



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northeast Fisheries Science Center
166 Water Street
Woods Hole, MA 02543-1026

April 1, 2009

MEMORANDUM FOR: Northeast Fisheries Observer Program Observers

FROM: Amy S. Van Atten
Branch Chief, FSB 

SUBJECT: Atlantic Sturgeon Genetics Sample Collection Request

The source population for Atlantic sturgeon in coastal bycatches is becoming a bigger issue all the time. Genetic approaches will allow for identification of individuals or contingents of fish that are intercepted in coastal bycatches. Scientists from various organizations including NYU School of Medicine and NOAA have requested that fin clip samples be obtained from all Atlantic Sturgeon caught in commercial fishing gear. The fin clip samples will be used for DNA analysis of the sturgeon stock. Additionally, this research is in response to a recent push to re-list Atlantic sturgeon as an endangered species. Special permits need to be obtained before the genetic sampling of Shortnose Sturgeon occurs therefore this species should not be sampled at this time.

All protocols remain the same for Atlantic Sturgeon with the addition of the need to obtain a fin clip as well as scanning the fish with a PIT tag scanner. Enclosed you will find a cheatsheet that details on one side complete sampling and scanning protocols. On the other side there are photos and descriptions detailing the differences between Atlantic and Shortnose Sturgeon. Remember that all sturgeon, regardless of species, must have photos taken of them and must be scanned with the PIT tag scanner. They should be recorded on the Individual Animal Log with the latitude and longitude recorded on the Haul log. After a sample is collected please send it in with your trip paperwork. It is pertinent that the label on the outside of the vial is completely filled out. This will be helpful when matching the sample back to the trip. Also, please be sure to include sturgeon when discussing your protected species duties with the captain. This project is currently ongoing, however, if samples are no longer necessary an e-mail will be sent out.

If you have any questions please contact Brian Gervelis at 508-495-2383 or Brian.Gervelis@noaa.gov.

Thank you.

Attachments: Cheat Sheet (Sturgeon ID / Genetic sampling instructions)
Enclosure: Ten tissue vials

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Atlantic Sturgeon (*Acipenser oxyrinchus*)
Genetics Sample Collection Instructions

Please read the instructions below when sampling an Atlantic Sturgeon.

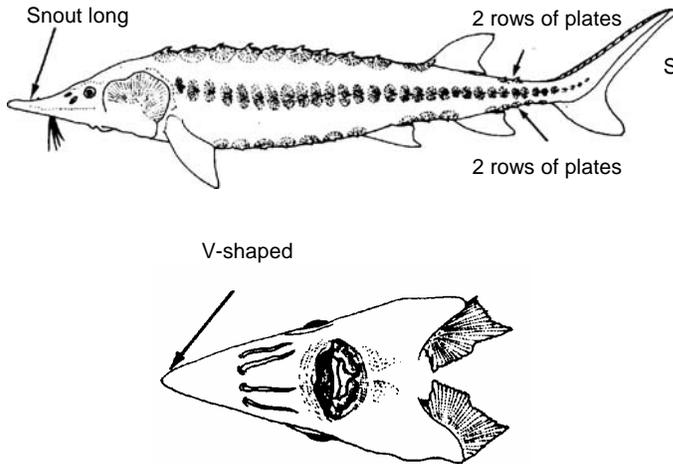
Instructions:

1. **Photos** – Be sure to take photos of each sturgeon. Take photos of the fish in profile, the underside of the head, post-dorsal fin scutes (dorsal view) and post-anal scutes (ventral view). Include something in the photos for scale.
2. **Biosample (Atlantic Sturgeon ONLY!!)** - Cut the tip of the dorsal fin off to about the size of a dime from each fish and place in a vial. The DNA sample should be only one fish per vial. After sample has been placed in the vial, make sure the cap is secure. Label each vial with your TRIPID, SEQUENCE NO., and HAUL NO. Be sure to WIPE YOUR KNIFE CLEAN BETWEEN SAMPLES with a clean cloth or paper towel to minimize cross contamination between the vials. Store samples at room temperature and send in with your trip. Be sure to put parafilm around each cap to prevent leaking.
3. **PIT Tags** - ALL sturgeon (Atlantic and Shortnose) should be scanned for PIT tags using the same scanner used for turtles (provided you were issued one). The entire sturgeon should be scanned. Record any PIT tag numbers in the tag number field on the IAL. Please record whether or not a sturgeon was scanned regardless of the presence or absence of a PIT tag in the comments section. Remember, ALL STURGEON SHOULD BE SCANNED.
4. **IAL** – Obtain a measured fork length and actual weight, if possible. BE SURE TO PROVIDE ID CHARACTERISTICS IN THE COMMENTS SECTION. Additionally, if a DNA sample was taken, BIOSAMP (y/n) on the Individual Animal Log should be 1 (yes). Also be sure to record the presence or absence of tags (including PIT tags), tag number (if present), and tagging program name and contact info.

