

SHORTNOSE STURGEON RESEARCH NEEDS

NOAA Fisheries Service, Southeast Regional Office

Genetic Assessments: Range-wide genetic assessments of shortnose sturgeon have been made by various researchers. Future genetic assessments are needed to couple genetic heritability of expressed phenotypes. For example, whether observed genetic differences between populations are indicative of adaptive significance or are simply due to isolation and random genetic drift.

Surveys and Presence/Absence Studies: In many river systems (e.g., South Carolina rivers) there are long standing records of shortnose sturgeon occurrence, but incomplete information exists on their distribution or abundance levels. Obtaining this information is a priority for such rivers. Likewise, there are sizable information gaps on the subsistence of shortnose sturgeon in several rivers with historical populations

Identification of spawning and nursery grounds and overwintering areas: The exact locations of most shortnose sturgeon spawning, nursery, and overwintering grounds are unknown. In addition to identifying the locations, the environmental parameters unique to those locations are also needed. Research on diet and foraging habitat is needed to identify preferred prey types as well as the specific benthic habitats that support preferred prey.

Develop fish passage devices for sturgeon: In some rivers (e.g., in the Cape Fear, St. Johns, and Santee/Cooper River systems), access to historical spawning habitat has been significantly restricted by dams and locks. Traditional fish passage devices are often constructed for pelagic species and are not efficient for shortnose sturgeon due to their size and swimming characteristics. Research is needed to improve both upstream and downstream fish passage for shortnose sturgeon to reconnect essential foraging and spawning habitats.

Contaminant Research: All East Coast river systems are impacted by contaminants and nutrient enrichment from human activity. Therefore, identifying contaminants and oxygen demanding sources is important to develop and detect causal relationships. Research identifying oxygen demanding sources and impacts of varying levels of contaminants across life stages is needed to improve water quality.

Impacts of Dredging: Dredging activities can pose significant impacts to aquatic ecosystems by removing, disturbing, disposing, and resuspending bottom sediments, modifying substrate and impacting the community structure of benthic macrofauna. Ongoing research to assess the direct and indirect effects of blasting, dredging, and in-river disposal on sturgeon species is necessary to better understand these impacts.

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