

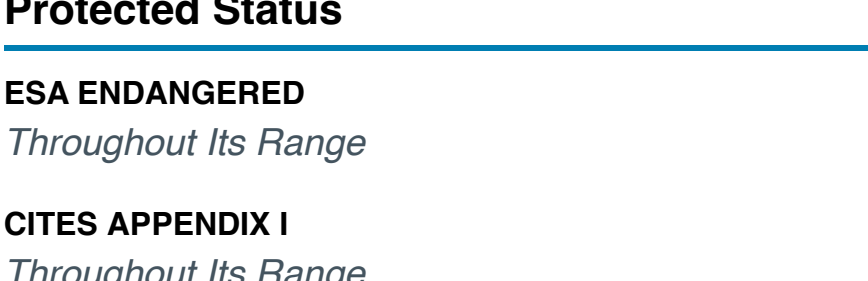
SPECIES DIRECTORY

Shortnose Sturgeon

- Overview
- Conservation & Management
- Populations
- Science
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Shortnose Sturgeon

Acipenser brevirostrum



Protected Status

ESA ENDANGERED
Throughout Its Range

CITES APPENDIX I
Throughout Its Range

Quick Facts

WEIGHT	Up to 50 pounds
LENGTH	Up to 4.5 feet
LIFESPAN	Average of 30 years but may live up to 67
THREATS	Bycatch, Dredging, Habitat degradation, Habitat impediments (e.g., dams), Water pollution, Water withdrawals
REGION	New England/Mid-Atlantic, Southeast

About the Species

Shortnose sturgeon live in rivers and coastal waters from Canada to Florida. They hatch in the freshwater of rivers and spend most of their time in the estuaries of these rivers. Unlike Atlantic sturgeon, shortnose sturgeon tend to spend relatively little time in the ocean. When they do enter marine waters, they generally stay close to shore. In the spring, adults move far upstream and away from saltwater to spawn. After spawning, the adults move rapidly back downstream to the estuaries, where they feed, rest, and spend most of their time.

Shortnose sturgeon have five rows of external, bony plates along the length of their body known as scutes, giving them the appearance they are covered in armor. Shortnose sturgeon are slow-growing and late-maturing, and they have been recorded to reach up to 4.5 feet in length and live 30 years or more.

Native American fishermen harvested shortnose and Atlantic sturgeon for their meat and eggs (roe) beginning some 4,000 years ago, and sturgeon are credited as the primary food source that saved the Jamestown settlers in 1607. In the mid-1800s, Atlantic and shortnose sturgeon began to support a thriving and profitable fishery for caviar, smoked meat, and oil. For the most part, historical landings records failed to differentiate between shortnose sturgeon and the larger Atlantic sturgeon, making it difficult to determine historical trends in abundance for populations of either species. By the late-1800s, sturgeon were being over-exploited. In 1890, over 7 million pounds of sturgeon were caught in 1 year alone. In 1920, only 23,000 pounds of sturgeon were caught.

Although shortnose sturgeon are no longer fished, threats remain that continue to affect recovery efforts. Bycatch in commercial fisheries and increased industrial uses of the nation's large coastal rivers during the 20th century (e.g., hydropower, nuclear power, treated sewage disposal) became the primary barriers to shortnose sturgeon recovery.

Today, the shortnose sturgeon is in danger of extinction throughout its range and is listed as an endangered species under the Endangered Species Act. The primary threats to this species are habitat degradation, water pollution, dredging, water withdrawals, fisheries bycatch, and habitat impediments (e.g., dams).

NOAA Fisheries and its partners are dedicated to conserving and rebuilding shortnose sturgeon populations along the East Coast. We use a variety of innovative techniques to study, protect, and recover these endangered fish. Working closely with our partners, we develop regulations and management plans that preserve and restore sturgeon habitat, monitor bycatch, and promote population recovery.

Distribution

Historically, shortnose sturgeon were found in the coastal rivers along the East Coast of North America—from the Saint John River in New Brunswick, Canada, to the St. Johns River in Florida, and perhaps as far south as the Indian River in Florida. Currently, shortnose sturgeon can be found in 41 bays and rivers along the East Coast, but their distribution across this range is broken up, with a large gap of about 250 miles separating the northern and mid-Atlantic metapopulations from the southern metapopulation. (A metapopulation is a group of separate but interacting populations such that there is gene flow occurring among the populations.) Because of this distance between the shortnose sturgeon in mid-Atlantic/northern metapopulations and the southern metapopulation, adults from the two regions may never meet to breed.

In the southern metapopulation, shortnose sturgeon are currently found in the Great Pee Dee, Waccamaw, Edisto, Cooper, Altamaha, Ogeechee, and Savannah rivers. They may also be found in the Black, Sampit, Ashley, Santee, Roanoke, and Cape Fear rivers, as well as Albemarle Sound and Pamlico Sound. Shortnose sturgeon used to be considered extinct in the Satilla, St. Marys, and the St. Johns rivers, but were recently found again in both the Satilla and St. Marys rivers. A single specimen was found in the St. Johns River by the Florida Fish and Wildlife Conservation Commission during extensive sampling of the river in 2002 and 2003; subsequent sampling by a different group in 2014 and 2015 found no shortnose sturgeon.

