

Appendix C. ESA Section 10(a)(1)(A) Permit Template.

PERMIT TO TAKE PROTECTED SPECIES¹ FOR SCIENTIFIC AND/OR
ENHANCEMENT PURPOSES

I. Authorization

This permit is issued to Name of Permit Holder, Affiliation, address, (hereinafter “Permit Holder”), [Responsible Party: Name], pursuant to the provisions of the Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*); and the regulations governing the taking, importing, and exporting of endangered and threatened species (50 CFR Parts 222-226).

II. Abstract

The objective(s) of the permitted activity, as described in the application, is to [briefly summarize objectives].

III. Terms and Conditions

The activities authorized herein must occur by the means, in the areas, and for the purposes set forth in the permit application, and as limited by the Terms and Conditions specified in this permit, including attachments and appendices. Permit noncompliance constitutes a violation and is grounds for permit modification, suspension, or revocation, and for enforcement action.

A. Duration of Permit

1. Personnel listed in Condition C.1 of this permit (hereinafter “Researchers”) may conduct activities authorized by this permit through month dd, yyyy. This permit expires on the date indicated and is non-renewable. This permit may be extended by the Director, NMFS Office of Protected Resources, pursuant to applicable regulations and the requirements of the ESA.
2. Researchers must immediately stop permitted activities and the Permit Holder must contact the Chief, NMFS Permits and Conservation Division (hereinafter “Permits Division”) for written permission to resume
 - a. If serious injury or mortality² of protected species occurs / reaches that specified in Table(s) X of Appendix 1.

¹ “Protected species” include species listed as threatened or endangered under the ESA, and marine mammals.

² This permit allows for /does not allow for unintentional serious injury and mortality caused by the presence or actions of researchers up to the limit in Table X of Appendix 1. This includes, but is not limited to: deaths resulting from infections related to sampling procedures; and deaths or injuries sustained by animals during capture and handling, or while attempting to avoid researchers or escape capture. Note that for marine mammals, a serious injury is defined by regulation as any injury that will likely result in mortality.

- b. If authorized take³ is exceeded in any of the following ways:
 - i. More animals are taken than allowed in Table(s) X of Appendix 1.
 - ii. Animals are taken in a manner not authorized by this permit.
 - iii. Protected species other than those authorized by this permit are taken.
 - c. Following incident reporting requirements at Condition E.2.
 - d. At the discretion of the Division Chief, research may be suspended if annual reports are not submitted by their due dates. See Condition E.2 for reporting requirements.
3. The Permit Holder may continue to possess biological samples⁴ acquired⁵ under this permit after permit expiration without additional written authorization, provided the samples are maintained as specified in this permit.

B. Number and Kind(s) of Protected Species, Location(s) and Manner of Taking

- 1. The table(s) in Appendix 1 outline(s) the number of protected species authorized to be taken, and the locations, manner, and time period in which they may be taken.
- 2. Researchers working under this permit may collect images (e.g., photographs, video) in addition to the photo-identification or behavioral photo-documentation authorized in Appendix 1 as needed to document the permitted activities, provided the collection of such images does not result in takes.
- 3. The Permit Holder may use visual images and audio recordings collected under this permit, including those authorized in Table X of Appendix 1, in printed materials (including commercial or scientific publications) and presentations provided the images and recordings are accompanied by a statement indicating that the activity was conducted pursuant to NMFS ESA Permit No. XXXXX. This statement must accompany the images and recordings in all subsequent uses or sales.
- 4. The Chief, Permits Division may grant written approval for personnel performing activities not essential to achieving the research objectives (e.g., a documentary film crew) to be present, provided

³ 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.

⁴ Biological samples include, but are not limited to: carcasses (whole or parts); and any tissues, fluids, or other specimens from live or dead protected species; except feces, urine, and spew collected from the water or ground.

⁵ Authorized methods of sample acquisition are specified in Appendix 1.

- a. The Permit Holder submits a request to the Permits Division specifying the purpose and nature of the activity, location, approximate dates, and number and roles of individuals for which permission is sought.
 - b. Non-essential personnel/activities will not influence the conduct of permitted activities or result in takes of protected species.
 - c. Persons authorized to accompany the Researchers for the purpose of such non-essential activities will not be allowed to participate in the permitted activities.
 - d. The Permit Holder and Researchers do not require compensation from the individuals in return for allowing them to accompany Researchers.
5. Researchers must comply with the following conditions related to the manner of taking sturgeon:
- a. Netting Practices with Gillnets:
 - i. In General:
 - (1) The Permit Holder must take necessary precautions ensuring sturgeon are not harmed during captures, including using appropriate gill net mesh sizes and twine types, restricting gill netting activities by decreasing net set durations as water temperature increases and dissolved oxygen concentration decreases, and following other measures outlined in “A Protocol for Use of Shortnose, Atlantic, Gulf, and Green Sturgeons”
http://www.nmfs.noaa.gov/pr/pdfs/species/kahn_mohead_2010.pdf
 - b. Capture of Sturgeon:
 - i. Gill nets and trammel nets may be fished for sturgeon in water temperatures between 0°C and 28°C and at dissolved oxygen concentrations of at least 4.5 mg/l (measured at the surface and the depth sampled); however, at temperatures less than 7°C and above 27°C, research procedures must be limited to non-invasive procedures only (i.e., PIT and Floy tag, measure, weigh, photograph, and genetic tissue clip) (See Table 1 below).
 - ii. If the gear becomes snagged on substrate or debris, care must be given to loosen the tension on the net before attempting to free it.
 - iii. Location (GPS), temperature, dissolved oxygen (D.O.), gear used (e.g., mesh size and length), soak time, species captured, and any mortalities should be measured and recorded each time nets are set to ensure appropriate values according to the conditions below in Table 1 are followed. This data must be made available to NMFS in annual reports or upon request (See Appendix 3 for report format).

