

Shortnose Sturgeon

Acipenser brevirostrum

The mention of sturgeon makes most people think of caviar—the eggs or roe—which is considered an expensive delicacy when eaten as an *hors d'oeuvre*. Yet, various species of sturgeon are both interesting and commercially important, and they aren't found only in Russian waters as is often thought.

The shortnose sturgeon (*Acipenser brevirostrum*) is a much smaller cousin of the North American Pacific Coast white sturgeon, *A. transmontanus*, and the Atlantic sturgeon (*A. oxyrinchus*). Both the white sturgeon, which can grow to a length of 12 feet and exceed 1,000 pounds, and the Atlantic sturgeon, which may exceed 9 feet in length and weigh over 500 pounds, are commercially harvested for their eggs. The shortnose sturgeon is a much smaller fish and rarely exceeds 3 feet in length.

Sturgeon are anadromous fish, which means they spend most of their life in salt water, but migrate up freshwater rivers along the coast to spawn or reproduce.

History and Status

There are numerous reports of shortnose sturgeon taken in North Carolina in the early 1800s, but its status and distribution here have never been well known. In fact, no shortnose sturgeon had been reported in our waters since 1881, and it was thought to be extinct here. In 1987, however, a fisherman caught a shortnose sturgeon in the Brunswick River. Since then, several shortnose have been caught in the Brunswick

and Cape Fear rivers by commercial fishermen. A single specimen was also captured in the Pee Dee River, and it is now believed that a population may also exist in western Albemarle Sound.

Commercially over-harvested for its flesh and eggs, and unable to adapt to an ever-changing environment, the shortnose sturgeon has declined drastically during the 20th century and may be on the brink of extinction. It is the only marine fish that is federally protected by the Endangered Species Act.

Description

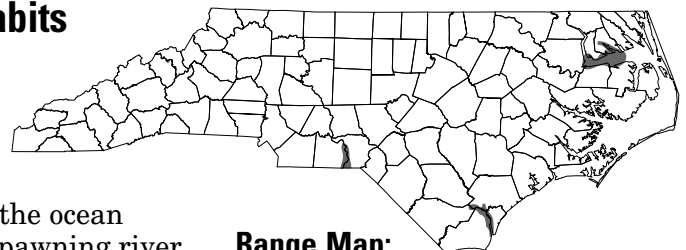
Shortnose sturgeon are often confused with the more common Atlantic sturgeon. Both have five rows of bony plates called scutes located along the body, and a heterocercal (shark-like) tail. However, unlike sharks, sturgeon have a much smaller dorsal (top) fin and are completely harmless. The shortnose has a protractile, sucker-like mouth that adapts it to feed along the bottom. Its bony plates and thick, leathery skin protect it from predators and give it a very primitive appearance. In fact, it is a member of one of the oldest family of fishes, Acipenseridae, dating back to the age of dinosaurs.

Habitat and Habits

Like other sturgeon, the shortnose sturgeon is anadromous, but it spends much of its life in the ocean near its home or spawning river, migrating to up-river spawning

areas in January and February. They seem to prefer deep water with a soft, mucky substrate and vegetated bottom. They are a benthic or bottom-dwelling species and can be classified as opportunistic feeders, eating a wide variety of plants and animals. They feed mainly at night.

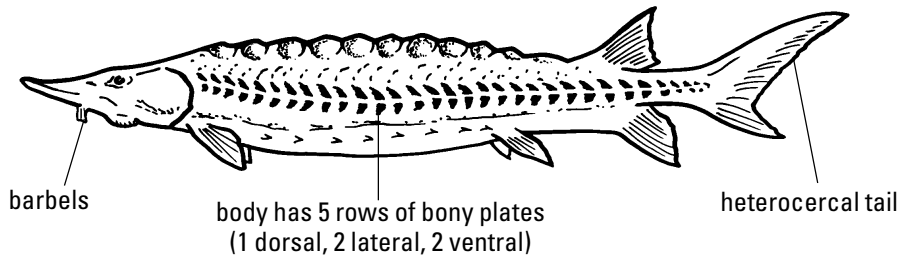
Sturgeon require clean, swiftly flowing, freshwater swamps with rough bottoms to spawn in. They do not spawn until they are at least 5 to 7 years old. Peak spawning occurs between February and May at water temperatures ranging from 60 to 70 F. Spawning occurs at night in the middle of the river channel with females depositing between 25,000 and 210,000 eggs. The eggs hatch within a week at a water temperature of 64 F. Females spawn only once every three years, while



