



Effects Dredge Activity and Noise on Atlantic Sturgeon Behavior

Dredging Operations Environmental Research (DOER) Program

U.S. ARMY CORPS OF ENGINEERS

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Focus Area

Environmental Resource Management

Problem

Atlantic sturgeon (ATS) is a federally-protected species in the United States. There are increasing concerns regarding the effects of dredging operations and the noise associated with dredging activities on ATS behavior. In the James River, VA, concerns have been expressed by the National Marine Fisheries Service (NMFS) about the effects of dredging operations (physical disturbance and noise) impacting ATS.

Study Description

The focus of this research is to determine ATS behavior in relation to an active hopper dredge. This will be a first-of-its-kind field project using a Vemco array that covers a 25 km² area around an active hopper dredge in the lower Chesapeake Bay. The array will allow USACE to track tagged subadult and adult ATS movements in the presence of hopper dredge operations. This study will leverage assets of \$280K through agreements with various universities in VA, the US Fish and Wildlife Service and the National Marine Fisheries Service.

- a) Communicate with the Norfolk District to determine where to deploy the array
- b) Maintain the array during dredge operations
- c) Analyze the data to determine if or how ATS modify their movements in relation to an active hopper dredge



Products

Products developed under this research will include: 1) methods to determine how ATS move near a hopper dredge 2) data for stakeholders and managers about ATS behavior around an operating dredge 3) ERDC technical note and Wiki Page sharing the results 4) presentations at appropriate conferences 5) peer-reviewed journal article.

Summary

There is currently no knowledge of whether or how Atlantic sturgeon modify their behavior due to an active hopper dredge activities. Time of dredge operations in rivers is already restricted during the spring anadromous fish run and expansion of dredging restrictions specifically for fall run ATS would hinder dredge operations in East Coast rivers. Taking a proactive approach by increasing our knowledge of whether or how dredging modifies ATS behavior will help USACE address concerns from NMFS. This effort will build on previous projects that monitored ATS behavior around an active hydraulic-cutterhead dredge.



Balancing operational and environmental initiatives and meeting complex challenges of dredging and dredged material placement in support of the navigation mission.

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