Table 1: Summary of environmental conditions regulating netting duration.

| Water Temperature (°C) | Minimum D.O. Level (mg/L) | Maximum Net Set Duration (hr) |
|------------------------|---------------------------|-------------------------------|
| 0 < 15 | 4.5 | 14.06 |
| 0 < 15 | 4.5 | 4.07 |
| 15 < 20 | 4.5 | 2.08 |
| 20 < 25 | 4.5 | 1.08 |
| 27 < 28 | 4.5 | 0.58 |
| > 28 | N.A. | Cease Netting |

iv. Drift Gill Netting:

- (1) Drift gill nets may be used on the rising or falling tide or during slack water for 30 minutes to 2 hours, depending on the location and swiftness of the tide.
- (2) Drift nets must be checked immediately if an obvious capture has been made or the gear has become snagged on substrate or debris.
- (3) All drift net sets must be tended continuously due to the risk associated with gear entanglement, interaction with other protected species and/or the potential for loss of gear resulting in “ghost” nets (See Section 5.a.xi. below).

v. Trawling:

- (1) A sonar scanning device & global positioning system should be used to monitor bottom characteristics prior to trawling to limit disturbance of substrate while trawling and also to prevent snagging of trawls on the bottom substrate.
- (2) Trawls may be towed at a maximum speed of 2.5 knots and up to 20 minutes per trawl (bottom time) in marine water areas and up to 10 minutes in fresh water areas.

vi. Pound Nets or other Trapping Nets: Pound or trapping gear are considered those *open to the surface*, having leaders not actively capturing or gilling fish; instead, spanning the depth of the water column, diverting fish away from shore and into the trap — or pound – located offshore.

⁶ Net-set duration of 14 hours (including unattended, overnight) is limited to fresh water (<2.0 ppt) ranges where unidentified populations or life stages may exist for presence or absence study objectives.

⁷ Net sets must be continuously monitored and checked upon a net strike by targeted or non-targeted catch.

- (1) Pound nets and trapping gear should be fished in accordance with state regulatory code.
 - (2) Pound nets or trapping gear may be used in freshwater areas (<3.0 ppt) where sea turtles or marine mammals are not anticipated.
 - (3) Pound nets may be used to retain sturgeon without stress for up to 24 hours as a “large holding pen.”
- vii. Larval Sampling using Egg Mats (artificial substrate), Seines, D-nets and Epibenthic sleds:
- (1) Deployment of artificial substrates, d-nets, seines, or epibenthic sleds are authorized for lethally collecting sturgeon eggs and larvae up to the limit described in the Take Table(s) of Appendix 1.
 - (2) Eggs and larvae may be transported to the lab for species verification and preservation in 95% ETOH; the excess may be returned to the river at the site of collection, but are to be recorded as non-viable or lethally taken in annual reports.
 - (3) D-nets may be set for a maximum duration of three (3) hour intervals before checking.
 - (4) No more egg mats may be fished than necessary, and must be checked at least twice per week.
 - (5) Egg mats/D-nets may be fished at temperatures relevant to when spawning is anticipated by researchers, roughly corresponding to ranges of 10 °C to 25 °C in the spring and 18 °C to 25 °C in the fall.
 - (6) Egg mats/D-nets must be removed from rivers once spawning is complete or the authorized numbers of sturgeon eggs and/or larvae have been collected, whichever comes first.
 - (7) The epibenthic sled sampler should be towed against the prevailing current for 5 minutes averaging approximately 1.0 m/second speed through water.
 - (8) Researchers may also use divers and side scan sonar imaging to observe spawning (or other) activities.

- (9) Larval Sampling using Beach Seines:
- (a) When drawing the lead line of a beach seine close to shore, animals should be pooled in clearer waters with minimal turbidity.
 - (b) Larval samples may be preserved for later identification; however, others must be minimally handled and released within 30 minutes after pooled along the shore.
 - (c) Locations seined with beach seines must not be sampled more than once in a 24 hour period.

viii. “Entangled Nets”:

- (1) Should a net, trawl or trapping device become entangled on bottom substrate, debris, tree limbs, etc., efforts should be made to untangle it immediately to reduce further stress on animals.
- (2) Should a net, trawl or trapping device become entangled and its entire portion cannot be immediately freed, its location should be clearly marked for later attempts to free it as soon as possible; and its location should also be reported to the Responsible Party and also the state regulatory authority.
- (3) Should other abandoned “ghost nets” be located, researchers should attempt to remove the gear, if possible, and dispose of it properly.

c. Specific Netting Conditions Protective of Atlantic Salmon in GOM Rivers

- i. To be protective of Atlantic salmon on the Kennebec system, gill nets must not be set within 0.5 miles upstream or downstream of the confluences of the Kennebec River and Bond Brook, and 0.5 miles below Lockwood Dam. Nets must not be set within 0.5 miles upstream or downstream of the confluences of the Penobscot River and Cove Brook, Kenduskeag River, Ducktrap River, or Meadow Brook;

8

<https://www.google.com/maps/d/viewer?hl=en&oe=UTF8&vps=1&msa=0&ie=UTF8&jsv=255b&mid=10bjDztNfih2-9HCbUMVwdTHtLKY>

