

PACE ENVIRONMENTAL LITIGATION CLINIC, INC.

PACE UNIVERSITY SCHOOL OF LAW

78 NORTH BROADWAY

WHITE PLAINS, NEW YORK 10603

PHONE: 914.422.4343

FAX: 914.422.4437

SUPERVISING ATTORNEYS

KARL S. COPLAN

DANIEL E. ESTRIN

ROBERT F. KENNEDY, JR.

ADMINISTRATOR

JENNIFER RUHLE

July 9, 2015

VIA EMAIL & UPS OVERNIGHT

Ms. Kim Damon-Randall, Assistant Regional Administrator
Ms. Julie Crocker, Regional Endangered Species Coordinator
National Marine Fisheries Service
Protected Resources Division
55 Great Republic Drive
Gloucester, Massachusetts 01930

Re: Tappan Zee Bridge Project: Petition to Reinitiate Consultation, Investigate Increased Sturgeon Mortality in Hudson River Estuary and Employ Interim Measures to Protect Endangered Sturgeon

Dear Mses. Damon-Randall and Crocker:

We write on behalf of Riverkeeper, Inc. (“Riverkeeper”) to express our client’s serious and growing concerns regarding dramatic increases in reported sturgeon mortalities in the Hudson River estuary since the 2012 commencement of the New New York Bridge (Tappan Zee Bridge replacement) construction project (the “Project”). In light of the significant reported sturgeon mortality increases discussed herein, Riverkeeper respectfully petitions the National Marine Fisheries Service (“NMFS”) to reinitiate Endangered Species Act Section 7 consultation for the Project, and to conduct a technical investigation into the cause of each reported sturgeon mortality, and the extent to which each such sturgeon death may be traced to—or assumed based upon available evidence to have been caused by—Project construction activities.

Riverkeeper further petitions NMFS, as part of the above-requested investigation, to technically analyze the entire sturgeon mortality data set as a whole, as well as any other pertinent data (such as changes/patterns in vessel activity in the estuary, including the addition of close to 200 Project vessels in and around the Tappan Zee, and restricted access to the Project area by other vessels), to determine the extent to which reported increases in sturgeon mortality must be assumed to be related to Project construction activities. For

example, even if it is difficult or impossible to establish the identity of a specific vessel that caused the death of any particular sturgeon reported to the New York State Department of Environmental Conservation (“NYSDEC” or “Department”), we expect that analysis of the entire data set will help NMFS to estimate the Project’s contribution to increased sturgeon mortality, and the extent to which the allowable take of two shortnose and two Atlantic sturgeon, which informed the NMFS Biological Opinion for the Project, has been exceeded. *See* Incidental Take Statement, NMFS Biological Opinion, Sept. 23, 2014 (“September 2014 BiOp”), at 154.

Finally, as set forth in greater detail below, Riverkeeper respectfully petitions NMFS to require the project sponsors to employ interim reasonable and prudent measures to protect endangered sturgeon during the course of the technical investigation requested herein.

Significant increases in reported sturgeon mortality

Riverkeeper’s concerns stem from the dramatic increases in reported Atlantic and shortnose sturgeon mortality since Project construction activities commenced with the Pile Installation Demonstration Program (“PIDP”) in 2012.

Based upon data we have received from NYSDEC, during the five year period 2007 to 2011 (the five years immediately before Project construction activities commenced), a total of 13 sturgeon deaths—*i.e.*, an average of 2.3 dead sturgeon per year—were reported to the Department on an estuary-wide basis.

The PIDP commenced in 2012, and that year saw an immediate increase in reported sturgeon mortalities compared to earlier years, with approximately eight dead sturgeon reported in 2012. *See* Ex. 1. Of these reported sturgeon deaths, two were located very close to the Tappan Zee, and others were located within 10 to 15 miles of the Project.¹

In 2013, construction of the replacement bridges began in earnest with massive dredging and pile-driving projects. Dramatic increases in the numbers of dead sturgeon reports directly coincided with these construction activities, **with 25 reported sturgeon mortalities in 2013, and 43 in 2014**. *See* Exs. 2 and 3. Our review of these data indicate

¹ Of course, the Hudson River estuary is tidal, and a dead or injured fish could be transported north or south of the Project area on the tide. Moreover, a sturgeon injured as a result of Project activity might travel some distance before it ultimately dies.

