p> <p>Manner of release</p>

Take action/ procedures	Example details to include in methods
Export/import samples	Sample type (<i>e.g.</i> , blood, muscle, gonad) 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 Type of storage/shipping, including preservatives, etc. Analysis Re-import/export or retain/archive if samples remain after analysis
External instruments (a table is helpful for multiple tag types)	Type of instrument Location on body Dimensions For turtles: tag frontal area and shape per Jones et al. (2013) ² . Mass in air or water For fish: Percentage of body mass Minimum size of animal to receive each tag type Maximum footprint/maximum number of tags/animal Method of attachment (<i>e.g.</i> , remote suction cup; restraint and adhesives; monofilament line) Disinfection/sterile preparation for carapace drilling site and gear For remote deployment or detachment: number of attempts per animal/day, minimum approach distance and angle, method of detachment Pain management if required (see Administration of Drugs) Will it be coated with antifouling paint? Duration of attachment procedure, curing time Duration of instrument retention on animal Release mechanism or recapture to remove Type of data collection (<i>e.g.</i> , archival requiring retrieval) How will you determine which animals receive which tags or more than one tag? Post-tag monitoring

² Todd Jones, T., Van Houtan, K. S., Bostrom, B. L., Ostafichuk, P., Mikkelsen, J., Tezcan, E., Carey, M., Imlach, B., Seminoff, J. A. and Rands, S. (2013), Calculating the ecological impacts of animal-borne instruments on aquatic organisms. *Methods Ecol Evol*, 4: 1178-1186. doi:10.1111/2041-210X.12109

Take action/ procedures	Example details to include in methods
Internal instruments (<i>e.g.</i> , stomach temperature pills, telemetry tags)	Type of instrument Dimensions Mass in air or water Percentage of body mass for all tags combined Size of animals (including minimum size) to receive an internal instrument Location within body Cleaning/sterile preparation Insertion method (<i>e.g.</i> , surgical implant, injection, stomach tube) and any applied coating on the tag (<i>e.g.</i> , antibiotic) Local anesthetic or anesthesia/sedation (see Administer drugs) if applicable Duration of insertion procedure Duration of instrument retention How stomach pills are voided For sea turtles: include a veterinary-approved protocol for stomach pills Type of data collection
Intrusive sampling (<i>e.g.</i> , blood, digital fecal extraction, laparoscopy, lavage, muscle, scute, skin, swabs); 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 (<i>e.g.</i> , for serial blood samples) Sampling equipment description and disinfection If restrained: cleansing/disinfection of site; left open or wound closure If remote: collection method (<i>e.g.</i> , pole sampling), minimum approach distance, number of attempts per animal Minimum size of animal to receive each procedure Pain management or sedation (drugs and dosages as above) Whether animal will be transported to a facility for temporary holding (see Transport information in Take Table below) For sea turtles, include a veterinary-approved protocol for laparoscopy, tumor removal surgery, and bone biopsy Sample storage and analysis
Marking (<i>e.g.</i> , bone mark (OTC, fluorescent), flipper tag, Floy/dart tags, paint, PIT tag, shell etching)	Type of mark Location on body Method of application Cleaning and disinfection procedures Duration of mark Dimensions of tag or mark Size of animals to receive tags including minimum size Sizes of PIT and flipper tags for sea turtles -Total number and combination of tags or marks on each animal For turtles: -Veterinary-approved protocol for PIT tagging turtles <16 cm SCL -Type of paint (non-toxic only)

Take action/ procedures	Example details to include in methods
Non-intrusive sampling (<i>e.g.</i> , behavioral observations; diagnostic imaging; collecting voided feces, urine, fish eggs or milt; photogrammetry)	Approach method Sampling method (<i>e.g.</i> , X-ray; genetic tissue from fin) Minimum approach distance Frequency of observations/sampling/day Duration of observations/sampling/day Data or sample collection and analysis Whether animal will be transported to a facility for temporary holding (see Transport information in Take Table section)
Remotely Operated Vehicles (ROVs)	<p>For Unmanned Aircraft Systems (UAS), same details for aerial surveys and also: Type of UAS – fixed wing or vertical takeoff and landing Payload components (<i>e.g.</i>, camera, sensor) – what is the UAS carrying and for what purpose? 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 UAS operated at one time</p> <p>For underwater 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</p>

Non-target ESA-listed Sea Turtle and Fish Species: Discuss whether and how non-target ESA-listed sea turtles or fish species may be incidentally captured or otherwise affected. These are species that co-occur with your target species and that could be harassed or taken during your work. Include these species, by DPS where applicable, on separate rows, in the Take Table if you expect incidental take (*e.g.*, harassment or capture).