- ii. Researchers must avoid fishing in documented locations of the Penobscot River and Kennebec complex where Atlantic salmon have been encountered in the past (e.g., in Kennebec: Sand Island @ < 43.914465,-69.727821>; Pine Island @ < 43.914465,-69.727821>; and Fort Halifax Park @ <44.54482,-69.627271> ; and in Penobscot: shallower, non-channel waters of Oak Point Cove @44.667005,-68.822994; and Graham Station @44.821459,-68.708721);
- iii. In all GOM rivers with runs of Atlantic salmon (with exception in the Penobscot River, noted in “iv.” below), gillnets having ≥ 6 ” mesh may be fished in main channels of rivers and bays of the action area at depths greater than 20 feet or greater. Nets may also be fished in areas characterized as —mudflats, off main channels in waters less than 10 feet depth.
- iv. Only 12-inch mesh gillnets may be fished on the Penobscot River from the Waterworks at the site of the former Bangor Dam upstream to the form Veazie Dam site prior until October 1 of each permit year. Thereafter, until December 31 each year of the permit, 6-inch mesh or greater gillnets may be fished in in the capture reach at anchored depths of less than 20-feet of water for one-half hour duration or less; and only when tagged Atlantic salmon are not present as determined by using available direct telemetry monitoring of Atlantic salmon.
- v. David Bean and/or Jeff Murphy (NMFS GARFO) must be contacted prior to netting in the defined areas of GOM salmon run rivers to receive assurances Atlantic salmon passage is no longer anticipated, or is likely finished for the year based on the best available information.
- vi. Incidental take of Atlantic salmon is authorized in this permit by the Biological Opinion’s Incidental Take Statement (See Appendix 1 Table 3).
- vii. Should an Atlantic salmon be taken incidentally during netting, researchers must suspend operations immediately and notify David Bean at (207) 866-4172 (David.Bean@noaa.gov) and/or Jeff Murphy (NMFS GARFO); the Chief, Permits Division, Office of Protected Resources at (301) 427-8401 within 48 hours of any capture of an Atlantic salmon.
- viii. If an Atlantic salmon is incidentally captured, it must be handled minimally; and, if possible, released back into the water alive by cutting it free from the net while still being held in the water. Scale samples remaining on the net should be collected for genetic analysis and sent to the contacts listed in “vii” above in a labeled, sealed vials

containing 95% ethanol.

d. *Holding, and Handling Conditions for Sturgeon:*

- i. Standardized length measurements for all captured sturgeon should be recorded as referenced in Kahn and Mohead (2010), including fork length, total length, as well as the ratio of mouth width to interorbital width, differentiating shortnose sturgeon from Atlantic sturgeon.
- ii. If possible, all sturgeon should be weighed, supporting them with a sling or net when moving. Handling should be minimized throughout weighing activities, using smooth rubber gloves to transfer them. They should be kept in water to the maximum extent possible to reduce stress.
- iii. To accommodate larger catches, researchers must use secondary net pen(s), and also have adequate manpower and equipment available (i.e., extra crews and spare net pens); to avoid overcrowding or stressing fish. Individual animals must either be transferred to spare net pens to separate them, or else released.
- iv. If holding fish onboard, they must be maintained in sufficiently sized and aerated live wells, allowing for total replacement of water volume every 15 minutes; or else they may be held in boat-side floating net pens and processed later. Backup oxygenation of onboard holding tanks with compressed oxygen is necessary when working with a larger number of fish to minimize stress.
- v. Upon removing a non-responsive or overly stressed sturgeon from capture gear, researchers must allow the animal to recover in floating net pens or in well-aerated onboard live tanks. It must be shielded from direct sunlight. At the discretion of the researcher, however, the animal may be minimally examined and handled, and then released as soon as possible when recovered (Note: Researchers may PIT tag, measure, weigh, and genetic sample, and photograph an animal recovered from stress, but must not perform further research activities).
- vii. The maximum holding time of an unstressed sturgeon after removal from capture gear until it is returned to the water, must not exceed two hours; however, at water temperatures $> 27^{\circ}\text{C}$, holding time must be reduced to 30 minutes after removal from the capture gear. Fishing must never occur when water temperature is above 28°C , however (See exception authorized in Table 1 above).
- viii. The total handling time included for onboard activities for individual sturgeon must not exceed 20 minutes (Note: This does not include recovery time from anesthesia or stressed condition).

- ix. Sturgeon should be released only when showing signs of vigor and ability to swim away under its own power. Prior to release, while holding fish vertically and immersed in river water, sturgeon should be moved front to back to aid stimulation with freshwater passage over the gills. A spotter should watch the fish as it is released making sure it stays submerged and does not need additional recovery.
 - x. Because sturgeon are extremely sensitive to chlorine and other sanitizing solutions, if such agents are used between sampling, a thorough flushing of holding tanks would be required between sampling periods.
- e. Tagging Conditions for Sturgeon:
- i. Prior to placement of PIT tags, the entire dorsal surface of each fish must be scanned with a PIT tag reader to ensure detection of fish tagged in other studies. Previously tagged fish must not be retagged.
 - ii. The primary position that PIT tags can be injected is in the anterior dorsal fin musculature. However, in smaller sturgeon, to ensure tag retention and prevent harm or mortality, the PIT tag may also be inserted at the widest dorsal position. Other proven methods can be used by individual researchers, such as under the 4th dorsal scute; however, the researcher would be required to inform all other researchers of such tagging position to ensure detection of all tags.
 - iii. Researchers may use PIT tags measuring 11.5 mm length x 2.1 mm diameter in juvenile sturgeon measuring at least 350 mm total length (TL). Alternately, PIT tags measuring 8.4 mm x 1.4 mm diameter may be used in sturgeon measuring between 250 and 350 mm TL.
 - iv. If considered vital to research objectives requiring public reporting of externally tagged animals, researchers may use numbered T-Bar or dart tags by inserting such tags forward and angled slightly downward through the dorsal fin pterygiophores and twisted to insure attachment. Sturgeon must measure at least 300 mm total length to be tagged with such tags to prevent harm.
 - v. Surgical implantation of internal telemetry tags may only be attempted by approved researchers designated in Section C (See Attachment 2: *How qualifications of researchers are evaluated*).

