Monthly Pile Driving Summary and Underwater Noise Monitoring Results

Pile Driving Period: March 20, 2016 – April 16, 2016
DOC Reference: TA_FHWA_03148_RPT_ENV

Summary:

Production pile driving for steel piles was completed on June 5, 2015 and no impact pile driving of 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 piles as indicated in Table 12 of the NMFS BO, dated September 23, 2014. 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 March 20, 2016 through April 16, 2016, no piles were driven.

Anticipated Sturgeon Take from Table 12 of the NMFS BO

For the purposes of tracking take associated with the subset of piles from the groups of piles shown in Table 12[1] (i.e., Anticipated Sturgeon Take), total take for each time period was 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 12, 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 was 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 was measured based on the maximum peak SPL recorded during pile driving. For the unmonitored piles, the maximum recorded isopleth diameter was 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 were used in the calculations.

Based on the recorded pile-driving times and isopleth widths documented thus far:

- the cumulative incidental take for the piles driven to date (which includes trestle piles, test piles, and production piles as anticipated in Table 12 of the NMFS BO) was calculated as 7.52 sturgeon, which is less than the anticipated take of 27.66 sturgeon for the same piles in Table 12.

[1] Anticipated take was calculated in Table 12 of the NMFS BO as the product of the number of piles, number of hours to drive a pile, number of gill nets to span the 206 dB peak SPL isopleth, and the sturgeon encounter rate of 0.033 sturgeon per net per hour.

Report Period: 3/20/2016 to 4/16/2016

Date	Year	Week	Pile diameter (feet)	Pier-Pile Number	Net Impact Pile Driving Duration (hrs/pile)	Pile driving time from Table 12 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
No piles were impact driven during the reporting period											
Monthly sturgeon take (Calculated based on pile-driving data/Anticipated from Table 12 of the September 2014 NMFS BO)											**-**
Cumulative sturgeon take to date (Calculated based on pile-driving data/Anticipated from Table 12 of the September 2014 NMFS BO)											**7.52/27.66**