Dredging and Pile Driving Monitoring Plan
Sturgeon Monitoring During Pile Driving
60-day Report
4/13/2014 – 6/07/2014

for the

New NY Bridge Project

June 13, 2014

Prepared by

Tappan Zee Constructors, LLC
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TAPPAN ZEE
CONSTRUCTORS, LLC

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1.0 Introduction

This report summarizes the methods and results of sturgeon monitoring during permanent pile driving of [redacted] diameter piles for the period of April 13, 2014 to June 07, 2014. Sturgeon monitoring was conducted per the Dredging and Pile Driving Monitoring Plan, Revision 2 (the Plan) for the New NY Bridge Project (the Project). This Plan was developed to comply with applicable requirements of the New York State Department of Environmental Conservation (NYSDEC) Permit DEC ID 3-9903-00043/00012 issued on March 25, 2013 (NYSDEC Permit) and the April 2014 Endangered Species Act Section 7 Consultation Biological Opinion (BO) issued by the National Marine Fisheries Service (NMFS).

2.0 Monitoring Methods

Tappan Zee Constructors, LLC (TZC) conducted impact pile driving monitoring for permanent [redacted] piles at [redacted] piles at [redacted] from the pile driving barge and a small vessel per the Plan. A barge-based and vessel-based monitor were on site for all piles driven during the reporting period.

On May 23, 2014 impact pile driving occurred at two locations simultaneously [redacted]. Per the Plan, one vessel monitored the Hudson River for injured or dead fish from the start of pile driving to one hour after all pile driving was completed for the day. Figure 1 provides the GPS transects completed by the fish monitoring crew on May 23, 2014. Pile driving occurred during ebb current; subsequently, the fish monitoring crew completed several circular and sawtooth patterns south of the existing Tappan Zee Bridge. Fish Monitoring crews continued to monitor for fish while transiting between piers.

3.0 Results

A total of [redacted] piles were impact driven from April 13, 2014 through June 07, 2014. [redacted] piles were installed at [redacted] piles were installed at [redacted].