Non-target taxa (*e.g.*, marine mammals, seagrasses) 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 in APPS 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. Please contact us if you need assistance with these file formats.
- 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 a row of the take table, indicate which stocks or DPSs you are targeting.

*Mortalities (up to 2,000 characters)

If authorization for mortality³ (euthanasia/intentional⁴ 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.
- Specify the maximum number of animals of each species/DPS and age class that could die or be euthanized annually or over the life of the permit.
- Justify the number of mortalities.
- For euthanasia of fish, indicate if it is for humane reasons (*e.g.*, if working with compromised/comatose animals) or euthanasia for directed lethal take.

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.

⁴ This includes euthanasia for humane reasons (*e.g.*, if working with compromised/comatose animals). Only in rare instances may wild fish be sacrificed in directed research, unless there are clear, documented conservation benefits outweighing the loss.

- If authorization to euthanize a wild fish for scientific research purposes, explain how the research will directly benefit the species or fulfill a critically important research need with a conservation benefit. (Note: Directed research requiring euthanasia of captive sturgeon is an optional disposition for such animals.)
- Indicate how euthanasia will be decided, conducted, and who will conduct it.

Note: For sea turtles, euthanasia may not be requested as part of an application; euthanasia falls under the authority of the Sea Turtle Stranding and Salvage Network.

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

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

Discuss how the Observe/Collect Method (*e.g.*, capture), and Procedures, except mortalities, in the take table will affect individual 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), including results from your own research. References must be made available upon request.

- Include in your discussion:
 - Typical **behavioral, physical, and physiological responses**,
 - Worst-case responses,
 - % of animals that normally respond,
 - How long it takes for animals to recover, and
 - The time it takes wounds to heal.
- Also, include an assessment of:
 - Condition of animals on recapture/re-sighting
 - Recovery from sedation and handling
 - Post-release behavior (immediate and long-term)
 - Habitat use for animals in resident populations (based on telemetry data, re-sightings, recaptures)
 - Healing from intrusive sampling
 - Healing from intrusive transmitter deployments
 - Anticipated drag costs for sea turtle transmitters and attachments
 - Tag retention
 - Effects to nesting female sea turtles if working during the nesting period

- **Bycaught non-target species:** will they be released alive? Or is a certain percentage expected to be unintentionally harmed or killed?
- For **novel procedures**, discuss the most likely anticipated responses based on literature from prior studies on other species, if available, and any results from testing, if applicable.
- Discuss the anticipated **effects at the level of the species or DPS**, especially if mortalities or reproductive impacts are possible. On what is your determination based?

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

- 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.
- For sea turtles: if veterinarian approval is required, attach the full protocol, any veterinary comments/recommendations, and the signed approval. This may include an approved Institutional Animal Care and Use Committee (IACUC)⁵ proposal.
- Describe any mitigation you will take to avoid or minimize impacts to non-target protected species (*e.g.*, marine mammals, sturgeon, sea turtles, corals, U.S. Fish and Wildlife Service species). Indicate which DPS(s), if applicable, of the species that may be affected. Discuss whether and how they may be incidentally harassed, captured, or otherwise affected. Identify if you require take of these species.

Research Coordination

- Describe how you will collaborate or coordinate with other researchers in your action area.
- List these researchers 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 disturbance or repeated captures of the same animals?

Attach a References File

Attach a **bibliography** only including references cited in this application. Referenced materials must be made available upon request, as needed for

⁵ For sea turtle research: **NMFS researchers** are **required** to submit the NMFS IACUC-approved protocols and assurance letter.

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 you have applied for, secured, or will apply for.

***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.
- If applicable, list the name and location of the 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.

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).
- **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 propose to take **annually** during your research. Your permit and subsequent reports will also include a similar table.

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 ESA listing unit/stock. Choose Range-wide if your location has multiple populations 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. Include specified ages if they differ for each procedure in the Details column.
6. **Sex:** Select from the drop-down list. 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 or Unknown for immature life stages if applicable.
7. **Expected Take:** This represents a reasonable estimate of the maximum number of individuals you will take, import, or export, annually.

For vessel surveys of sea turtles that do not involve capture but will remain within 50 yards for more than 5 minutes, you will be required to count every animal you approach within 50 yards, regardless of whether a

behavioral reaction has occurred. Count 1 take per animal observed per day when you know it is the same animal. If unable to identify the animal, count each turtle seen as a new take.

For aerial surveys of sea turtles that will stay with animals for more than 5 minutes flown at an altitude lower than 700 ft.⁶, count 1 take per sea turtle observed per day, regardless of the number of passes over the same animal.