- vi. Surgical implantation of internal telemetry tags may take place in sturgeon of the proper weight, size and condition. The total length of animals receiving an internal sonic tag should be greater than 300 mm; however, the total weight of all tags must not exceed 2% of a sturgeon's total body weight.
 - vii. Surgical implantation of internal telemetry tags in sturgeon may be attempted only when water temperature is less than 27 °C or greater than 7°C.
 - viii. Surgical instruments must be changed or disinfected and gloves changed between surgeries to avoid possible disease transmission.
 - ix. Surgical incisions are to be properly closed using proven sterile resorbative or non-absorbable suture material. Either uninterrupted running or simple interrupted suturing techniques may be applied. Suturing material must be modified when negative results in healing related to suturing are documented on recaptured fish (See monitoring requirements in Section E 11).
 - x. Short-term, pop-off satellite tags are authorized for external tagging on the sturgeon's dorsal fin using a monofilament tether and without the use of anesthesia. (See Attachment 3: J. Sulikowski; pers comm. 2016).
 - xi. Researchers must document in annual and final reports any information on behavioral adaptation to telemetry tag by tracking individual fish, recording swimming behavior, periods between detections, and number of un-relocated individuals. Additionally, the healing rates of incisions on recaptured fish should be recorded (See Section
- f. Anesthesia (Using MS-222 or Electro-narcosis (EN)):
- i. Researchers performing anesthesia on sturgeon using MS-222 or EN, must have first received supervised training on the procedures on sturgeon or other close surrogate species. The Permit Holder or PI must report this training to the Permits Division prior to the activity (See Attachment 2: *How qualifications of researchers are evaluated*).
 - ii. Researchers may use MS-222 in solution for anesthetizing sturgeon at concentrations up to 150 mg/L; such solutions should be made fresh daily.
 - iii. Before anesthetizing animals with MS-222 researchers must saturate the solution with dissolved oxygen and buffer it to a neutral pH with sodium bicarbonate.

- iv. Unused MS-222 solutions should be disposed of by using state-adopted procedures.
 - v. When using EN to induce anesthesia, NMFS recommends using low amperage direct, non-pulsed current, as described by Henyey *et al.* (2002).⁹
 - vi. Only non-stressed animals in excellent health and vigor may be anesthetized.
 - vii. To avoid injury to anesthetized sturgeon, researchers must use restraint in containers to prevent animals from jumping or falling out.
 - viii. When inducing anesthesia on sturgeon, researchers must observe fish at all times to establish when the proper level of anesthesia has been reached.
 - ix. Upon encountering a sudden reflex reaction during an invasive procedure on an anesthetized fish, the researcher must stop the procedure and evaluate the level of anesthesia before proceeding.
 - x. Researchers must observe sturgeon for proper recovery from anesthesia prior to release.
- g. *Collection & Transfer of Biological Samples (e.g., genetic tissue samples)*¹⁰
- i. Care must be used when collecting tissue samples. Instruments must be sanitized or changed and gloves must be changed between sampling each fish to avoid possible disease transmission or cross contamination of sample materials.
 - ii. Genetic tissue samples must be collected from all sturgeon by removing a small (1.0 cm²) fin-clip from soft fin tissues using a pair of sharp scissors. NMFS recommends preserving samples in individually labeled and sealed vials containing 95% ethanol (See Attachment 1: *Instructions on air shipment precautions when using ethanol to preserve samples*).
 - iii. Researchers must transfer sturgeon genetic tissue samples and electronic records to the NOAA Tissue Sample Analyst and Archive within 12 months of collection (See Appendix 2a & 2b; See also Attachment 3: *Instructions on air shipment*

⁹ Henyey, E., B. Kynard, and P. Zhuang. 2002. Use of electro-narcosis to immobilize juvenile lake and shortnose sturgeon for handling and the effects on their behavior. *Journal of Applied Ichthyology* 18: 502 – 504.

¹⁰ The NOAA Permits Division and Regional Offices of Protected Resources retain the right to transfer tissue samples to any Authorized Recipient for purposes of analyses; however, the data generated may not be published without consent of the Researcher or Responsible Party identified on the collecting permit.

precautions when using ethanol to preserve samples).).

- iv. A Chain of Custody document (Appendix 2a) must be maintained for biological samples when transferring samples to other Authorized Recipients listed in Appendix 8 of this permit. Furthermore, a copy of this permit must accompany the samples during transport and remain on site during analysis or curation.
- v. In general, the Permit Holder may retain duplicate samples not transferred to archives or Authorized Recipients; however, biological samples may not be transferred to others not listed in the permit without first obtaining prior written approval from NMFS. Any such transfer will be subject to such conditions as NMFS deems appropriate.
- vi. The Permit Holder may continue to possess biological samples acquired under this permit after permit expiration without additional written authorization, provided the samples are maintained as specified in this permit. This also applies to samples transferred to other Authorized Recipients.
- vii. Biological Samples must be maintained according to accepted curatorial standards and must be labeled with a unique identifier (e.g., alphanumeric code) that is connected to on-site records with information identifying the:
 - (1) legal authorization for original sample collection or import.
 - (2) species and, where known, age, sex, length/weight etc.,
 - (3) date of collection, acquisition, or import,
 - (4) type of sample (*e.g.*, blood, skin, bone), and
 - (5) location or origin collected (*e.g.*, lat/long, river km) or imported.
- viii. Biological samples may not be bought or sold.

- ix. Researchers must document in annual and final reports any information on behavioral adaptation to telemetry tag by tracking individual fish, recording swimming behavior, periods between detections, and number of un-relocated individuals. Additionally, the healing rates of incisions on recaptured fish should be recorded.

- h. Endoscopic Examination (Borescope):
 - i. Borescopy for identifying sex/maturity is authorized on shortnose or Atlantic sturgeon (≥ 700 mm TL), specifically those not yet releasing eggs or sperm while handling.
 - ii. Prior to an individual researcher performing borescopy, s/he must first receive supervised training from a properly permitted individual using either wild or captive shortnose sturgeon, or another surrogate sturgeon species. The Responsible Party or PI must report individual training to NMFS prior to the activity, and then append a signed letter received from NMFS certifying the training (See Attachment 2: *How qualifications of researchers are evaluated*).