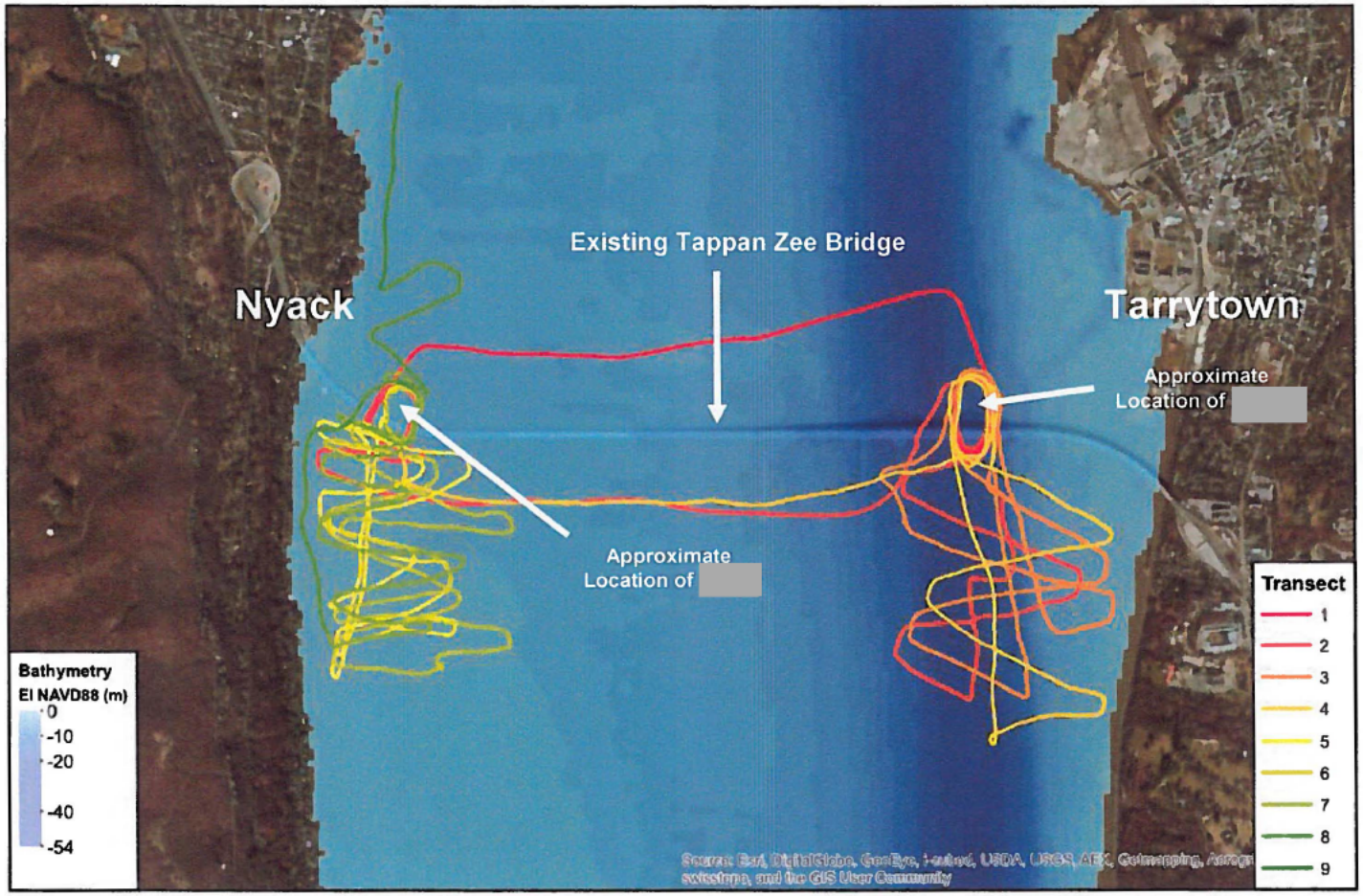
A total of [redacted] piles were impact driven from April 13, 2014 through June 07, 2014. [redacted] piles were installed at [redacted] piles were installed at [redacted] piles were installed at [redacted] piles were installed at [redacted] piles were installed at [redacted] piles were installed at [redacted] piles were installed at [redacted]. Monitoring activities and results from both [redacted] piles are summarized in Appendix A.

3.1 Observed Sturgeon

During the reporting period one (1) shortnose sturgeon was observed during impact pile driving. The sturgeon was observed by vessel-based water quality monitoring crew on May 15, 2014 at 10:25 near Petersens Boat Yard in Nyack, New York. The sturgeon was dead and missing its head at the time of observation. The fish was collected and processed per the Plan. The Sturgeon Data Collection Form and other documentation completed is provided in Appendix B. The fish was transferred to NYSTA for necropsy per the Necropsy Plan specified in the NMFS BO and the Plan.

3.2 Observed Non-sturgeon Species

A total of 14 fish, not including sturgeon, were observed during the reporting period. Observed species and quantities include three (3) white perch, three (3) striped bass, three (3) carp, three (3) unidentified species (confirmed not to be sturgeon), one (1) catfish, and one (1) American menhaden. A summary of the dates, times, condition, and location of fish observed is provided in Appendix A.



TAPPAN ZEE CONSTRUCTORS, LLC

Figure 1.
GPS Transects
May 23, 2014 [redacted]

[redacted]

N

Document Path: \\prl-srv3\GIS_Projects\459974_Fluor_AmericanBr_Granite_TraylorBros\195455_TZJDEnvironmental_Design\GIS\Map_Docs\Draft\Sturgeon_Monitoring\2014-06-11_ENV_MAP_May_Transects.mxd

APPENDIX A

Summary of Pile Driving Sturgeon Monitoring Activities

Appendix A
Summary of Pile Driving Sturgeon Monitoring Activities
New NY Bridge Project
NMFS 60-Day Report
4/13/2014 - 6/7/2014

TAPPAN ZEE CONSTRUCTORS, LLC

Report Date: 6/13/2014
Reporting Period: 4/13/2014 - 6/7/2014
Number of Sturgeon Observed: 1

