

## Monthly Pile Driving Summary and Underwater Noise Monitoring Results

**Pile Driving Period: December 24, 2017 – January 20, 2018**

DOC Reference: TA\_FHWA\_03231\_RPT\_ENV



### Summary:

Production pile driving for steel piles [redacted] and greater in diameter was completed on June 5, 2015 and no impact pile driving of [redacted] piles was conducted during this reporting period. Therefore, no sturgeon were severely injured or killed as a result of underwater noise from pile driving during this reporting period.

Future impact pile-driving activities are scheduled for [redacted] diameter piles as indicated in Table 11 of the NMFS BO, dated November 1, 2017. This monthly summary will allow the continued tracking of sturgeon take associated with those piles.

### Pile Installation and Underwater Noise Monitoring:

During the monthly period from December 24, 2017 through January 20, 2018, no piles were driven with the impact hammer. Since the current NMFS BO was issued on November 1, 2017, there has been no impact pile driving.

As shown in Table 11 of the current NMFS BO, there are up to [redacted] diameter piles planned for falsework at [redacted] on the Rockland county shoreline and up to [redacted] diameter piles planned for the Westchester trestle and falsework. There is an exempted incidental take of two shortnose and two Atlantic sturgeon associated with this activity.

The method for estimating anticipated and calculated sturgeon take associated with the remaining piles to be driven for the project is described below.

#### *Anticipated Sturgeon Take from Table 11 of the NMFS BO*

For the purposes of tracking take associated with the subset of piles from the groups of piles shown in Table 11 (i.e., Anticipated Sturgeon Take), total take for each time period is divided by the number of piles scheduled to be driven during the time period. This value is compared with the Calculated Sturgeon Take (described in the next section) to determine whether or not take has been exceeded during the reporting period.

#### *Calculated Sturgeon Take to Date*

Following the same method used to estimate incidental sturgeon take for Table 11, the product of pile driving time, number of gill nets to span the width of the 206 dB isopleth, and sturgeon encounter rate of 0.033 sturgeon per net per hour is used to calculate sturgeon take for the piles driven during this reporting period (i.e., Calculated Sturgeon Take). For previous piles that have been monitored for underwater noise, the diameter of the 206 dB peak SPL isopleth is measured based on the maximum peak SPL recorded during pile driving. For the unmonitored piles, the maximum recorded isopleth diameter is assigned based on noise monitoring from the test pile program or from noise monitoring of piles at each pier. Actual pile driving times for each of the piles are used in the calculations.

Report Period: 12/24/2017 to 01/20/2018

Date	Year	Week	Pile diameter (feet)	Pier-Pile Number	Net Impact Pile Driving Duration (hrs/pile)	Pile driving time from Table 11 of the NMFS BO (hrs/pile)	Average width of isopleth for 206-dB peak SPL (feet)	Maximum width of isopleth for 206-dB peak SPL (feet)	Number of gill nets to span the 206-dB peak SPL isopleth	Sturgeon encounter rate (fish/net/hour)	Sturgeon take
<b>No piles were impact driven during the reporting period</b>											
<b>Monthly sturgeon take (Calculated based on pile-driving data/Anticipated from Table 11 of the November 2017 NMFS BO)</b>											-
<b>Cumulative sturgeon take to date (Calculated based on pile-driving data/Anticipated from Table 11 of the November 2017 NMFS BO)*</b>											-

\* With the issuance of the November 2017 BO, the exempted take was reduced from 3 Atlantic sturgeon and 3 shortnose sturgeon to 2 Atlantic sturgeon and 2 shortnose sturgeon in order to reflect the anticipated incidental take for the remaining piles that will be installed prior to completion of the project. To allow tracking of incidental take with respect to Table 11 of the November 2017 BO, the cumulative take reported in the table above will be with reference to the exempted incidental take of 2 sturgeon.