- i. Gastric Lavage for Diet Analysis:
 - i. Gastric lavage for diet analysis must be performed as referenced in Kahn and Mohead (2010)¹¹
 - ii. Prior to performing gastric lavage unassisted, a researcher must first have had supervised training from a properly permitted individual using either wild or captive Atlantic or shortnose sturgeon, or other close surrogate species. This training must be documented in Section C.1. of this permit (See Attachment 2: *How qualifications of researchers are evaluated*).
 - iii. Researchers should carry out gastric lavage using 1.90 mm diameter flexible tubing on sturgeon between 250 mm -350 mm (FL); 4.06 mm diameter flexible tubing may be used on sturgeon between 350 mm-1250 mm (FL); and 10.15 mm flexible tubing may be used on sturgeon over 1250 mm (FL).
 - iv. Researchers must attempt to monitor the effects resulting from gastric lavage on recaptured animals having

¹¹ Kahn, J., and M. Mohead. 2010. A protocol for use of shortnose, Atlantic, Gulf, and green sturgeons. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Protected Resources.

undergone the procedure (See Section E.c.3: *Monitoring requirements*)

- v. Prior to performing gastric lavage, researchers must anesthetize sturgeon, allowing relaxation of the gut during penetration of the tubing to the proper positioning in the gut.
- vi. While performing gastric lavage on Atlantic or shortnose sturgeon, researchers must irrigate the sturgeon's gills with ample water flow, insuring respiration.

j. *Sturgeon Mortality or Serious Harm:*

- i. Incidental mortality or serious harm of sturgeon caused by research activity is authorized in this permit (See Section III.A.2.; E2, and Tables 1 & 2 of Appendix 1); however, each incidence must be reported to the Permits Division within two business days of the occurrence, and an incident report must be completed within 2 weeks (see Condition E.2). In addition, a genetic tissue sample of the animal must be forwarded to the NOAA tissue archive for genetic analysis within 30 days.
- ii. NMFS requests that all sturgeon or body parts opportunistically found (or caused by research activities) be preserved—preferably iced or refrigerated—until sampling and disposal procedures are discussed with NMFS (See Appendix 4: *Sturgeon salvage form*).

k. *Interaction with other Non-Target Species:*⁶

i. Marine Mammal Interactions:

- (1) This permit does not authorize the capture, serious injury, or mortality of marine mammals.
- (2) In the unlikely event a protected marine mammal is captured or harmed, all permitted activities would be suspended until the Permits Division has granted approval to continue research per Condition E.2.
- (3) In the unlikely event a marine mammal is captured or harmed, the Greater Atlantic Region Marine Mammal and Sea Turtle Stranding and Entanglement Hotline must be contacted as soon as possible at (800) 281-

¹² The Permits Division does not anticipate impacts with sea turtles or marine mammals; however, these conditions are provided by turtle and marine mammal specialists within the Greater Atlantic Regional Fisheries Office in order to minimize interactions and/or impacts, as suggested.

9351, as well as the Chief, Permits Division and/or the permit analyst at 301- 427-8401.

- (4) Researchers must submit a detailed report of any marine mammal bycatch within 48 hours to the Chief, Permits Division and/or the permit analyst at 301-427-8401; and to the Northeast Fisheries Science Center at 508-495-2358, and to the NMFS Greater Atlantic Regional Fisheries Office of Protected Resources at 978-282-8463 (see Section E xx for reporting marine mammal interactions).
- (5) In all boating activities — including travel to acoustic receiver arrays — researchers are advised to keep a close watch for all marine mammals, proceeding at a safe enough speed to avoid harassment or adverse interaction. Additionally, researchers are advised to review the NMFS, Greater Atlantic Region Marine Mammal Approach and Viewing Guidelines located online at: <http://www.greateratlantic.fisheries.noaa.gov/Protected/>; and at <http://www.nmfs.noaa.gov/pr/education/regional.htm>.
- (6) Netting activities must be closely attended and continuously monitored during deployment when netting in areas where marine mammals are likely to be encountered.
- (7) Researchers must reduce speed or turn off boat engines or put them in neutral when approaching a marine mammal.
- (8) If a marine mammal is observed within the vicinity (100-ft radius) of planned netting activity, it must be allowed to either leave or pass through the area safely before netting is initiated.
- (9) Should a marine mammal enter a research area safety zone (100-ft radius) after nets are deployed, and remain within the vicinity, nets must be pulled. Netting may resume only after the animal is no longer within a radius safety zone, or 30 minutes has elapsed since the mammal was last observed within the safety zone.

ii. Sea Turtle Interaction:

- (1) This permit does not authorize the capture, serious injury, or mortality of listed sea turtles.
- (2) In the unlikely event a sea turtle is incidentally captured or harmed, all permitted activities would be suspended until the

Chief, Permits Division at 301-427-8401 has granted approval to continue research (see Conditions III A.2 and E.2).