Date		Barge-Based Monitoring Time	Vessel-Based Monitoring Time	Number of Fish Observed	Species	Sturgeon Specimen Log Number	Condition of Fish When Observed	Time Observed	Location Observed (Lat/Long or Barge Name)
4/14/2014		16:38 - 17:04	16:41 - 17:11[a]	0	NA	NA	NA	NA	NA
4/15/2014		7:37 - 11:03	7:36 - 11:30	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
4/16/2014		10:18 - 11:35	10:19 - 13:23	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
4/17/2014		12:15 - 12:45	12:16 - 13:50	0	NA	NA	NA	NA	NA
4/18/2014		10:43 - 12:16	10:42-13:34	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
4/21/2014		8:54 - 13:22	8:54 - 14:27	1	Unknown	NA	Unknown	8:58	4100 Hoosier Crane
				1	Catfish	NA	Dead	9:08	41 04.2265° N / 073 54.9462° W
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
4/22/2014		14:01 - 17:25	14:01 - 18:21	0	NA	NA	NA	NA	NA
				1	White Perch	NA	Dead	14:57	Thomas W Crane
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				1	White Perch	NA	Dead	17:19	Thomas W Crane
4/23/2014		7:00 - 8:37	7:02 - 10:43	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
4/25/2014		8:01 - 12:47	8:01 - 13:57	1	White Perch	NA	Dead	10:22	4600 Hank Hummel Crane
				1	Striped Bass	NA	Dead	10:33	41.06393° N / 73.88105° W
				0	NA	NA	NA	NA	NA
4/28/2014		8:00 - 16:39	8:00 - 17:45	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
5/2/2014		7:29 - 14:23	7:29 - 15:23	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
5/5/2014		12:51 - 14:05	12:51 - 14:48	0	NA	NA	NA	NA	NA
5/6/2014		08:34 - 12:27	8:33 - 16:40	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
		12:45 - 16:09		0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
5/7/2014		9:47 - 14:20	9:44 - 15:49	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
5/12/2014		8:38 - 13:57	8:39 - 15:00	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				1	Carp	NA	Dead	13:22	41 03.808° N / 73 52.806° W
				0	NA	NA	NA	NA	NA
5/13/2014		12:15 - 14:57	12:08 - 15:54	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA

Appendix A
Summary of Pile Driving Sturgeon Monitoring Activities
New NY Bridge Project
NMFS 60-Day Report
4/13/2014 - 6/7/2014

TAPPAN ZEE
CONSTRUCTORS, LLC

Report Date: 6/13/2014
Reporting Period: 4/13/2014 - 6/7/2014
Number of Sturgeon Observed: 1

Date		Barge-Based Monitoring Time	Vessel-Based Monitoring Time	Number of Fish Observed	Species	Sturgeon Specimen Log Number	Condition of Fish When Observed	Time Observed	Location Observed (Lat/Long or Barge Name)
5/14/2014		8:00 - 12:15	8:04 - 12:41	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
		8:28 - 11:30		0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
5/15/2014		7:39 - 10:13	7:34 - 15:10	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
		8:08 - 10:50		0	NA	NA	NA	NA	NA
				1	American Menhaden	NA	Dead	9:23	41 04.616° N / 73 52.763° W
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
		9:43 - 14:03		1	Shortnose Sturgeon	201405150101	Dead	10:25	41 06.0594° N / 73 54.0966° W
				1	Striped Bass	NA	Dead	11:55	41 04.575° N / 73 53.667° W
				0	NA	NA	NA	NA	NA
5/19/2014		14:04 - 16:27	14:04 - 17:29	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
5/20/2014		7:25 - 12:22	7:26 - 17:06	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
		8:18 - 16:04		0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
5/21/2014		11:24 - 11:29	11:23 -12:37	0	NA	NA	NA	NA	NA
5/22/2014		8:25 - 14:53	8:23 - 15:46	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				1	Carp	NA	Dead	12:38	41 04.2839° N / 73 54.884° W
5/23/2014		7:41 - 11:15	7:40 - 15:11	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				1	Striped Bass	NA	Dead	9:47	41 04.0282° N / 73 53.0062° W
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
		8:10 - 14:05		0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
5/27/2014		8:06 - 10:15	8:09 -11:27	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
5/28/2014		8:54 - 13:00	8:35 - 13:56	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
5/29/2014		9:01 - 13:01	8:39 - 13:29	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
6/2/2014		8:08 - 14:21	8:10 - 15:37	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
		9:13 - 12:50		1	Unknown	NA	Alive	9:52	4600 Strong Island
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
6/3/2014		9:08 - 9:14	9:09 - 10:16	0	NA	NA	NA	NA	NA
		15:56 - 17:00	15:57 - 17:24[b]	0	NA	NA	NA	NA	NA

