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KEY INFORMATION

Area of Concern

West coast of North America, from Baja California to Canada.

Year Identified as “Species of Concern”
2003

Factors for Decline

- Water development
- Land use
- Fishing
- Bycatch

Conservation Designations

IUCN: Near Threatened
American Fisheries Society: Endangered
Species of Greatest Conservation Need: CA

Current Status:

Demographic and Genetic Diversity Concerns:

While it is not known to what extent abundance of green sturgeon has declined, it is probable that they have declined over the past 150 years. Musick *et al.* (2000) categorized them as endangered, based on life history characteristics (see below) and a claimed 88% decline in abundance that appears to be from Cech (1992), who described the drop in commercial landings of all sturgeon (mostly white) for the 1887-1901 period. The limited contemporary data on green sturgeon abundance comes mainly from fisheries landings. Interpretation of these data is difficult because green sturgeon are not the target species, and effort has changed over time. The best indicator of abundance for the Northern DPS appear to be the Klamath Tribal harvest, where green sturgeon are taken as **bycatch** in a salmon gillnet fishery and effort has not changed substantially (Figure 1). Catch has been fairly constant at 200-400 fish per year. There is no indication of a changing size distribution that would

indicate fishing-down of older members of the population. Coastwide catch data show a decline from 9065 fish in 1986 to 512 in 2003 (incl. fish from both DPSs (NMFS 2005)). Harvest of green sturgeon has been reduced in the last 10 years due to fishing regulation changes, but tribal harvest remains.

Green sturgeon have many life history characteristics that make them vulnerable to habitat degradation and overexploitation. These include large size, late maturity, low productivity, long life



Species of Concern

NOAA National Marine Fisheries Service

span, and anadromy. They congregate, in coastal waters and estuaries, where they are vulnerable to capture in salmon gillnet and other fisheries (Moser and Lindley 2007).

Existing Protections and Conservation Actions:

Commercial fishing is prohibited in the Columbia River and Willapa Bay since 2001. A status review update (NMFS 2005) led to maintaining the northern DPS as a species of concern.

Factors for Decline:

Fishing regulations generally do not differentiate between green and white sturgeon, but are written with white sturgeon in mind. Because green sturgeon are smaller than white sturgeon, the slot limits (upper and lower size limits) defining which fish can be retained may be inappropriate.

Data Deficiencies:

Data distinguishing the amount of ocean catch of fish by DPS and better population size and biomass data would be helpful. Better data on other spawning sites and the Trinity and Eel River are needed.

Brief Species Description:

The green sturgeon is a widely distributed, ocean-oriented sturgeon found in nearshore marine waters from Baja Mexico to Canada. Green sturgeon are **anadromous**, spawning in the spring. Individuals spawn every few years beginning about age 15. Adults migrate north in spring (generally north of Vancouver Island) and return south in the spring. Two **distinct population segments** (DPS) have been defined: northern (spawning populations in the Klamath and Rogue rivers) and southern (spawn in the Sacramento River) (Adams *et al.* 2002). The southern DPS was listed as threatened in 2006.

Green sturgeon can be distinguished from white sturgeon, with which they co-occur, by the number of **scutes** along the body (23-30 compared to >38 for white sturgeon), the presence of 1-2 scutes behind the dorsal fin (white sturgeon have none), and a relatively long snout with **barbels** closer to the mouth than the tip of the snout. While many green sturgeon are olive-green on their dorsal side, they can be gray or golden brown. Green sturgeon can reach 7 feet (210 cm) in length and weigh up to 350 pounds (159 kg). They eat burrowing shrimps like *Upogebia* and *Neotrypaea*.

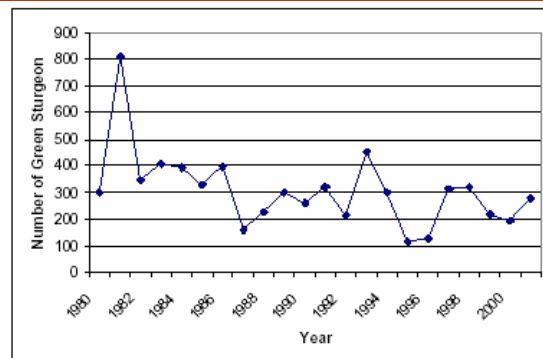


Figure 1. Catch of green sturgeon in the Yurok Tribal salmon gillnet fishery on the Klamath River. Data from NMFS 2005.

Contact Information

For green sturgeon, contact:

Dr. Scott Rumsey
NOAA Fisheries, Northwest Region
Protected Resources Division
525 NE Oregon Street #500
Portland, OR 97232
(503) 872-2791

Scott.Rumsey@noaa.gov

<http://www.nmfs.noaa.gov/pr/species/concern>

For Species of Concern, contact

NOAA Fisheries
Office of Protected Resources
1315 East West Highway
Silver Spring, MD 20910
(301) 713-1401

soc.list@noaa.gov

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