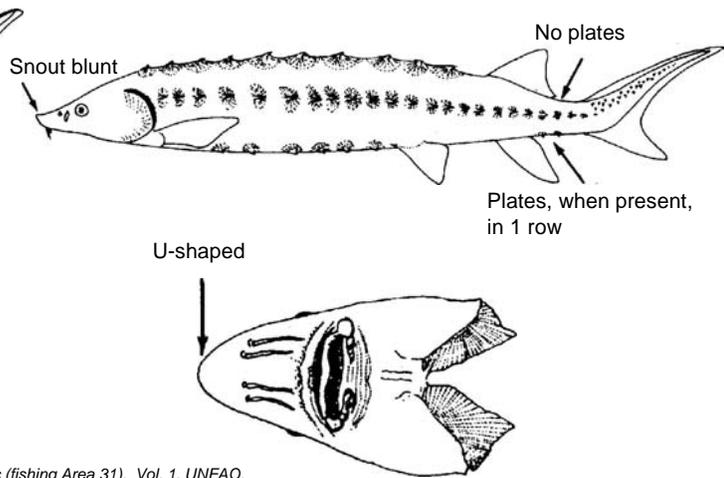
Note: In 1994, sturgeon were stocked in the Hudson River, NY. These fish were marked by removing their left pelvic fin. Today these fish would be near 6 feet in length. Should you come across a large sturgeon that is missing its left pelvic fin, in addition to the above protocols, please photograph the missing fin and comment on the IAL.

SPECIES IDENTIFICATION AND BIOLOGICAL SAMPLING OF STURGEON

Atlantic Sturgeon



Shortnose Sturgeon



Source: FAO Species Identification Sheets for fishery purposes. Western Central Atlantic (fishing Area 31). Vol. 1, UNFAO.



Key Characteristics of Atlantic Sturgeon

- Snout v-shaped from underside view
- Barbel length $>1/2$ width of mouth
- Width inside lips $<55\%$ of bony interorbital width (see backside of page for illustration)
- 2 rows post-dorsal plates
- 2 rows of post-anal plates

Key Characteristics of Shortnose Sturgeon

- Snout u-shaped from underside view
- Barbel length $<1/2$ width of mouth
- Width inside lips $>62\%$ of bony interorbital width (see backside of page for illustration)
- Post-dorsal plates usually absent
- Post-anal plates, when present, in 1 row

What to do if you encounter a sturgeon:

1. **Photos** – Be sure to take photos of each sturgeon (Atlantic and Shortnose). Take photos of the fish in profile, the underside of the head, post-dorsal fin scutes (dorsal view) and post-anal scutes (ventral view). Include something in the photos for scale.
2. **Biosample (Atlantic Sturgeon ONLY!!)** - Cut the tip of the dorsal fin off to about the size of a dime from each Atlantic Sturgeon and place in a vial. The DNA sample should only be from one fish per vial. After the sample has been placed in the vial, make sure the cap is secure. Label each vial with your TRIPID, SEQUENCE NO., and HAUL NO. Be sure to WIPE YOUR KNIFE CLEAN BETWEEN SAMPLES with a clean cloth or paper towel to minimize cross contamination between the vials. Store samples at room temperature and send in with your trip. Be sure to put parafilm around each cap to prevent leaking.
3. **PIT Tags** – Both Atlantic and Shortnose Sturgeon should be scanned for PIT tags using the same scanner used for turtles. The entire sturgeon should be scanned. Record any PIT tag numbers in the tag number field on the IAL. Please record whether or not a sturgeon was scanned regardless of the presence or absence of a PIT tag in the comments section. Remember, ALL STURGEON SHOULD BE SCANNED.
4. **IAL** – For both Atlantic and Shortnose Sturgeon obtain a measured fork length and actual weight, if possible. BE SURE TO PROVIDE ID CHARACTERISTICS IN THE COMMENTS SECTION. Additionally, if a DNA sample was taken, **BIOSAMP (y/n)** on the Individual Animal Log should be 1 (yes). Also be sure to record the presence or absence of tags (including PIT tags), tag number (if present), and tagging program name and contact info.

Interorbital width vs. Inside lip width measurement