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TAPPAN ZEE
CONSTRUCTORS, LLC

Report Date: 6/13/2014
Reporting Period: 4/13/2014 - 6/7/2014
Number of Sturgeon Observed: 1

Date		Barge-Based Monitoring Time	Vessel-Based Monitoring Time	Number of Fish Observed	Species	Sturgeon Specimen Log Number	Condition of Fish When Observed	Time Observed	Location Observed (Lat/Long or Barge Name)
6/4/2014		7:18 - 8:07	7:18 - 9:09	1	Unknown	NA	Pisciverous Bird Activity	8:35	41 03.6194° N / 73 54.6518° W
				1	Carp	NA	Dead	8:52	41 04.1704° N / 73 54.5379° W
		11:50 - 17:47	12:05 - 18:43	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
6/5/2014		11:50 - 13:55	11:50 - 16:23	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
		13:05 - 15:16		0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
6/6/2014		9:02 - 15:15	9:03 - 16:00	0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA
				0	NA	NA	NA	NA	NA

Notes: Non-sturgeon species are not recovered for data collection.
[a] Impact pile driving and small craft operations suspended by TZC safety due to high winds at 17:11
[b] Impact pile driving and small craft operations suspended by TZC safety due to electrical storm at 17:24

APPENDIX B

Sturgeon Chain of Custody, Sturgeon Take Report, Sturgeon Data Collection Form, Summary Sheet for Genetic Tissue Samples

[redacted]

Appendix C - Part 2

Certification, Identification and Chain of Custody Form for Submitting Sturgeon Genetic Tissue Samples.[1,2]

(A) CERTIFICATION OF SPECIES (Collector)

I, Stephen Niero (Full Name), hereby certify that I have positively identified the fish or fishes sampled in this shipment as: ☒ shortnose sturgeon; ☐ Atlantic sturgeon; ☐ other ☐ unknown based on my knowledge and experience as a Environmental Scientist (Position Job Title).

Signature: [signature] Date Identified: 5/15/14

Address: 404 Airport Executive Park Nanuet NY 10954

Phone Number: 845-596-8424

(B) SAMPLE IDENTIFICATION

Species Identification: ☒ shortnose sturgeon; ☐ Atlantic sturgeon; ☐ unknown

Unique ID No: 20140515010 1 ; Tissue Type: Fin Clip ; Preservative: Ethanol ;

Location: (River: Hudson River ; River-km: ; Lat/Long: 41°06.0594 73°54.6966

River Location Description: Nyack NY, outside Petersons boat yard);

Total Length (TL) of Specimen (mm): 780 Weight of Specimen (g): 5 lbs 4 oz ; Sex (if known)

Specific comments on take: Estimates (length & weight) Bond/recovered w/o head

☐ Check here if multiple samples are submitted and use *Field Collection Report* (Appendix 3b) with the data fields listed in this section.

(C) EVIDENCE OF CHAIN OF CUSTODY

1.	[signature]	T2D Replacement BD NER-2013-0768 4/3/14		5/15/14 1645
	Release Signature	NMFS Permit No.	Method of Transfer	Date
	[signature]			
	Receipt Signature	NMFS Permit No.		Date
2.				
	Release Signature	NMFS Permit No.	Method of Transfer	Date
	Receipt Signature	NMFS Permit No.		Date
3.				
	Release Signature	NMFS Permit No.	Method of Transfer	Date
	Receipt Signature	NMFS Permit No.		Date

[1] Instructions on next page.

[2] If multiple samples are shipped. attach summary sheet in Appendix 3b.

Appendix C - Part 3

Instructions: Collecting, Certifying, Identifying &Shipping Tissue Samples Collected from Sturgeon.