In the northern and mid-Atlantic metapopulations, shortnose sturgeon are currently found in the Saint John (Canada), Penobscot, Kennebec, Androscoggin, Piscataqua, Merrimack, Connecticut, Hudson, Delaware, and Potomac rivers. They have also been frequently spotted opportunistically foraging and transiting in the St. George, Medomak, Damariscotta, Sheepscot, Saco, Deerfield, East, and Susquehanna rivers. On rare occasions, they have been seen in the Narragagus, Presumpscot, Westfield, Housatonic, Schuylkill, Rappahannock, and James rivers.

There are also two dam-locked populations of shortnose sturgeon that were trapped upstream of dams upon completion of their construction. Populations can be found above the Holyoke Dam on the Connecticut River. In South Carolina, shortnose sturgeon are also trapped in Lake Moultrie and Lake Marion above the dams on the Santee-Cooper river system (i.e., Pinopolis, Wilson, and St. Stephens dams). This population also uses the Congaree and Wateree rivers.

Population Status

The historical range of shortnose sturgeon included major estuaries (areas where rivers meet the sea) and river systems from Canada to Florida. No estimate of the historical population size of shortnose sturgeon is available. While shortnose sturgeon were rarely the target of a commercial fishery, they were often taken incidentally in the commercial fishery for Atlantic sturgeon. In the 1950s, sturgeon fisheries declined on the East Coast, which resulted in a lack of records of shortnose sturgeon. This led the U.S. Fish and Wildlife Service concluded that this species had been eliminated from the rivers in its historical range (except the Hudson River) and was in danger of extinction because of overharvest, both directly and incidentally, and other factors (e.g., pollution).

Currently, shortnose sturgeon are found in 41 rivers and bays along the East Coast, spawning in 19 of those rivers and comprising three "metapopulations," or groups of interacting populations. These three metapopulations include the Carolinian Province (southern metapopulation), Virginian Province (mid-Atlantic metapopulation), and Acadian Province (northern metapopulation).

Learn more about the population status of the different metapopulations >

Appearance

Shortnose sturgeon can grow to approximately 4.5 feet long and weigh up to 60 pounds. They are yellowish-brown and generally have a black head, back, and sides. Their bellies are white to yellow. They have five major rows of scutes (external, bony plates) along the length of their body and a protruding snout with four barbels (fleshy, whisker-like projections).

Shortnose sturgeon are similar in appearance to Atlantic sturgeon, but can be distinguished by their smaller size, larger mouth, smaller snout shape, and tail scute pattern.

Behavior and Diet

Spawning adults generally migrate upriver in spring, from January to April in the South, April to May in the Mid-Atlantic, and May to June in Canadian waters. After spawning, the adults typically move quickly back downstream to the lower river and estuaries. In most rivers, juveniles and adults show similar patterns of habitat use. For example, in the Southeast, juveniles make seasonal migrations like adults, moving upriver into relatively freshwater during warmer months where they shelter in deep holes, before returning to the fresh/saltwater interface when temperatures cool.

Shortnose sturgeon use their four barbels to search for food in the sandy, muddy bottom of rivers. They use a vacuum-like mouth to suck up a variety of prey from the substrate, typically invertebrates such as insects, crustaceans, worms, and mollusks.

Where They Live

Historically, shortnose sturgeon were found in the coastal rivers along the East Coast of North America from the Saint John River, New Brunswick, Canada, to the St. Johns River, Florida, and perhaps as far south as the Indian River in Florida. Currently, shortnose sturgeon occur in 41 bays and rivers along the East Coast, reproducing in 19 of them.

For the most part, shortnose sturgeon are amphidromous fish—meaning they are born in freshwater, then live in their birth (natal) river, make short feeding or migratory trips into salt water, and then return to freshwater to feed and escape predation. All sturgeon, including shortnose sturgeon, spawn in freshwater.

World map providing approximate representation of the shortnose sturgeon range.

Lifespan & Reproduction

Lifespan is correlated with how far north or south shortnose sturgeon live, with adults reaching up to 60 years in Canada, but likely only 10 to 20 years in the Southeast. Southern populations tend to grow faster and reach sexual maturity at an earlier age than other populations. For example, shortnose sturgeon mature in South Carolina and Georgia rivers around 2 to 5 years of age, in the Hudson River at 7 to 10 years, and in the Saint John River (Canada) at 12 to 18 years.

Male shortnose sturgeon usually spawn every 1 to 2 years once they mature, while females typically spawn every 3 to 5 years. The number of eggs females can produce is correlated with age and body size and ranges from 30,000 to 200,000 per year.

Threats

The most significant threats to the species are dams that block access to spawning areas or lower parts of rivers, poor water quality, dredging, water withdrawals from rivers, and unintended catch in some commercial fisheries.

