Appendix A - Requirements for Handling Incidentally Taken Sturgeon and Collecting Genetic Samples

General Handling of Sturgeon

1. If the animal appears energetic, active, and otherwise healthy enough to undergo handling, it should be done so in accordance with guideline #3 below. If the animal is not healthy enough to undergo the procedures described, ensure the vessel is in neutral and release it over the side, head first.
2. Animals should be handled rapidly, but with care and kept in water to the maximum extent possible during holding and handling. During handling procedures the animal must be kept wet at all times using water from which it was removed (e.g., river water). While moving the animal or removing it from gear, covering its eyes with a wet towel may help calm it.
3. All handling procedures (i.e., measuring, PIT tagging, photographing, and tissue sampling) should be completed as quickly as possible, and should not exceed 20 minutes from when the sturgeon is first brought on board the vessel. Handling procedures should be prioritize in the following order: 1) collect a tissue sample (see procedure described below); 2) scan for existing PIT tags, apply new PIT tag if no pre-existing PIT tag is found; 3) measure the animal; 4) photograph the animal. If all of the handling procedures cannot be completed within 20 minutes, the animal should be returned to the water; indicate which procedures were not completed when reporting the incidental take to NMFS.
4. A sturgeon maybe held on board for longer than 20 minutes only when held in a net pen/basket floating next to the vessel or placed in flow through tanks, where the total volume of water is replaced every 15-20 minutes.

Genetic Tissue Sampling for Atlantic Sturgeon

5. Genetic tissue samples must be taken from every Atlantic sturgeon captured unless conditions are such that collecting a sample would imperil human or animal safety.
6. Tissue samples should be a small (1.0 cm^2) fin clip collected from soft pelvic fin tissue. Use a knife, scalpel, or scissors that has been thoroughly cleaned and wiped with alcohol. Samples should be preserved in RNAlater™ preservative. Gently shake to ensure the solution covers the fin clip. Once the fin clip is in buffer solution, refrigeration/freezing is not required, but care should be taken not to expose the sample to excessive heat or intense sunlight. Label each sample with the fish's unique ID number. Do not use glass vials; a 2 ml screw top plastic vial is preferred (e.g., MidWest Scientific AVFS2002 and AVC100N).

PIT Tagging

7. Every sturgeon should be scanned for PIT tags along its entire body surface ensuring it has not been previously tagged. The PIT tag readers must be able to read both 125 kHz and 134 kHz tags. When a previously implanted tag is detected the PIT tag information should be recorded on the reporting spreadsheet ("Sturgeon Genetic Sample Submission sheet"). Indicate the animal was a recapture in the "comment" field of the reporting spreadsheet.

8. Sturgeon without an existing PIT tag should have one implanted. The recommended frequency for PIT tags is 134.2 kHz. The tag information should be reported in the appropriate fields on the reporting spreadsheet.
9. Sturgeon smaller than 250mm shall not be PIT tagged. Sturgeon measuring 250-350 mm TL shall only be tagged with 8mm PIT tags. Sturgeon 350 mm or greater shall receive standard sized PIT tags (e.g., 11 or 14 mm).
10. PIT tags should be implanted to the left of the spine immediately anterior to the dorsal fin, and posterior to the dorsal scutes (Figure X.1). This positioning optimizes the PIT tag's readability over the animal's lifetime. If necessary, to ensure tag retention and prevent harm or mortality to small juvenile sturgeon of all species, the PIT tag can also be inserted at the widest dorsal position just to the left of the 4th dorsal scute.
11. Scan the newly implanted tag following insertion to ensure it is readable before the animal is released. If the tag is not readable, one additional tag should be implanted on the opposite side following the same procedure, if doing so will not jeopardize the safety of the animal.