- (3) Upon incidentally capturing a sea turtle, the Permit Holder, Principal Investigator, Co-investigator(s), or Research Assistant(s) acting on the Permit Holder's behalf must use care when handling a live turtle to minimize any possible injury; and appropriate resuscitation techniques must be used on any comatose turtle prior to returning it to the water. All sea turtles must be handled according to procedures specified in 50 CFR 223.206(d)(1)(i).
- (4) In the event a captured sea turtle dies, or is severely injured, all permitted activities must cease and researchers must contact the NOAA Greater Atlantic Marine Mammal and Sea Turtle Stranding and Entanglement Hotline as soon as possible at (800) 281-9351, as well as the Chief, Permits Division and/or the permit analyst at 301-427-8401 (see Conditions III A.2 and E.2).
- (5) Adverse interactions with sea turtles should be documented, including any pertinent detail (species, type of interaction, location, date, size, water & air temp, any obvious patterns and photos if possible (See Section E. xx for documenting sea turtle interactions).
- (6) In all boating and research activities within the study area, a close watch must be made for sea turtles present in order to avoid interaction or injury.
- (7) Nets may not be deployed, or must be removed if previously deployed, upon sighting a sea turtle within a 100-foot radius of the netting area unless the turtle is seen on a path moving away. Netting may resume only after 30 minutes has elapsed since the sea turtle was last observed within the safety zone.

iii. Smalltooth Sawfish (*Pristis pectinata*):

- (1) Incidental take of smalltooth sawfish is authorized in this permit by the Biological Opinion's Incidental Take Statement (See Appendix 1 Table 3).
- (2) Researchers operating in areas where sawfish are present are required to be trained by a member of the NMFS sawfish recovery team to discuss proper handling procedures, specifically:

- (a) When attempting to handle and release an incidentally captured sawfish, Researchers must use extreme caution, using procedures specified in NMFS Sawfish Handling and Release Guidelines, found online at:
http://www.nmfs.noaa.gov/sfa/hms/compliance/workshops/protected_species_workshop/sawfish_sturgeon/sawfish_release_guidelines_placard.pdf
- (b) Researchers must keep the fish in the water at all times and cutting the net from the rostrum and body of the animal (no attempts should be made to disentangle the rostrum from the net).
- (3) Adverse interactions with sawfish should be documented, including any pertinent details of the interaction (type of gear type, what was done to handle and release the animals, location, date, size, water & air temp, and photos if possible).
- (4) In the event a smalltooth sawfish is incidentally captured or harmed by research activities, all activities are to be suspended until the Chief, Permits Division at 301-427-8401 has granted approval to continue research (see Conditions III A.2 and E.2). Also, contact Adam Brame in the Southeast Regional Office at (727) 209-5958.

iv. North Atlantic Right Whale (*Eubalaena glacialis*):

- (1) The Permit Holder must ensure research staff regularly conducts observations for right whales. Monitoring is required on all vessels and must be conducted by research staff with at sea large whale identification experience. In accordance with 50 CFR 224.103(c)(1), the Permit Holder must not get within 460 meters (500 yds) of a right whale. If a right whale is sighted within 500 yards of the vessel, immediate avoidance measures must be taken and researchers must immediately report the sighting and location data to either the U.S. Coast Guard or the appropriate NMFS Regional Administrator.
- (2) Please report all right whale sightings to NMFS Sighting Advisory System:
 - in any location to the U.S. Coast Guard on channel 16
 - ☐ from VA to ME to (978) 585-8473
 - from NC to FL to 904-237-4220

- v. Manatees: See Appendix 7 for requirements provided by the U.S. Fish and Wildlife Service.

- vi. Submerged Aquatic Vegetation (SAV; e.g., seagrass), Coral Communities, Hard and Live Bottom Habitat
 - (1) Researchers must take all practicable steps including the use of charts, GIS, sonar, fish finders, or other electronic devices to determine characteristics and suitability of bottom habitat prior to using gear to identify SAV, coral communities, and live/hard bottom habitats and avoid setting gear in such areas.
 - (2) No gear may be set, anchored on, or pulled across SAV, coral or hard/live bottom habitats.
 - (3) If research gear is lost, diligent efforts would be made to recover the lost gear to avoid further damage to benthic habitat and impacts related to “ghost fishing.”
 - (4) *Seagrass*. Researchers must avoid conducting research over, on, or immediately adjacent to any seagrass species. If these species cannot be avoided, the following avoidance/minimization measures must be implemented:
 - a. To reduce the potential for sea grass damage, anchors must be set by hand when water visibility is acceptable. Anchors must be placed in unvegetated areas within seagrass meadows or areas having relatively sparse vegetation coverage. Anchor removal must be conducted in a manner that would avoid the dragging of anchors and anchor chains.
 - b. Researchers must take great care to avoid damaging any sea grass species and if the potential for anchor or net drag is evident researchers must suspend research activities immediately.
 - c. Researchers must be careful not to tread or trample on seagrass and coral reef habitat.

- vii. Fisheries Bycatch (non-listed, commercial or non-listed, non-commercial fish species)
 - (1) Attempts should be made to release alive all incidentally captured species (e.g., fishes) as soon as possible.

- viii. Aquatic Nuisance Species:
 - (1) To prevent potential spread of aquatic nuisance species

identified in the watershed, all equipment assigned to the research must not be reassigned to other watersheds until gear and equipment used is sanitized, rinsed, and dried.

6. Transfer of Sturgeon Biological Samples

- a. Samples may be sent to the Authorized Recipients listed in Appendix 2 provided that
 - i. The analysis or curation is related to the research objectives of this permit.
 - ii. A copy of this permit accompanies the samples during transport and remains on site during analysis or curation.
- b. Samples remain in the legal custody of the Permit Holder while in the possession of Authorized Recipients.
- c. The transfer of biological samples to anyone other than the Authorized Recipients in Appendix 2 requires written approval from the Chief, Permits Division.
- d. Samples cannot be bought or sold.

C. Qualifications, Responsibilities, and Designation of Personnel

1. At the discretion of the Permit Holder, the following Researchers may participate in the conduct of the permitted activities in accordance with their qualifications and the limitations specified herein:
 - a. Principal Investigator – [name]
 - b. Co-Investigator(s) –See Appendix 2 for list of names and corresponding activities.
 - c. Research Assistants – personnel identified by the Permit Holder or Principal Investigator and qualified to act pursuant to Conditions C.2, C.3, and C.4 of this permit.
2. Individuals conducting permitted activities must possess qualifications commensurate with their roles and responsibilities. The roles and responsibilities of personnel operating under this permit are as follows:
 - a. The Permit Holder is ultimately responsible for activities of individuals operating under the authority of this permit. Where the Permit Holder is an institution/facility, the Responsible Party is the person at the institution/facility who is responsible for the supervision of the Principal Investigator.