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. For example, if some animals will be captured and sampled while others will only be harassed.
9. **Observe/Collect Method:** Select the method of observation (*e.g.*, survey, vessel) or collection/capture. Select only one observe/collect method per row. If multiple methods are proposed, you must provide take information in separate rows for each observe method.
10. **Procedures:** You will open a separate pop-up window with a species-specific list of activities. Hold down the Control key to select all activities to be performed concurrently.
 - a. Choose “Other” if a proposed activity is not listed. In the Details box (see below), briefly describe what the “Other” activity is. For example, Other = carapace swabs.
 - b. You must select ‘Transport’ if you will temporarily hold and perform experiments on **wild** animals (*e.g.*, acoustics, imaging, feeding studies) in a facility.
 - c. If some animals will only get a **subset of procedures**, list this subset on a separate row in the take table. **An animal may be counted only against one take row per capture/encounter event.**
11. **Transport:** You must select ‘transport’ from the procedure list to enable this section. You are required to provide the below information about the transport and holding of animals when prompted.
 - a) **Mode(s) of transportation:** Describe the vehicle or other platform used to transport animals.

⁶ We are looking for data to establish minimum thresholds for when take is likely to occur from aerial surveys.

- 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?
- 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? Describe the containment system for the animals, quarantine procedures, and effluent treatment.
- i) The final disposition of the animals: Describe, for example, whether the animal will be released into the wild 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 permit. 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 permit. You cannot enter a date that is later than the End Date you previously entered.
14. **Details:** You may enter up to 255 characters in this text box to provide details on each take table row. This is especially useful for clarifying age class, takes, intentional repeated takes, 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?
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 structures.
 - Ingress and egress of researchers.
 - Injuring or killing benthic organisms (*e.g.*, seagrass, 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 entering only the last name in the 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 section 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. A resume does not need to be provided for this person unless they will also serve as the PI or a CI.

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).

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.

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.

Qualifications and Experience

The PI and each CI must have a 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 again, unless your skills or experience change. Each contact should only have **1** QF file in his/her profile; personnel may replace their 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 and perform all activities under the permit
Jane Smith, Institution B, City, State	Co-Investigator	All activities <i>excluding</i> anesthesia during captures and UAS
Jane Doe, D.V.M., Institution C, City, State	Co-Investigator and Attending Veterinarian	Oversee and conduct captures, and anesthesia of sea turtles

Jane Doe, Ph.D., Institution C, City, State	Co-Investigator	Oversee and conduct captures, anesthesia, and surgical implantation of sonic tags in fishes
John Doe, Ph.D., University D, City, State	Co-investigator	Collect skin biopsy samples and create cell lines
Bob Jones, 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

What is this application not for?

Research or enhancement activities on:

- Sea turtles on land or in rehabilitation
- Marine mammals
- Pacific marine and anadromous fish (*e.g.*, steelhead, eulachon, salmon)
- Protected species parts (only involving importing, exporting, or receiving parts)

When should I apply?

Generally, applications for scientific research or enhancement should be submitted at least 1 year before your project begins. For projects within the scope of existing [programmatic consultations](#), the following timelines apply.

Species	Application Due	Decision (Issue or Deny)
Atlantic and shortnose sturgeon	August 1	January 31
Sea turtles	April 1	September 30
Smalltooth sawfish	August 1	January 31

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.
 - a. Concurrently, we will send your application to subject matter experts in partner institutions and federal and state agencies for review.
 - b. 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.
 - c. We will draft the permit and supporting documentation (including National Environmental Policy Act analyses and documentation of MMPA and ESA issuance criteria).
 - d. The documents will be reviewed by various NMFS offices including a legal review.
 - e. 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.
 - f. The Office Director will decide whether to issue or deny your permit.

What is the process for requesting a modification to a permit?

If your permit falls under a programmatic consultation, you may need to submit your modification request as part of the application cycle. See our [programmatic consultation](#) web page for information on when to submit different types of modification requests.

Use [APPS](#) to submit your modification request. 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 10(a)(1)(A) of the ESA, persons may be authorized to take threatened and endangered species for purposes of scientific purposes or enhancing the survival or propagation of the species. Interested persons are required to submit an application in accordance with the ESA and the implementing regulations at 50 CFR Part 222. These instructions for applying for a research or enhancement permit are drawn from, but do not substitute for, [ESA regulations](#). Read [ESA 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 listed species or result in adverse modification of critical habitat.

Paperwork Reduction Act Statement

The information requested in this application is required and used to determine whether the activities described in the application are consistent with the purposes and policies of the ESA and its 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 modifications, 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. 0664-0084

Expiration Date: xx/xx/xxxx