



December 20, 2013

MEMORANDUM FOR: MRAG Americas and Northeast Fisheries Observer Program Observers

FROM: Amy S. Martins, nee Van Atten
Branch Chief, Fisheries Sampling Branch (FSB)

SUBJECT: Atlantic Sturgeon Biological Sampling Update

Amy S. Martins
FOR Amy S. Martins

NOAA/NMFS Northeast Regional Office Division of Protected Resources has completed the biological opinion on the seven fisheries interacting with Atlantic sturgeon. The batched biological opinion will allow us to begin sampling Atlantic sturgeon during observed NEFOP trips. Until further notice, observers will be expected **to take two (2) biological samples from each incidentally captured Atlantic sturgeon** via the following sampling methods:

1. **Gill Swab** – a mucus swab of the interior gill cavity, fixed on a Whatman FTA™* card
2. **Fin Clip** – pelvic fin clip fixed in a vial of 95% non-denatured ethanol**, sealed with a ring-sealed screw on lid.

NOTE: Please ensure that you are in fact handling an Atlantic sturgeon when taking samples as the mutilation of short-nose sturgeon is prohibited. See enclosed cheat sheet for sturgeon ID revision and updated sampling protocols below.

The purpose of the dual sampling is to determine a substitute for fixing Atlantic sturgeon biological tissue samples in 95% non-denatured ethanol. Since FTA cards have not previously been tested for Atlantic sturgeon genetic analyses, the duplicate samples will provide a comparative study to ensure a safe, reliable means of preserving genetic material for this species. Biological samples are essential to determine the distinct population segment (DPS) for each incidentally captured Atlantic sturgeon via genetic analysis. Five DPS's have been identified on the US Atlantic coast: Gulf of Maine, New York Bight, Chesapeake Bay, Carolina, and South Atlantic.

Detailed Procedures for Biosampling Atlantic Sturgeon for Genetic Analyses

Observers are reminded to wash their hands, and to use disposable gloves when collecting any tissues for genetic analyses in order to avoid contamination.

Gill Swabs

1. Remove one sterile Whatman foam tipped applicator from the protective packaging according to the instructions. Gently swab the interior gill area (beneath the gill plate; not exterior of the body near the gill opening) for 30 seconds, soaking up as much mucus as

- possible but taking care to not damage the gills. Repeat using the opposite side of the foam tip.
2. Carefully lift the paper cover of the FTA card to expose the two sample areas. Press the flat, circular foam applicator tip within one of the sample circle areas. Without lifting the foam tip from the card, roll the foam tip from edge-to-edge 3 times to completely saturate the sample area. Turn the applicator over and repeat with the other side of the foam tip within the same circle.
 3. Do not place the applicator back into the sturgeon's gill area after it has touched the card. If the sample circle area appears dry (e.g., not enough mucus on the applicator to fill in one circle of the card), select a new applicator, swab the gill area again, and apply the second sample to the second sample circle area on the card.
 4. After sampling is complete, circle around the outside of each sample circle area to which a sample has been applied with either a ballpoint pen or pencil to indicate the presence of a sample within the sample area. Allow the card to dry at room temperature. Refold the paper cover over the sample area and record the TRIPID, haul number, and IAL sequence on the outside fold of the card in permanent marker.
 5. Store cards so that they stay dry and covered. Do not refrigerate or freeze.

Fin Clips

1. Using a knife, scalpel, or scissors that have been thoroughly cleaned and wiped with alcohol, cut a one-cm square piece of tissue from the tip of the pelvic fin (this is different than outlined in the Biological Sampling Manual).
2. Using one vial per fish, place the fin clip into a vial that contains 95% non-denatured ethanol and closes with a screw on, ring-sealed cap. Put parafilm around each cap to minimize the chance of evaporation or leaking. Label the vial with the TRIPID, haul number, and IAL sequence number.
3. If possible, the vial should be refrigerated or placed on ice so that it remains chilled for the first 24 to 48 hours. Otherwise, vials can be stored at room temperature.

Shipping Biosamples

FTA cards and ethanol vials should NOT be shipped together; each sample type should be packaged and shipped appropriately, according to the following directions.

FTA Cards: should be packed for shipment in small, sealed, Ziploc bags to avoid any moisture contamination of the card as fixed samples can be damaged if the card becomes wet. FTA cards should be mailed in with paper logs from the associated trip.

Ethanol Vials: once FSB receives the Atlantic sturgeon FTA sample card(s), an ethanol shipping box will be sent to the observer. All required packaging materials will be included in this shipping box including the NMFS Guidelines for Air-Shipment of "Excepted Quantities" of Ethanol Solutions. These guidelines should remain in the shipping box for return to FSB. Place a UPS shipping label on the box and mail the biological samples as soon as possible.

- Vials containing fin clips should be double bagged in small, sealed, Ziploc bags to avoid potential leakage.

- Absorbent material should be placed inside the outer Ziploc bag to contain leakage during shipping.
- Package filler (bubble wrap) should be placed inside the box to occupy remaining free space.
- Multiple vials may be placed in a single small bag.
- Vials from separate trips should be placed in separate small Ziploc bags and labeled accordingly.
- No more than 100 vials may be shipped at once according to regulations

Observers are also reminded to **scan all sturgeon for pit tags**, please refer to your Biological Sampling and Catch Estimation Manual, pp 41-42. All sturgeon species will continue to be recorded on the Individual Animal Log (IAL).

If you have any problems or questions please contact Chad Keith (508) 495-2067 or Bill Greer (508) 495-2126.

*FTA cards consist of specially coated paper that requires simply coming into contact with a tissue (ie. mucus) to stabilize a DNA sample. **FTA cards are non-toxic to humans**, do not require refrigeration or freezing, and can be stored in a cool, dry place indefinitely.

Individuals handling 95% non-denatured ethanol (ETOH) should practice caution. This solvent is flammable and explosive is exposed to a source of extreme heat or spark. Do not ingest. It is important to avoid prolonged contact with eyes, skin and clothing. **To ensure utmost safety, observers should wear gloves during ETOH handling and wash hands after handling.