that, between Crotonville and Riverdale alone, 10 and 13 sturgeon mortalities were reported in 2013 and 2014, respectively.²

Year	Reported Sturgeon Mortality
2007	7
2008	0
2009	0
2010	1
2011	5
2012	8
2013	25
2014	43

We have attached for your reference copies of the NYSDEC spreadsheets containing the data that Riverkeeper obtained pursuant to New York Freedom of Information Law requests.³ In an effort to view and present these data graphically, we have also plotted on a Google Earth map, to the best of our ability based upon the geographic data contained in NYSDEC's records, the approximate locations of all of the reported sturgeon mortalities in 2013 and 2014. We have also included within each dead sturgeon locator map "pin" available data concerning each reported mortality (size, physical condition, whether there is evidence of a vessel strike, other observations). This Google Earth map is publicly viewable at the following internet URL:
<https://www.google.com/maps/d/edit?mid=zN2t3c0hUXps.kh-3Tlt4yz4Q>.

The dramatic increase in reported sturgeon mortalities in the estuary, and the obvious large cluster of such mortalities in the vicinity of the Project, raise serious concerns regarding the extent to which such mortalities are attributable to Project construction activities, and suggest that such mortalities constitute exceedances of the incidental take authorizations contained in NMFS's Incidental Take Statement and NYSDEC's Incidental Take Permit.

² As discussed more fully below, these numbers obviously only represent the number of dead sturgeon observed and reported to NYSDEC. There were undoubtedly many more that perished but were not observed or reported by members of the public.

³ We apologize for the difficult-to-follow formatting of these spreadsheets, which were provided to Riverkeeper by NYSDEC as they appear in the exhibits to this Petition. While we considered creating new, easier to read, spreadsheets, we thought it more important to provide the data to NMFS in exactly the form that it was provided to Riverkeeper by NYSDEC. We expect that NYSDEC could provide NMFS with "cleaner" versions of the spreadsheets upon request.

Many of the 2013 and 2014 sturgeon mortalities involved vessel interactions

NMFS has identified vessel strikes as among the “most significant threats to the Atlantic sturgeon.” *See* September 2014 BiOp at 43 (citing 77 FR 5880 and 77 FR 5914; February 6, 2012), 49 (“vessel strikes remain significant threats to the New York Bight DPS”). Notably, the Incidental Take Statement contained in the September 2014 BiOp does not permit any lethal take of Atlantic or shortnose sturgeon resulting from vessel strikes. *See* September 2014 BiOp at 152-54. Thus, even a single sturgeon mortality resulting from a Project vessel interaction would exceed the authorized incidental take for the Project.

For purposes of comparison with more recent NYSDEC data, examination of dead sturgeon in 2007 and 2008 led NYSDEC to conclude that three sturgeon deaths in the Hudson River estuary were caused by vessel strikes. One sturgeon was severed, one had large propeller gashes across its body, and the third was missing its gill plate. *See* Ex. 1.

Analysis of the injuries to dead sturgeon reported to NYSDEC in its more recent documentation shows that the physical condition of many of the carcasses reported in 2013 and 2014 have been consistent with NYSDEC’s earlier conclusions that those mortalities resulted from vessel strikes. *See* Exs. 2 & 3 and 2013-14 Sturgeon Mortality Map Pin Notes. In light of the large number of vessels in the Hudson River associated with the Project (close to 200, according to news reports), and the exclusion zone which prohibits most non-Project vessels from entering the Project area, it appears that many of these reported vessel strike mortalities are attributable to Project construction activities. Even if incidental lethal take of sturgeon resulting from vessel strikes was authorized in the Incidental Take Statement for the Project (which it is not), this number would far exceed the incidental take of Atlantic and shortnose sturgeon permitted by NMFS and NYSDEC in their respective take authorizations.

2013-2014 Mortalities Likely to have Resulted from Vessel Strikes⁴

<u>Map Pin</u>	<u>Physical Condition</u>
2013.3	Head Missing
2013.4	Large gash along belly
2013.5	Head missing
2013.7	Missing back half
2013.8	Missing Tail
2013.10	Missing Tail

⁴ All information derived from NYSDEC Spreadsheets attached hereto.

