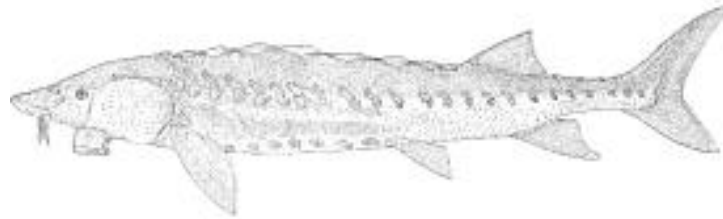


## Green Sturgeon General Questions & Answers



North American green sturgeon  
(*Acipenser medirostris*)

### GENERAL QUESTIONS ABOUT NORTH AMERICAN GREEN STURGEON

#### **What are sturgeon?**

Sturgeon are a family of large (up to approximately 2.5 m), primitive, bottom-dwelling, and extremely long-lived (up to 70 years) fish (Family Acipenseridae).



US Bureau of Reclamation, R. Reyes

Although they are members of the class of bony fishes, the skeleton of sturgeons is composed mostly of cartilage. Sturgeon lack scales; however, they have five rows of characteristic bony plates on their body (called scutes). The backbone of the sturgeon curves upward into the tail or caudal fin, forming their shark-like tail. On the ventral, or underside, of their flattened snouts are sensory barbels and a siphon-shaped, protrusible, toothless mouth. Sturgeon are found in North America and Eurasia. All of these fishes spawn in fresh water; however, several species are anadromous, spending much of their life in the ocean but migrating to fresh water to spawn. When in marine waters, sturgeon are mostly found in bays and estuaries. Sturgeon feed primarily on bottom organisms such as worms, molluscs, and crustaceans. Sturgeon worldwide are commercially valued for caviar, meat, and other products.

#### **Where are green sturgeon found?**

Green sturgeon are the most broadly distributed, wide ranging, and most marine-oriented species of the sturgeon family. Green sturgeon are believed to spend the majority of their lives in nearshore oceanic waters, bays, and estuaries. Early life-history stages (< 4 years old) reside in fresh water, with adults returning to freshwater to spawn when they are more than 15 years of age and more than 130 cm in size. The green sturgeon ranges from Mexico to at least Alaska in marine waters, and forages in estuaries and bays ranging from San Francisco Bay to British Columbia. Recent genetic information suggests that green sturgeon in North America are taxonomically distinct from morphologically similar forms in Asia. Today green sturgeon are believed to spawn regularly in the Rogue River, Klamath River Basin, and the Sacramento River.

Spawning is known to occur infrequently in the Umpqua River and is suspected to occur, to an unknown extent, in the South Fork of the Trinity River and the Eel River. There is no evidence of current spawning in the Fraser, Chehalis, Feather, and San Joaquin rivers.

### **Are there other species of sturgeon listed as threatened or endangered under the ESA?**

Of the 9 North American species of sturgeon, 6 are currently listed as threatened or endangered species under the U.S. Endangered Species Act (ESA), and one is a Species of Concern (69 FR 19975). The Southern Distinct Population Segment (DPS) of green sturgeon has been listed as a threatened species under the ESA (71 FR 17757), whereas the Northern DPS of green sturgeon remains a Species of Concern. The Kootenai River white sturgeon, the short-nosed sturgeon, the Alabama sturgeon, and the Pallid sturgeon are listed as endangered species under the ESA, and the Gulf sturgeon is listed as a threatened species. The Atlantic sturgeon is a Species of Concern. The white sturgeon (Pacific coast of North America) currently has no status under the ESA.

### **What is the concern with the North American green sturgeon?**

A major concern for the green sturgeon is uncertainty surrounding the potential reduction in the number and geographic distribution of spawning populations in North America. The updated status review of the species, conducted in February 2005, suggests that it is unlikely that spawning habitat has been lost in the Rogue and Klamath rivers (Northern DPS), and likely that spawning habitat has been lost in the Eel (Northern DPS), Sacramento, and Feather (Southern DPS) rivers. Quantification of lost spawning habitat over time has been difficult because of a paucity of data; however, studies (e.g., tagging and habitat modeling) are currently being initiated, or are underway, to address this issue.

Another concern is the general lack of information regarding abundance trends over time. Fishery-dependent data suggests that ocean and estuarine bycatch of green sturgeon in the white sturgeon and salmonid fisheries has been reduced to 6% of its 1986 high value of 9,065 fish. This does not, however, necessarily represent a reduction in green sturgeon abundance. Instead, it is believed that reduction in bycatch is due to newly imposed fishing regulations in Oregon and Washington and that this reduction represents a reduction in risk for the Northern DPS. The impact of an estimated 2.2% fishing mortality rate in the Sacramento-San Joaquin Estuary (Southern DPS), based on tag return data, remains uncertain. The only source of long-term fishery-independent data exists for the Southern DPS and suggests a negative trend in juvenile green sturgeon abundance over the last 30 years in the Sacramento-San Joaquin River Delta.

The principal threat to green sturgeon in the Southern DPS is the reduction of available spawning habitat due to the construction of barriers along the Sacramento and Feather Rivers. Other threats are insufficient flow rates, increased water temperatures, water diversion, non-native species, poaching, pesticide and heavy metal contamination, and local fishing. Potential threats in the Northern DPS are also related to destruction, modification, or curtailment of habitat, but are believed to be less severe or non-existent in the Northern DPS compared to the Southern DPS.