Habitat Impediments

Locks and dams on the Cape Fear River, North Carolina; Santee-Cooper River, South Carolina; Savannah River, South Carolina/Georgia; and the Connecticut River impede access to upstream spawning habitat. The dams on the Santee-Cooper system also prevent the dam-locked population of shortnose sturgeon from traveling downstream, below the dams, to areas with better food sources.

For the past several years, NOAA Fisheries has been working with Holyoke Gas and Electric to improve fish passage on the Holyoke Dam on the Connecticut River. In 2017, the station opened a modified fishway, which consists of two "lifts" that carry migrating fish up and over the dam. For the first time in 20 years, shortnose sturgeon passed upstream of the dam. Prior to this effort, from 1996 to 2015, the greatest number of shortnose sturgeon passed by the lift was 16 in 1996. Since the modified fishway became operational, the number of shortnose sturgeon passing upstream at the lift has increased. From 2016-2019, the number of shortnose sturgeon passed at the dam ranged from 20 (2019) to 94 (2016).

Habitat Degradation

Habitats can be altered, degraded, or destroyed because of various human activities, such as dredging, damming, groundwater pumping. Industrialization and development has also impacted water quality through introduction of nutrients and other contaminants.

Fisheries Interactions and Bycatch

Fishermen may accidentally capture shortnose sturgeon while trying to catch something else. This is called bycatch. Shortnose sturgeon are primarily bycaught in gillnet fisheries. Shortnose sturgeon have also been captured in pound nets, fyke/hoop nets, catfish pots, shrimp trawls, and even recreational hooks and lines.

The prevalence and likelihood of bycatch varies by time of year. Time of year also affects the life stages that are caught and the likelihood of the sturgeon's survival, as (survival is more likely in colder water. Fisheries conducted within rivers and estuaries may intercept any life stage, while fisheries conducted in nearshore and ocean areas are more likely to capture migrating adults. The likelihood that an accidentally caught shortnose sturgeon will die in a gillnet appears to be related to water quality, how the net is set, and how long the net is left before being tended. Overall, gillnets not tethered to anything ("drift gillnets") have lower capture rates than those attached to the bottom. The longer a net is in the water the greater the chance a captured shortnose sturgeon will die, and death is more likely when the water is warm.

Learn more about how to report an injured or dead sturgeon >

Scientific Classification

Kingdom	Animalia
Phylum	Chordata
Class	Actinopterygii
Order	Acipenseriformes
Family	Acipenseridae
Genus	Acipenser
Species	brevirostrum

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What We Do

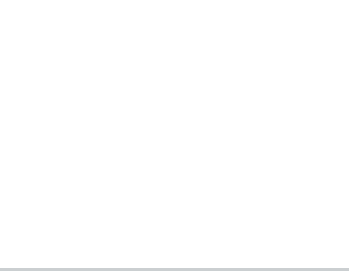
Conservation & Management

We are committed to the protection and recovery of shortnose sturgeon by implementing various conservation, management, and enforcement measures. Our work includes:

- Preserving existing habitats
- Improving existing habitat and restoring access to historical habitat (e.g., dam removals)
- Establishing benthic fish passage at dams that have not been removed
- Monitoring bycatch and stock recovery
- Educating the public

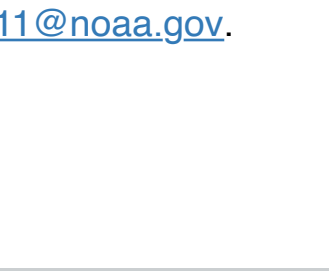
Learn more about our conservation efforts >

How You Can Help



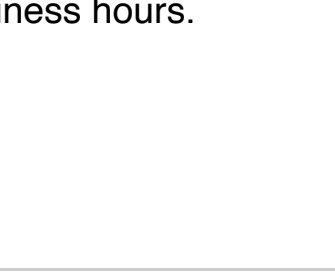
Know the Law Before You Fish

It is illegal to fish for, catch, or keep sturgeon—including Atlantic, Shortnose, and Gulf, if you accidentally hook a sturgeon, be prepared to catch and release with care.



Report a Stranded, Injured, or Dead Sturgeon

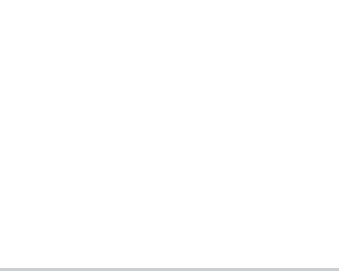
If you find a stranded, injured, or dead sturgeon, please report it to NOAA Fisheries at (978) 281-9328 or in the Southeast at (844) STURGE-911 or (844) 788-7491, or send us an email at noaa.sturge911@noaa.gov.



Report a Violation

Call the NOAA Fisheries Enforcement Hotline at (800) 853-1964 to report a federal marine resource violation. This hotline is available 24 hours a day, 7 days a week for anyone in the United States.

You may also contact your closest NOAA Office of Law Enforcement field office during regular business hours.



Learn About Bycatch

One of the main threats to marine animals is entanglement in fishing gear, especially gillnets. Fishermen sometimes catch and discard animals they do not want, cannot sell, or are not allowed to keep. This is collectively known as bycatch.

Learn more about bycatch >

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