1. **Species Certification**:
For each shipment a "*Certification of Species Identification*" (Section A) must be provided. This form documents the collector has identified the fish or fishes sampled in the shipment as either a shortnose or Atlantic sturgeon. If there is any doubt about the identity of a sample, then mark unknown and include comments on the take.

2. **Sample Identification**:
Assign a unique number identifying each individual fish captured and subsequently sampled. This number must be recorded in Section B and on the collection vial for each sample taken. Record tissue type; preservative used; date of capture; location of capture (river & description, lat/long, river km, and nearest city); length of specimen; weight; and sex, if known. Check the box provided if you are submitting multiple samples, and provide a hard-copy and/or email a copy of the sample spreadsheet with information for each of the data fields listed above.

3. **Tissue Sampling Instructions**:
a. Cleanliness of Samples: Cross contamination should be avoided. For each fish, use a clean cutting tool, syringe, etc. for collecting and handling samples.

b. Preserving & Packaging Samples:
   i. Label vial with fish's unique ID number.
   ii. Place a 1-2 cm^2 section of pelvic fin clip in vial with preservative (95% absolute ETOH (un-denatured), recommended).
   iii. Seal individual vials or containers with leak proof positive measure (e.g., tape).
   iv. Package vials and absorbent within a double sealed container (e.g., zip lock baggie).
   v. Label air package properly identifying ETOH warning label (**See Appendix 3c**).

c. Shipping Instructions:
When shipping samples, place separately Appendix 3a, 3b and 3c (Sample ID and Chain of Custody Forms and Shipping Training Form) in container and seal the shipping box to maintain the chain of custody. (Note: A copy of the ESA permit authorizing the collection of the sample(s) must also accompany the sample(s)).

Important Notice: You must be certified before shipping tissue samples preserved with 95% ETOH in "excepted quantities" (A Class 3 Hazardous Material Due to Flammable Nature). See Appendix 3c: "NMFS Guidelines for Air-Shipment of Excepted Quantities of Ethanol Solutions" to comply with the DOT/IATA federal regulations.

4. **Chain of Custody Instructions**:
The "*Chain of Custody*" (Section C) should be maintained for each shipment of tissue samples and must accompany the sample(s) at all times. To maintain the chain of custody, when sample(s) are transferred, the sample(s) and the documentation should be packaged and sealed together to ensure that no tampering has occurred. All subsequent handlers breaking the seal must also sign and document the chain of custody section.

5. **Contact Information**:
A. NMFS, Office of Protected Resources:
   i. **Primary Contact: (Greater Atlantic Regional Fisheries Office)** Shortnose Sturgeon Recovery Coordinator (Jessica Pruden, jessica.pruden@noaa.gov, 978/282-8482); Atlantic Sturgeon Recovery Coordinator (Lynn Lankshear, lynn.lankshear@noaa.gov, 978/282-8473)
   ii. **Primary Contact: (Southeast)** Shortnose Sturgeon and Atlantic Sturgeon Recovery Coordinator (Kelly Shotts, kelly.shotts@noaa.gov, 727/551-5603)
   i. **Secondary Contact:** Malcolm Mohead (malcolm mohead@noaa.gov) Phone: 301/713-2289
   ii. **Secondary Contact:** Jennifer Skidmore (jennifer.skidmore@noaa.gov) Phone: 301/713-2289

B. NOS Archive:
   i. **Primary Contact**: Julie Carter (julie.carter@noaa.gov) Phone: 843/762-8547

APPENDIX E

Sturgeon Take Report - Part A

Photographs should be taken and the following information should be collected from all sturgeon (alive and dead). Please submit all necropsy results (including sex and stomach contents) to NMFS upon receipt. You must also complete and submit the "Sturgeon Data Collection Form"

Observer's full name: Stephen Niero / Marc Hecht
Reporter's full name: Stephen Niero / Marc Hecht

Species Identification : _____

Site of Collection: Hudson River

Date animal observed: 5/15/14 Time animal observed: 1025
Date animal collected: 5/15/14 Time animal collected: 1030

Environmental conditions at time of observation (i.e., tidal stage, weather):
Flooding, foggy, overcast

Project-related activities on going at time of observation (e.g., pile driving, dredging, etc.):
Pile driving

