Atlantic Sturgeon Research Priorities

NOAA's National Marine Fisheries Service (NMFS) has identified the following research priorities for Atlantic sturgeon. The priorities are not listed in any particular order. All research objectives are considered high priority.

· Long-term population monitoring programs: Currently, there are only three subpopulations (Hudson, Albemarle, and Edisto) with long-term monitoring programs in place to help determine the status of the species (e.g., whether it is decreasing, increasing, or remaining stable). It is critical that all other extant subpopulations be surveyed to better understand their status.

· Spawning population abundance estimates: There are only two extant subpopulations with estimates of yearly spawning adults, the Hudson (~860/year) and Altamaha (~350/year). These Atlantic sturgeon subpopulations are suspected to be the largest within the U.S. portion of the species' range. Therefore, all of the other U.S. subpopulations are expected to have less than 300 spawners per year. It is very important to determine the average number of spawners per year for each subpopulation, as the risk of extinction increases greatly for smaller subpopulations.

· Identification of Spawning and Nursery Grounds: Only nine of the 36 subpopulations that once supported a spawning subpopulation have had spawning grounds identified. Though generally found in the vicinity of the fall line, some spawning locations are known to occur above or below this area of elevation change. Identifying these critical habitats is an important step in determining potential stressors to the subpopulation and identifying areas that should be protected from degradation.

· Reducing Bycatch and Bycatch Mortality: To remain stable or grow, Atlantic sturgeon can sustain only very low anthropogenic sources of mortality (<4% per year). Current level of bycatch mortality is most likely retarding or curtailing recovery of Atlantic sturgeon subpopulations. Further research is needed to further determine the impacts of bycatch and bycatch mortality on Atlantic sturgeon subpopulations

·

· Toxic Contaminant Impacts and Thresholds: Since Atlantic sturgeon are a long-lived species, they have the potential to bio-accumulate toxins. The contaminant levels of Atlantic sturgeon have been examined in only a few systems. Though contaminants in the environment used by Atlantic sturgeon have been greatly reduced over the last two decades, the presence of dioxins, PCBs, and mercury is still apparent. In other fish species, the bioaccumulation of these contaminants has been shown to reduce reproductive capabilities, growth, and cause death.

· Population Genetics: Several subpopulation genetic studies have been performed on Atlantic sturgeon since the 1990s using both mtDNA and nDNA. However, continuing work is needed.

· Develop Fish Passage Devices for Sturgeon: Currently there is little information that

Atlantic sturgeon utilize existing fish passage devices. Both up- and down-stream fish passage devices need to be engineered to help sturgeon species pass dams so that historic and possibly more suitable spawning habitat can be reached.