- b. The Principal Investigator (PI) is the individual primarily responsible for the taking, import, export and related activities conducted under the permit. The PI must be on site during activities conducted under this permit unless a Co-Investigator named in Condition C.1 is present to act in place of the PI.
 - c. Co-Investigators (CIs) are individuals who are qualified to conduct activities authorized by the permit, for the objectives described in the application, without the on-site supervision of the PI. CIs assume the role and responsibility of the PI in the PI's absence.
 - d. 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.
3. Personnel involved in permitted activities must be reasonable in number and essential to conduct of the permitted activities. Essential personnel are limited to
 - a. individuals who perform a function directly supportive of and necessary to the permitted activity (including operation of vessels or aircraft essential to conduct of the activity),
 - b. individuals included as backup for those personnel essential to the conduct of the permitted activity, and
 - c. individuals included for training purposes.
4. Persons who require state or Federal licenses or authorizations (e.g., veterinarians, pilots – including UAS operators) to conduct activities under the permit must be duly licensed/authorized and follow all applicable requirements when undertaking such activities.
5. Permitted activities may be conducted aboard vessels or aircraft, or in cooperation with individuals or organizations, engaged in commercial activities, provided the commercial activities are not conducted simultaneously with the permitted activities, except as specifically provided for in an Incidental Take Statement or Incidental Take Permit for the specific commercial activity.
6. The Permit Holder cannot require or receive direct or indirect compensation from a person approved to act as PI, CI, or RA under this permit in return for requesting such approval from the Permits Division.
7. The Permit Holder may add CIs by submitting a request to the Chief, Permits Division that includes a description of the individual's qualifications to conduct and oversee the activities authorized under this permit. If a CI will only be

responsible for a subset of permitted activities, the request must also specify the activities for which they would provide oversight.

7. For NMFS Science Centers Only: The Permit Holder or PI may designate additional CIs without prior approval from the Chief, Permits Division provided
 - a. A copy of the letter designating the individual and specifying their duties under the permit is forwarded to the Permits Division by facsimile or email on the day of designation.
 - b. The copy of the letter is accompanied by a summary of the individual's qualifications to conduct and supervise the permitted activities.
 - c. The Permit Holder acknowledges that the designation is subject to review and revocation by the Chief, Permits Division.
8. Where the Permit Holder is an institution/facility, the Responsible Party may request a change of PI by submitting a request to the Chief, Permits Division that includes a description of the individual's qualifications to conduct and oversee the activities authorized under this permit.
9. Submit requests to add CIs or change the PI by one of the following:
 - a. the online system at <https://apps.nmfs.noaa.gov>;
 - b. an email attachment to the permit analyst for this permit; or
 - c. a hard copy mailed or faxed to the Chief, Permits Division, Office of Protected Resources, NMFS, 1315 East-West Highway, Room 13705, Silver Spring, MD 20910; phone (301)427-8401; fax (301)713-0376.

D. Possession of Permit

1. This permit cannot be transferred or assigned to any other person.
2. The Permit Holder and persons operating under the authority of this permit must possess a copy of this permit when
 - a. Engaged in a permitted activity.
 - b. A protected species is in transit incidental to a permitted activity.
 - c. A protected species taken or imported under the permit is in the possession of such persons.
3. A duplicate copy of this permit must accompany or be attached to the container, package, enclosure, or other means of containment in which a protected species or protected species part is placed for purposes of storage, transit, supervision or care.

E. Reports

1. The Permit Holder must submit incident and annual reports containing the information and in the format specified by the Permits Division.
 - a. Reports must be submitted to the Permits Division by one of the following:
 - i. the online system at <https://apps.nmfs.noaa.gov>;
 - ii. an email attachment to the permit analyst for this permit; or
 - iii. a hard copy mailed or faxed to the Chief, Permits Division.
 - b. You must contact your permit analyst for a reporting form if you do not submit reports through the online system.
2. Incident reports: must be submitted within two weeks of a serious injury or any mortality, or exceeding authorized takes, as specified in Condition A.2 and B.x.
 - a. The incident report must include a complete description of the events and identification of steps that will be taken to reduce the potential for additional serious injury and research-related mortality or exceeding authorized take.
 - b. If the total number of mortalities is reached or takes have been exceeded:
 - i. in addition to the written report, the Permit Holder must contact the Permits Division by phone (301-427-8401) as soon as possible, but no later than within two business days of the incident.
 - ii. the Permits Division may grant authorization to resume permitted activities based on review of the incident report and in consideration of the Terms and Conditions of this permit.
3. Annual reports describing activities conducted during the previous permit calendar year (January to December) must
 - a. be submitted by January 31st of the following year each year for which the permit is valid, and
 - b. include a tabular accounting of takes and a narrative description of activities and effects.
4. Research results must be published or otherwise made available to the scientific community in a reasonable period of time. Copies of technical

reports, conference abstracts, papers, or publications resulting from permitted research must be submitted the Permits Division.