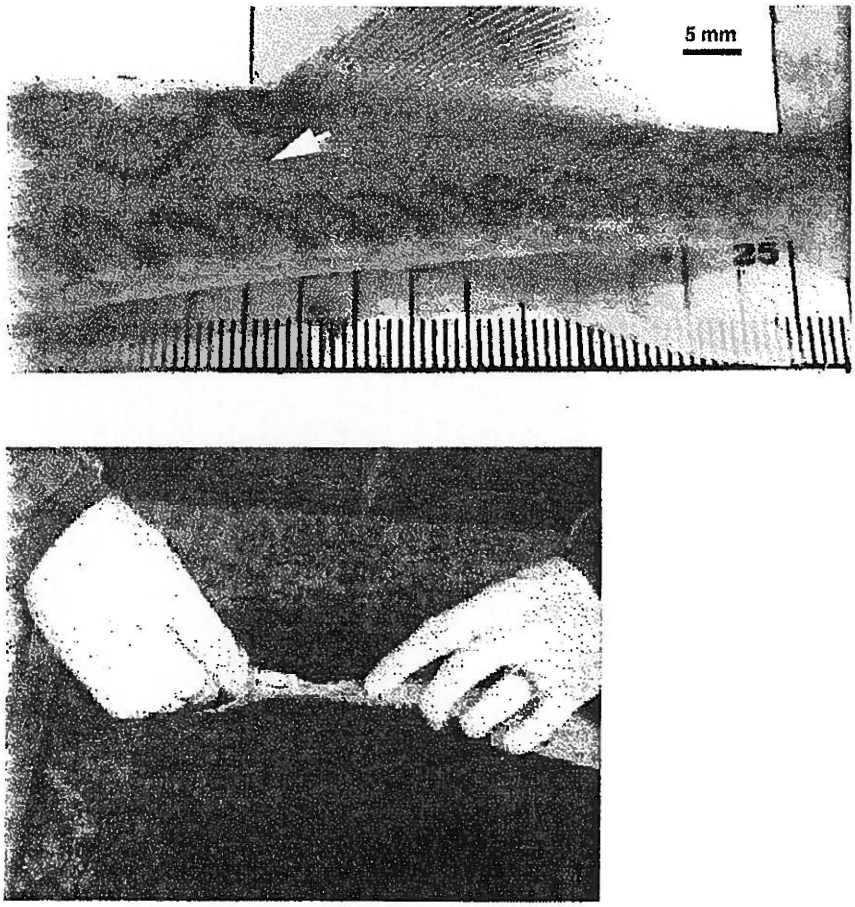

Figure 5. (from Damon-Randall *et al.* 2010). Illustration of PIT tag location (indicated by white arrow; top), and photo of a juvenile Atlantic sturgeon being injected with a PIT tag (bottom). *Photos courtesy of James Henne, US FWS.*

STURGEON DATA COLLECTION FORM

For use in documenting sturgeon injury or mortality incidental to a federal action and exempted pursuant to a NMFS issued incidental take statement

OBSERVER'S CONTACT INFORMATION

Name: First Stephen Last Niero

Agency Affiliation HDR Email sniero@hdrinc.com

Address 404 Airport Executive Park

Nanuet NY 10954

Area code/Phone number

SEC 7 UNIQUE IDENTIFIER (PCTS No. Assigned by NMFS)

DATE REPORTED:

Month 05 Day 15 Year 2014

DATE EXAMINED:

Month ☐☐ Day ☐☐ Year 20☐☐

SPECIES: (check one)

- ☐ shortnose sturgeon
- ☐ Atlantic sturgeon
- ☒ Unidentified *Acipenser* species

Check "Unidentified" if uncertain. **See reverse side of this form for aid in identification.**

LOCATION FOUND: ☐ Offshore (Atlantic) ☒ Inshore (bay, river, sound, inlet, etc)

River/Body of Water Hudson River City Nyack State NY

Descriptive location (be specific) just north of Petersens Boat Yard in Nyack, NY

Latitude 41°06.0544 N (Dec. Degrees) Longitude 73°54.6966 W (Dec. Degrees)

CARCASS CONDITION at time examined: (check one)

- ☒ 1 = Fresh dead
- ☐ 2 = Moderately decomposed
- ☐ 3 = Severely decomposed
- ☐ 4 = Dried carcass
- ☐ 5 = Skeletal, scutes & cartilage

SEX:

- ☒ Undetermined
- ☐ Female ☐ Male

How was sex determined?

