



## NOAA FISHERIES SERVICE

### Atlantic Sturgeon Gulf of Maine Distinct Population Segment: Threatened

Based on the best available science, NOAA Fisheries determined that the Gulf of Maine distinct population segment of Atlantic sturgeon is threatened (i.e., likely to become an endangered species within the foreseeable future) throughout its range due to:

- (1) significant declines in population sizes and the protracted period during which sturgeon populations have been depressed;
- (2) the limited amount of current spawning; and,
- (3) the impacts and threats that have and will continue to prevent population recovery.

#### Population

Numbers of Atlantic sturgeon in the Gulf of Maine distinct population segment are significantly lower than historical levels and have remained so for the past 100 years. For example:

- Population estimates for the Kennebec river system based on the landings from historical fisheries indicated that approximately 10,240 adult sturgeon were present prior to 1843.
- Currently, the existing spawning population is estimated to have less than 300 adults spawning each year.

#### Spawning

In addition to having fewer fish spawning, some spawning populations have been completely eliminated.

- Spawning is known to occur in only 1 river (Kennebec), possibly in one other (Penobscot).
- Elimination of possible historical spawning populations in five other main stem rivers within the Gulf of Maine has likely occurred.

#### Threats

Threats to already depressed populations of Atlantic sturgeon from habitat degradation and accidental capture and potential injury and mortality in fisheries are working in combination to make this distinct population segment likely to become endangered in the foreseeable future (i.e., “threatened”).

- Dredging, which occurs in Gulf of Maine rivers (e.g., the Kennebec and Penobscot Rivers), can displace sturgeon while it is occurring and affect the quality of the habitat afterwards by changing the depth, sediment characteristics, and prey availability.



Atlantic sturgeon photos courtesy of Robert Michelson.



- Water quality has been degraded in areas throughout the range of the Gulf of Maine distinct population segment as a result of runoff from agriculture, industrialization (e.g., paper mills), and the alteration of river systems by dams and reservoirs.
- Access to historical habitat has also been restricted by dams and reservoirs. The Essex Dam on the Merrimac River blocks access to 58% of the historically available habitat for Atlantic sturgeon. There is no spawning population in the river at this time, and it is still unclear what factors are responsible.
- Gulf of Maine distinct population segment Atlantic sturgeon are unintentionally captured incidentally in fisheries throughout their marine range. Because Atlantic sturgeon mix extensively in marine waters and may use multiple river systems for spawning, foraging, and other life functions, they are subject to being accidentally caught and killed in multiple fisheries throughout their range.



Atlantic sturgeon photos courtesy of Robert Michelson.

There are some positive signs for the Gulf of Maine distinct population segment, which include observations of Atlantic sturgeon in rivers from which sturgeon observations have not been reported for many years and potentially higher catch-per-unit-effort levels than in the past. The Veazie Dam in the Penobscot River represents a barrier to Atlantic sturgeon migrating to historical spawning habitat near Milford which blocks 29 kilometers of habitat. The Penobscot River Restoration Project intends to remove this dam within the next couple of years and at that time, access to the entire historical spawning habitat will be restored. The Edwards Dam on the Kennebec River was removed in 1999, opening access to all known historical habitat in the river.

These signs coupled with the fact that some of the threats to the distinct population segment are of moderate risk led to the conclusion that the species is threatened, but is not now endangered. The primary goal of the Sustainable Fisheries Division is to maintain healthy fish stocks, eliminate overfishing, rebuild overfished stocks, and increase the long-term economic and social benefits to the nation from our living marine resources.

For more information on Atlantic sturgeon, visit:

[http://www.nero.noaa.gov/prot\\_res/atlsturgeon/](http://www.nero.noaa.gov/prot_res/atlsturgeon/)

<http://www.nmfs.noaa.gov/pr/species/fish/atlanticsturgeon.htm>