5. Specimens or body parts of dead sturgeon (found opportunistically or resulting from research activities), should be individually preserved — preferably on ice or refrigeration — until sampling and/or disposal procedures are discussed with NMFS. The sturgeon should be documented by completing the sturgeon salvage form (See Appendix 4).
6. Reporting of Monitored Activities: To ensure monitoring of certain authorized activities described below, researchers must meet with the Permitting Division annually to review research activities. During this meeting researchers must provide the following:
 - a. A report of all research effort conducted, including soak times, nets used (e.g., 3, 6, & 12 inch), temperature and D.O. at the time of each set, species of fish captured, and any mortalities (include conclusions on cause(s) of mortality and potential appropriate mitigations);
 - b. A field report documenting the transfer of individual genetic tissue samples to the NOAA Genetic Tissue Archive located at Kearneysville, West Virginia. This includes *A Biological Sample Certification, Identification and Chain of Custody Form* that must accompany shipments of genetic tissue samples within 12 months of collection (See Appendix 2a & 2b)
 - c. A report of the effects resulting from specified invasive methods (e.g., internal tagging, gastric lavage, and other procedures requiring chemical anesthesia with MS-222) must be made each year, including:
 - i. Detailed records (including photographic evidence) on all recaptured animals having undergone a previous invasive procedure. Specifically, this report should document the weight, length, condition, health, tag retention, and surgical healing rate from any invasive procedures.
 - ii. Documentation of any information on the behavioral adaptation to telemetry tags obtained by tracking individual fish, recording swimming behavior, recording periods between detections from the time of tagging, and documenting the number of un-relocated individuals.

F. Notification and Coordination

1. The Permit Holder must provide written notification of planned field work to the applicable NMFS Region at least two weeks prior to initiation of each field trip/season. If there will be multiple field trips/seasons in a permit year, a single summary notification may be submitted per year.
 - a. Notification must include the
 - i. locations of the intended field study and/or survey routes;
 - ii. estimated dates of activities; and
 - iii. number and roles of participants (for example: PI, CI, veterinarian, boat driver, safety diver, animal restrainer, Research Assistant “in training”).
 - b. Notification must be sent to the following Assistant Regional Administrator(s) for Protected Resources as applicable to the location of your activity:

For activities in NC, SC, GA, FL, AL, MS, LA, TX, PR, and USVI:
Southeast Region, NMFS, 263 13th Ave South, St. Petersburg, FL 33701;
phone (727)824-5312; fax (727)824-5309
Email (*preferred*): nmfs.ser.research.notification@noaa.gov; and

For activities in ME, VT, NH, MA, NY, CT, NJ, DE, RI, MD, and VA:
Greater Atlantic Region, NMFS, 55 Great Republic Drive, Gloucester,
MA 01930; phone (978)281-9328; fax (978)281-9394
Email (*preferred*): NMFS.GAR.permit.notification@noaa.gov
2. To the maximum extent practical, the Permit Holder must coordinate permitted activities with activities of other Permit Holders conducting the same or similar activities on the same species, in the same locations, or at the same times of year to avoid unnecessary disturbance of animals. Contact the applicable Regional Office(s) listed above for information about coordinating with other Permit Holders.

G. Observers and Inspections

1. NMFS may review activities conducted under this permit. At the request of NMFS, the Permit Holder must cooperate with any such review by
 - a. allowing an employee of NOAA or other person designated by the Director, NMFS Office of Protected Resources to observe permitted activities; and

- b. providing all documents or other information relating to the permitted activities.

H. Modification, Suspension, and Revocation

1. Permits are subject to suspension, revocation, modification, and denial in accordance with the provisions of subpart D [Permit Sanctions and Denials] of 15 CFR part 904.
2. The Director, NMFS Office of Protected Resources may modify, suspend, or revoke this permit in whole or in part
 - a. in order to make the permit consistent with a change made after the date of permit issuance with respect to applicable regulations prescribed under section 4 of the ESA;
 - b. in a case in which a violation of the terms and conditions of the permit is found;
 - c. in response to a written request¹³ from the Permit Holder;
 - d. if NMFS determines that the application or other information pertaining to the permitted activities (including, but not limited to, reports pursuant to Section E of this permit and information provided to NOAA personnel pursuant to Section G of this permit) includes false information; and
 - e. if NMFS determines that the authorized activities will operate to the disadvantage of threatened or endangered species or are otherwise no longer consistent with the purposes and policy in Section 2 of the ESA.
3. Issuance of this permit does not guarantee or imply that NMFS will issue or approve subsequent permits or modifications for the same or similar activities requested by the Permit Holder, including those of a continuing nature.

I. Penalties and Permit Sanctions

1. A person who violates a provision of this permit, the Marine Mammal Protection Act (MMPA), ESA, or the regulations at 50 CFR 222-226 is subject to civil and criminal penalties, permit sanctions, and forfeiture as authorized under the MMPA, ESA, and 15 CFR part 904.

¹³ The Permit Holder may request changes to the permit related to: the objectives or purposes of the permitted activities; the species or number of animals taken; and the location, time, or manner of taking or importing protected species. Such requests must be submitted in writing to the Permits Division in the format specified in the application instructions.

2. The NMFS Office of Protected Resources shall be the sole arbiter of whether a given activity is within the scope and bounds of the authorization granted in this permit.
 - a. The Permit Holder must contact the Permits Division for verification before conducting the activity if they are unsure whether an activity is within the scope of the permit.
 - b. Failure to verify, where the NMFS Office of Protected Resources subsequently determines that an activity was outside the scope of the permit, may be used as evidence of a violation of the permit, the MMPA, the ESA, and applicable regulations in any enforcement actions.

J. Acceptance of Permit

1. In signing this permit, the Permit Holder
 - a. agrees to abide by all terms and conditions set forth in the permit, all restrictions and relevant regulations under 50 CFR Parts 222-226, and all restrictions and requirements under the MMPA, and the ESA;
 - b. acknowledges that the authority to conduct certain activities specified in the permit is conditional and subject to authorization by the Office Director; and
 - c. acknowledges that this permit does not relieve the Permit Holder of the responsibility to obtain any other permits, or comply with any other Federal, State, local, or international laws or regulations.

 Donna S. Wieting
 Director, Office of Protected Resources
 National Marine Fisheries Service

 Date Issued

 [name of Permit Holder or Responsible Party]
 [permit holder's/RP's title and institution]
 Permit Holder /or/ Responsible Party

 Date Effective