Common Name: SHORTNOSE STURGEON

Scientific Name: *Acipenser brevirostrum*

Other Commonly Used Names: little sturgeon, pinkster, roundnoser, bottlenose, mammose, salmon sturgeon, soft-shell sturgeon, scuters

Previously Used Scientific Names: *Acipenser brevirostris*

Family: Acipenseridae

Rarity Ranks: G3/S2

State Legal Status: Endangered

Federal Legal Status: Endangered

Description: Sturgeons are an ancient family of fishes with about 27 living species, one of which is the largest freshwater fish in the world. Two genera occur in North America: *Scaphirhynchus* (3 species) and *Acipenser* (5 species). Sturgeons have a row of large bony scutes on their backs and two rows of scutes on each of their sides. The mouth is located on the underside of the flattened, shovel-like snout, behind 4 long barbels. The mouth is toothless, fleshy, and protrusible. The shortnose sturgeon is the smallest of the *Acipenser* genus in eastern North America. Female shortnose sturgeons attain total lengths ranging from 1 m (3.3 ft) in the southern portion of their range to 1.4 m (4.6 ft) in the northernmost portion. Males are somewhat smaller. The upper body color may vary from yellowish-brown in salt water to dark in freshwater, while the underside of the body is lighter. Maximum weights range up to 24 kg (52.8 lbs). The maximum ages documented are from populations at the northern edge of the range in Canada: 67 years for females and 32 years for males. The maximum age of shortnose sturgeon in Georgia is estimated to be less than 20 years.

Similar Species: The Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) is larger at adulthood than the shortnose sturgeon and is easily distinguished by size, length of the snout, color, and number of anal fin rays. The Atlantic sturgeon may reach a maximum size of more than 2.5 m (8.2 ft). The snout of the Atlantic sturgeon is approximately 30-50% of head length, whereas the snout of the shortnose sturgeon is only 25-40% of head

length. Colors are variable, but shortnose sturgeon are typically bronze and Atlantic sturgeon are silver with white margins on the leading edge of all fins. Atlantic sturgeon have a larger anal ray count (usually 26-28 rays) than shortnose sturgeon (usually 19-22 rays).

Habitat: This fish inhabits large coastal rivers, though it does occasionally enter the Atlantic Ocean. Spawning typically occurs in freshwater, mid-channel areas of river bends over coarse substrates, such as rock and gravel, with current velocities of 52 – 104 cm/sec.

Diet: Aquatic invertebrates of all types, ranging from insect larvae, crustaceans, oligochaetes, and mollusks in fresh water to polychaete worms, crustaceans, and mollusks in salt water. Some small fishes are also consumed.

Life History: Shortnose sturgeon are amphidromous, meaning they swim up large coastal rivers to spawn, then return to the lower river or estuary for the rest of the year, only occasionally venturing into the Atlantic Ocean. In the southern portion of their range, shortnose sturgeon inhabit freshwater during the late spring and summer, migrating to estuarine areas during the fall and winter. Upstream migration to spawning sites has been recorded in January in the Savannah River. Spawning in Georgia begins in February when water temperatures exceed 9 °C (48 °F), and post-spawning migrations downriver begin in March. In the southern portion of their range, male and female shortnose sturgeons mature at 2-3 and 3-5 years of age, respectively. Spawning may occur 1-16 years after maturity. Individual males and females typically do not spawn every year; males may skip 1-2 years and females may skip 3-5 years between spawning events. A single female may spawn as many as 27,000-208,000 eggs, which are sticky and adhere to coarse substrates. After hatching, larval shortnose sturgeon seek cover and hide until they absorb their yolk-sacs, then drift downstream to habitats near the saltwater-freshwater interface. In Georgia, shortnose sturgeon seek thermal refuges in deep areas of rivers when water temperatures exceed 27 °C (81 °F).

Survey Recommendations: Assuming that appropriate permits are obtained**,** this species is best surveyed with anchored gill and trammel nets set during a slack tide. Drifted gill nets may also be useful for sampling shortnose sturgeon. The potential for sampling mortality should be minimized by limiting net sets to 30 minutes or less at temperatures above 27 °C (81 °F) and eliminating sampling altogether at temperatures above 30 °C (86°F). Captured sturgeon should be kept in a floating net pen until biological data are collected. Handling time of sturgeon should be minimized to decrease the potential for mortality.

Range: The historic range of the shortnose sturgeon extends from the St. John's River in Florida to the Saint John River in New Brunswick, Canada. The Savannah, Ogeechee, Altamaha, Satilla, and St. Marys rivers have known populations of shortnose sturgeon, with the Altamaha River containing the largest population south of the Delaware River. Check the Fishes of Georgia Webpage for a watershed-level distribution map.

Threats: Most species of sturgeon have become threatened because of over-harvest

and/or impoundment of spawning rivers. Sturgeon are valued for their eggs, which are sold as caviar. The late age of maturity and intermittent spawning periodicity, combined with reduced population sizes, have placed many populations of shortnose sturgeon at risk of extirpation. Shortnose sturgeon may also be caught as by-catch in commercial fisheries targeting the American shad. Spawning habitat may become adversely modified through dredging and alteration of the flows below impoundments. Dam construction often impedes the upstream migration of sturgeon to historic spawning areas. In southern rivers, poor water quality resulting from high temperatures and low dissolved oxygen pose a threat to conservation and recovery of shortnose sturgeon.

Georgia Conservation Status: Movements between the Ogeechee River population and a much larger population in the Altamaha River have been documented. These two populations may be considered components of a larger metapopulation. Recent sampling efforts in the Satilla and St. Marys rivers have documented shortnose sturgeon and there is some evidence (juveniles) for reproduction in the Satilla River system.

Conservation and Management Recommendations: Management recommendations for the shortnose sturgeon include identification and protection of habitats required for all life stages. Spawning habitats and summer refugia in Georgia rivers should be identified and protected. This may be problematic in the Savannah River due to extensive dredging, but may be achievable in the Altamaha and Ogeechee rivers. Water pollution also poses a chronic threat to many shortnose sturgeon populations, as it does to many other species.

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Author of Account: Byron J. Freeman, Daniel J. Farrae, and Douglas L. Peterson

Date Compiled or Updated:
B. Freeman, 1999: Original account
K. Owers, January, 2009: Added picture, updated status and ranks, added fish atlas link, converted to new format, minor edits to text
D. Farrae and D. Peterson, May 2009: general update of entire account
D. Peterson, September 2013: added Satilla and St. Marys River to current range.

Dorsal view of Atlantic (top) and shortnose (bottom) sturgeon for comparison.