

ATLANTIC STURGEON RESEARCH NEEDS

NOAA Fisheries Service, Southeast Regional Office

Identification of spawning and nursery grounds and overwintering areas: The exact locations of most Atlantic sturgeon spawning, nursery, and overwintering grounds are unknown. In addition to identifying these locations, we also need to identify the key features of these habitats that are important to Atlantic sturgeon.

Long-term population monitoring programs: Long-term monitoring programs are needed to help determine the distribution, abundance, and population trends of Atlantic sturgeon.

Population genetics: Atlantic sturgeon originating from different rivers and DPSs are believed to mix in the marine environment. Additional studies are needed to determine the genetic composition of sturgeon aggregations. This information can be used to examine the extent of mixing of the DPSs in the marine environment, and to better identify and/or quantify threats to each DPS.

Toxic contaminant and biotoxin impacts and thresholds: Atlantic sturgeon can live up to 60 years and have the potential to bioaccumulate toxins. The contaminant levels of Atlantic sturgeon have been examined in only a few systems. In other fish species, the bioaccumulation of contaminants (e.g., PCBs, dioxins) has been shown to reduce reproductive capabilities and growth, and to cause death. In 2009, saxitoxin was detected in tissues of shortnose sturgeon carcasses coinciding with a red-tide event. Therefore, information on bioaccumulation in Atlantic sturgeon may greatly aid recovery efforts.

Reducing bycatch and bycatch mortality: Very little information is available on current levels of bycatch and bycatch mortality occurring in fisheries in the Southeast. Research is needed to identify the spatial and temporal distribution of bycatch throughout the species range, and to identify measures that can be implemented to reduce bycatch and/or bycatch mortality.

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 Atlantic sturgeon due to their size and swimming characteristics. Research is needed to improve fish passage for Atlantic sturgeon in areas where access to spawning habitat is obstructed by manmade structures.

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.

For further information or questions: Please contact Kelly Shotts at 727-824-5312.