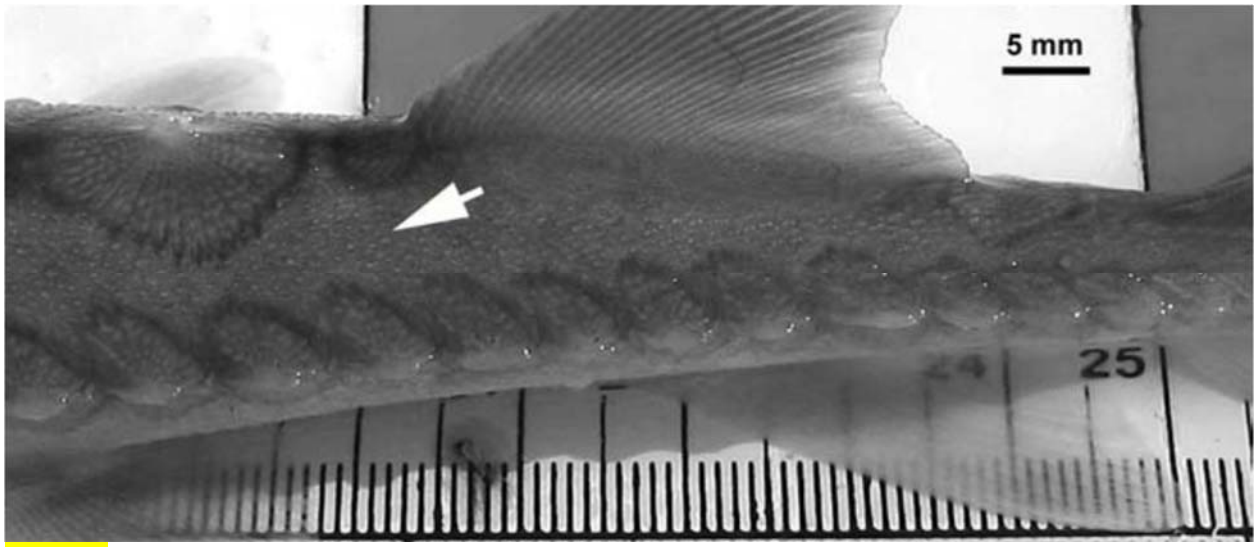

Figure X.1. Standardized Location for PIT Tagging all Gulf, Atlantic, and shortnose sturgeon
(Photo Credit: J. Henne, USFWS)

Measuring

12. Length measurements for all sturgeon should be taken as a straight line measurement from the snout to the fork in the tail (i.e., fork length – FL), and as a straight line measurement from the snout to the tip of the tail (i.e., total length – TL) (Figure X.2). Do not measure the curve of the animal's body.

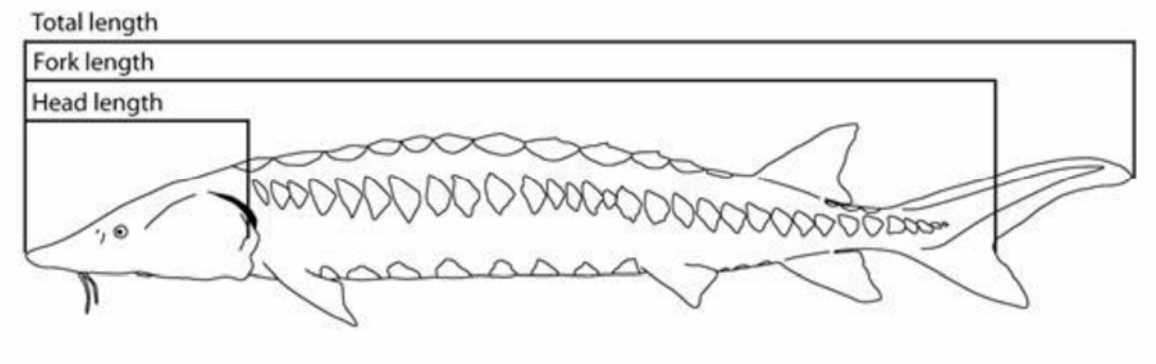

Figure X.2. Diagram of different types of measurements for sturgeons.
(Drawings by Eric Hilton, Virginia Institute of Marine Science in Mohead and Kahn 2010)

Reporting Captures/Samples

13. *Reporting Captures and Genetic Samples*: Incidental captures and genetic samples may be reported using the same reporting spreadsheet ("Sturgeon Genetic Sample Submission Sheet"). Electronic metadata for each sample must be provided to properly identify and archive samples. Submit the reporting spreadsheet via email to: rjohnson1@usgs.gov and takereport.nmfsser@noaa.gov. When submitting electronic metadata samples, identify the project name and biological opinion (SER #) in the subject line.

14. *Reporting Captures with NO Genetic Sample*: If no genetic sample could be safely collected, the incidental capture must still be reported using the Sturgeon Genetic Sample Submission Sheet. Submit the reporting spreadsheet via email to takereport.nmfsser@noaa.gov. When submitting electronic metadata samples, identify the project name and biological opinion (SER #) in the subject line.

Transport of Genetic Samples

15. Package vials containing genetic samples together (e.g., in one box) with an absorbent material within a double-sealed container (e.g., zip lock baggie).

16. When submitting tissue samples via mail, identify the project name and biological opinion (SER #) under which the take was authorized in the shipping container. Ship tissue samples to:

Mail samples to:
Robin Johnson
Geological Survey
Leetown Science Center
Aquatic Ecology Branch
11649 Leetown Road
Kearneysville, WV 25430