Range Map:
Rare ■

Sturgeon coloring:

dark olive above, sides paler or reddish, frequently with black spots



males may spawn more frequently.

Shortnose sturgeon in more northern regions may live past 50 years and attain a length greater than 3 feet. However, southern populations probably do not live longer than 30 years and do not grow longer than 3 feet even though their growth rates are faster than shortnose sturgeon in northern populations.

Range and Distribution

The range of shortnose sturgeon extends along the entire east coast of North America from the Saint John River in New Brunswick, Canada, to the Indian River in Florida. Shortnose apparently remain fairly close to their home river most of their lives and do not tend to range or migrate as far as the Atlantic sturgeon. The Cape Fear River drainage probably contains the only self-sustaining population of shortnose sturgeon in North Carolina.

People Interactions

Human-related activities—commercial fishing in particular—have led to a decline in short-nose sturgeon populations throughout the species' range. In the past, sturgeon were prized for their firm white flesh and eggs, and were fished almost to extinction. Dams built for navigational or flood control purposes on larger coastal rivers restricted or even prevented sturgeon from reaching their traditional spawning grounds. Increasing levels of

water pollution from development also degraded spawning sites and decreased reproduction. Late maturation, periodic spawning and slow growth have also contributed to the decline of shortnose sturgeon. Today, shortnose sturgeon are protected by state and federal law. The Cape Fear River drainage population is further protected by a regulation that restricts commercial harvest of any sturgeon larger than 3 feet.

References

Holland, B.F., Jr. and G.F. Yelverton. *Distribution and Biological Studies of Anadromous Fishes Offshore North Carolina* (N.C. Dept. of Natural and Economic Resources, 1973).
 Menhinick, E.F. *The Freshwater Fishes of North Carolina* (N.C. Wildlife Resources Commission, 1991).
 Ross, S.W., F.C. Rohde, and D.G. Lindquist. *Endangered, Threatened, and Rare Fauna of North Carolina*, Part II. (Occasional papers of the North Carolina Biological Survey, 1988).
 Smith, H.M. 1907. *The Fishes of North Carolina* (North Carolina Geological and Economic Survey, 1907).

Credits

Written by Keith Ashley.
 Illustrated by J.T. Newman.
 Produced January 1994 by the Division of Conservation Education, N.C. Wildlife Resources Commission.
 The Wildlife Resources Commission is an Equal Opportunity Employer and all wildlife programs are administered for the benefit of all North Carolina citizens without prejudice toward age, sex, race, religion or national origin. Violations of this pledge may be reported to the Equal Employment Officer, N.C. Wildlife Resources Commission, 512 N. Salisbury St., Raleigh, N.C. 27604-1188. (919) 733-2241.

SHORTNOSE STURGEON

Classification

Class: Osteichthyes - Bony Fishes
 Order: Acipenseriformes

Average Size

Length: Up to 3 feet
 Weight: Unknown

Food

Shortnose sturgeon feed on worms, crustaceans, insects and small mollusks. They prefer to feed on a bottom composed of sediment, vegetation and detrital matter.

Breeding

Promiscuous, males may breed with more than one female. Spawning occurs in mid-river between February and May, and the fish remain in the river during summer, returning down-river in the fall.

Young

Hatch in about one week at a water temperature of 64 F. No parental care is given to young. Fish reach sexual maturity within 5 to 7 years.

Life Expectancy

Up to 50 years for northern populations; less than 30 years for southern populations.