2013.11	Tail cut, left side of stomach sliced open
2013.14	Gill missing, tail in shreds
2013.15	Front half missing
2013.23	Back half completely severed
2013.25	Caudal severed
2014.2	Missing back half
2014.3	Missing back half
2014.4	Missing back half
2014.5	Piece of large Atlantic Sturgeon
2014.6	Head and tail missing
2014.7	Missing piece of tail
2014.8	Missing head, gash on body
2014.9	Head and tail separated from body
2014.10	Head severed
2014.11	Head severed
2014.12	Tail Missing
2014.13	Large Slash, pieces semi-attached
2014.14	Fish in two pieces
2014.18	Head severed
2014.19	Tail Missing
2014.20	Large Dorsal Laceration all the way down to the pectoral fin
2014.24	Cut in half
2014.25	Cut in half
2014.26	Propeller gash on back
2014.27	Propeller gash 2/3rds down the back
2014.34	Cut in half with boat propeller
2014.35	Large slash before tail
2014.36	Tail Detached
2014.40	Head and tail severed

Adult and sub-adult sturgeon mortality increases potential jeopardy to the continued existence of the species/distinct population segments

Riverkeeper's concerns regarding the dramatic increases in numbers of reported sturgeon mortalities discussed above are significantly magnified by the large number of these fish that are at or near reproductive age. Riverkeeper urges NMFS to carefully analyze how the generational loss of so many spawning age, and near-spawning age, fish may influence NMFS's technical opinions regarding potential jeopardy to the continued

existence of shortnose sturgeon and the Gulf of Maine, Chesapeake Bay, and New York Bight distinct population segments (“DPS”) of Atlantic sturgeon.

As NMFS has noted:

Studies have shown that *to rebuild, Atlantic sturgeon can only sustain low levels of anthropogenic mortality* (Boreman, 1997; ASMFC, 2007; Kahnle *et al.*, 2007; Brown and Murphy, 2010). There are no empirical abundance estimates of the number of Atlantic sturgeon in the New York Bight DPS. NMFS has determined that the New York Bight DPS is currently at risk of extinction due to: (1) precipitous declines in population sizes and the protracted period in which sturgeon populations have been depressed; (2) the *limited amount of current spawning*; and (3) *the impacts and threats that have and will continue to affect population recovery*.

September 2014 BiOp at 50 (emphasis added).

NMFS’s September 2014 BiOp characterizes sub-adult sturgeon as those between 76cm and 150cm total length (“TL”), and adult sturgeon as 150cm TL. *See* September 2014 BiOp at 36. Of the reported sturgeon mortalities in 2013 and 2014, a large majority were adults and sub-adults. Due to the delayed sexual maturity and reproduction of sturgeon, “a high annual survival of juvenile through adult sturgeon is necessary to ensure that enough juveniles survive to reproductive maturity and reproduce enough times to maintain stable population sizes.” *Id.* at 26.

Given the significant number of adult and sub-adult sturgeon mortalities reported to NYSDEC in 2013 and 2014, we strongly urge NMFS to carefully evaluate the extent to which mortalities of these particular age-classes of endangered sturgeon may increase jeopardy to the future survival of these species.⁵

The project sponsors should be required to employ interim measures to protect sturgeon in the Hudson River estuary

In light of the above-referenced data, Riverkeeper respectfully requests that NMFS require, as a condition of continued construction activities during the course of the technical investigation requested herein, that the Project sponsors employ specified interim reasonable and prudent measures to reduce the risk of adverse impacts upon endangered sturgeon in the Project area. We understand that the investigation we request herein will

⁵ We note that the incidental take statement contained in the 2014 BiOp does not authorize the incidental take of any adult Atlantic sturgeon.

take time, and Riverkeeper's goal is to protect endangered sturgeon on an interim basis during such investigation while responsibly allowing construction work on the Project to continue.

We expect that NMFS will rely upon its technical expertise, and exercise its independent authority to protect endangered species, when determining what reasonable and prudent measures to require. We suggest here a few possibilities that we expect would help to mitigate risk to sturgeon in the Project area on an interim basis.