- ☐ Necropsy
- ☐ Eggs/milt present when pressed
- ☐ Borescope

MEASUREMENTS: Circle unit

Fork length	68	cm / in
Total length	78	cm / in
Length ☐ actual ☒ estimate		
Mouth width (inside lips, see reverse side)		cm / in
Interorbital width (see reverse side)		cm / in
Weight ☐ actual ☒ estimate	5lb 10oz	~~kg~~ LB

TAGS PRESENT? Examined for external tags including fin clips? ☒ Yes ☐ No Scanned for PIT tags? ☒ Yes ☐ No

Tag #	Tag Type	Location of tag on carcass
No tags		

CARCASS DISPOSITION: (check one or more)

- ☐ 1 = Left where found
- ☐ 2 = Buried
- ☒ 3 = Collected for necropsy/salvage
- ☐ 4 = Frozen for later examination
- ☐ 5 = Other (describe)

Carcass Necropsied? ☐ Yes ☒ No

Date Necropsied:

Necropsy Lead:

PHOTODOCUMENTATION:

Photos/vide taken? ☒ Yes ☐ No

Disposition of Photos/Video:

SAMPLES COLLECTED? ☒ Yes ☐ No

Sample	How preserved	Disposition (person, affiliation, use)
Fin Clip	Ethanol	Marc Hecht-HDR

Comments:

Distinguishing Characteristics of Atlantic and Shortnose Sturgeon

Characteristic	Atlantic Sturgeon, *Acipenser oxyrinchus*	Shortnose Sturgeon, *Acipenser brevirostrum*
Maximum length	> 9 feet/ 274 cm	4 feet/ 122 cm
Mouth	Football shaped and small. Width inside lips < 55% of bony interorbital width	Wide and oval in shape. Width inside lips > 62% of bony interorbital width
*Pre-anal plates	Paired plates posterior to the rectum & anterior to the anal fin.	1-3 pre-anal plates almost always occurring as median structures (occurring singly)
Plates along the anal fin	Rhombic, bony plates found along the lateral base of the anal fin (see diagram below)	No plates along the base of anal fin
Habitat/Range	Anadromous; spawn in freshwater but primarily lead a marine existence	Freshwater amphidromous; found primarily in fresh water but does make some coastal migrations

* From Vecsei and Peterson, 2004

Describe any wounds / abnormalities (note tar or oil, gear or debris entanglement, propeller damage, etc.). Please note if no wounds / abnormalities are found.

Missing head

gills (remaining) brownish in color

Data Access Policy: Upon written request, information submitted to National Marine Fisheries Service (NOAA Fisheries) on this form will be released to the requestor provided that the requestor credit the collector of the information and NOAA Fisheries. NOAA Fisheries will notify the collector that these data have been requested and the intent of their use.

Submit completed forms (within 24 hours of observation of fish): by email to Incidental.Take@noaa.gov or by fax (978-281-9394). Questions can be directed to NMFS Protected Resources Division at 978-281-9328.

Appendix C - Part 4

[redacted]

Summary Sheet for Genetic Tissue Samples Collected[1,2]

Date	Species	Unique ID No.	Genetic Tissue Type	Preservative	Location: (River)	Location (River-km)	Location (Lat/Long)	Total Length (mm)	Weight (g)lb	Sex	Comments
5/15/14	~~sturgeon~~	20140515 0101	Fin clip	Ethanol	Hudson River		41°06.0594 73°54.6966	760	5 lbs 4 oz		found w/o head

1. Please coordinate with NMFS to receive a file copy of this appendix in spreadsheet format and include file on disk with shipment.
2. If multiple samples are shipped, attach this form to supplement Appendix 3a.

Appendix C - Part 5

NMFS Guidelines for Air-Shipment of "Excepted Quantities" of Ethanol Solutions

These guidelines have been adapted with permission from the University of New Hampshire-Office of Environmental Health & Safety; our appreciation is to Andy Glode for providing reference materials upon which this guide was created.