- **All project vessels to operate at or below 5 mph.** NMFS has noted that “Sturgeon may [] be better able to avoid slow moving vessels than fast moving ones.” September 2014 BiOp at 118. Indeed, in its biological opinions for the Project, NMFS erroneously assumed that “[a]ll vessels associated with the Tappan Zee replacement project . . . will be traveling at slow speeds (less than 6 knots).” *See, e.g.*, September 2014 BiOp at 119. In reality, non-project vessels are required to operate in the Project area at 5 mph/no wake speed, but many Project boats operate throughout the construction area at much higher speeds. Sturgeon will have more time to sense an approaching vessel, determine from which direction it is approaching, and avoid being struck if all Project vessels are required to travel at lower speeds.
- **Deeper draft vessels to utilize propeller cages.** Much of the project area is quite shallow, so endangered sturgeon are unavoidably in close proximity to vessel propellers. Indeed, NMFS has recognized that in parts of the Project area, vessel clearance from the bottom is only 1 to 4 feet. September 2014 BiOp at 119. Deeper draft tugs, push boats and other deeper draft vessels should be fitted with propeller cages to deflect sturgeon from contacting the propeller, similar to how lobstermen use cages on their propellers to avoid wrapping pot warp and shrimpers use cages over their trawl devices to exclude sea turtles.
- **Increased bubble curtain protection.** As some increased mortality may be resulting from pile driving shock waves despite the utilization of bubble curtains, an added protection would be to double the size of bubble curtains immediately.
- **Reduce speed of lowering dredge buckets.** Mortality from future dredging might be largely mitigated from the propeller cages described above, but an additional protective step would be to require that dredge buckets be lowered slowly to the bottom, allowing fish to detect and escape contact with the buckets.

Conclusion

This Petition is intended to confirm that NMFS is aware of the troubling sturgeon mortality data discussed herein, and that NMFS is actively reviewing and technically analyzing such data to ensure that the Project has not exceeded its authorized incidental take of Atlantic or shortnose sturgeon. Riverkeeper respectfully reminds NMFS that 16 U.S.C. § 1536 (2) requires federal agencies to “use the best scientific and commercial data available” to “insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species . . .” Each reported sturgeon mortality—and the data set as a whole—must be technically and statistically analyzed to determine, in light of so many reported sturgeon mortalities in close proximity to the Project, the likelihood that the authorized incidental take has been exceeded, and to ensure that the ongoing Project will not jeopardize the continued existence of the shortnose sturgeon or any endangered or threatened DPS of Atlantic sturgeon found in the Hudson River.

We reiterate that in the absence of any sound, technically-based explanations for the dramatic increases in reported sturgeon mortality, the precautionary principle requires that NMFS acknowledge that some portion of these sturgeon mortality increases must be related to the Project. This is especially true since, to Riverkeeper’s knowledge, there have been no significant changes in activity in the estuary aside from the Project during the time period that sturgeon mortality has so drastically increased.

We believe the dramatic increases in reported sturgeon mortality detailed herein require NMFS to reinitiate consultation for the Project, and we remind NMFS that, pursuant to 50 C.F.R. §§ 402.14 and 402.16, it must take into account “*all* relevant information provided by the Federal agency or *otherwise available*” [emphasis added] that might determine the Project’s effect on the listed species during any reinitiation of the consultation process.

A combined 68 dead sturgeon were reported to NYSDEC in 2013-2014, with many found in or nearby the Project area. It is reasonable to believe the actual sturgeon mortality is much higher than is reported to NYSDEC given that the public has limited access to Hudson River shorelines, is generally active in and around the river only during the warmer months of the year, and many dead fish never wash up on shore.

It is our understanding that dozens of additional dead sturgeon have been reported to NYSDEC in 2015. Any suggestion that none of the sturgeon deaths reported between 2013 and 2015 can be linked to—or assumed to have been caused by—Project activities would be baseless unless it is supported by sound science. It should be needless to say that with NMFS’s previous “no jeopardy” determinations based upon an authorized incidental lethal take of only two Atlantic and two shortnose sturgeons, a thorough technical analysis

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of these data must be expeditiously conducted to ensure that the Project will not further jeopardize the continued existence of these essential and valued endangered species.

We sincerely appreciate your prompt attention to these extremely important issues.

Respectfully submitted,



Daniel E. Estrin, Esq.
Drew Gamils, Legal Intern
PACE ENVIRONMENTAL LITIGATION CLINIC, INC.
78 North Broadway
White Plains, New York 10603
(914) 422-4343
destrin@law.pace.edu

Attachments

cc: A. Cuomo, Governor
B. Seggos, Dep. Sec., Energy & Env't
M. Gerstman, NYSDEC
E. McTiernan, NYSDEC
P. Casper, NYSTA
D. Paget, Sive Paget & Reisel
P. Gallay, Riverkeeper
J. Lipscomb, Riverkeeper
C. Len, Riverkeeper
K. Coplan, PELC
(all via email w/attachments)