The U.S. Department of Transportation (DOT: 49 CFR 173.4) and the International Air Transport Association (IATA: 2007 Dangerous Goods Regulations, Sec. 2.7) regulate shipments of ethanol (ETOH) in *excepted quantities*. As a result, specific procedures must be followed as well as certifying proper training of individuals prior to packaging and shipping specimens preserved in ETOH. These guidelines will inform proper shipping and also satisfy certifying requirements. Failure to meet such requirements could result in regulatory fines and/or imprisonment.

Therefore, prior to submitting ETOH preserved samples and appropriate documentation (*e.g.*, a FedEx Airbill) to a carrier, please read, initial and sign this document, affirming you have understood the requirements as outlined. Please include this document in the shipping package and retain a copy for your records.

1) Packages and documents submitted to a carrier must not contain any materials other than those described in this document (*i.e.* containers holding ethanol-preserved specimens and related absorbent and packaging materials). Also, laboratory or sampling equipment, *unrelated documents*, or other goods must be packaged and shipped in separate boxes. (Note: ETOH solutions are not permitted to be transported in checked baggage, carry-on baggage, or airmail.) I understand (_____)

2) Please read the manufacturer's Material Safety Data Sheet (MSDS) for ETOH recognizing ETOH (55 - 100%) is classed as hazardous flammable material (NFPA Rating = 3). Note also, its vapor is capable of traveling a considerable distance to an ignition source causing "flashback." Properly packaging and labeling shipments of ethanol solutions will minimize the chance of leakage, and would also communicate the potential hazard to transport workers in the event of a leak. I understand (_____)

   a) **Quantity Limits:** Small quantities (inner container less than 30 ml, with a maximum net quantity of 500 ml for the entire package) of ETOH can be shipped with "Excepted Quantities" labels without completion of a Dangerous Goods Declaration. (e.g., If shipping vials having a maximum volume of 10 ml each, you may put up to 50 vials in one box.) I understand (_____)

   b) **Package Components:**

      i. *Inner (primary) packaging (e.g., vial, tube, jar, etc.)*: Do not completely fill inner packaging; allow 10% head-space for liquid expansion. Liquids must not completely fill inner packaging at a temperature of 55°C (130°F). Closures of inner packaging (e.g., vials with tops) must be held securely in place with tape or other positive means. I understand (_____)

      ii. *Intermediate (secondary) packaging (e.g. Ziplock or other plastic bag)*: Place inner container(s) (*e.g.*, vials with ETOH) into a high-quality plastic bag. Then add an absorbent material cable of absorbing any spillage without reacting with the ethanol. Seal the first bag tightly and then tape the locking seals. Next, seal the inner bag within a second bag for added safety. I understand (_____)

      iii. *Outer packaging (e.g., cardboard box)*: Ethanol solutions may not be shipped in envelopes, Tyvek® sleaves, or other non-rigid mailers. The dimensions of the outer box must be at least 100 mm (~4 inches) on two sides. Any space between the inner packing containers placed in the outer packaging should be eliminated with additional filler. I understand (_____)

   c) **Package Labels:**

      i. *Dangerous Goods in Excepted Quantities Label* (**Figure 1.**): The label must display a "3" as the ethanol hazard class number using a black marker. You may obtain self-adhesive labels from NMFS, or else, order online. I understand (_____)

      ii. *Name and Address:* The outer container must display the name and address of the shipper and consignee. When re-using shipping boxes, completely remove or black out all unnecessary labels or marks. I understand (_____)

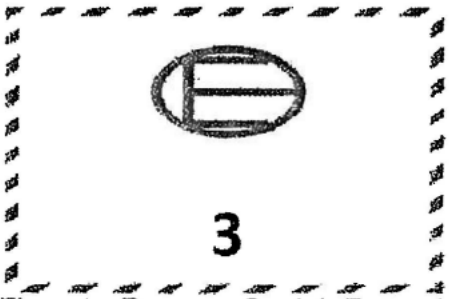

Figure 1. Dangerous Goods in Excepted Quantities label