

EXECUTIVE SUMMARY

Substantial population declines since the 1800s led the State of Michigan to list lake sturgeon as a threatened species. The primary causes of the decline of lake sturgeon are insufficient recruitment due to habitat loss and degradation, often caused by dams and poor spawning habitat quality, and excess mortality on adults through fishing. This document provides guidance for the management of lake sturgeon with the goal of eventually rehabilitating this species to the point of removal from the threatened species list and to levels that provide productive and unique fishery opportunities. The primary goals for lake sturgeon are to: (1) conserve populations that are currently self-sustaining; and (2) rehabilitate depressed populations to the point that they are self-sustaining at a higher level of abundance.

Currently, there are 24 lake sturgeon populations as distinguished by major watersheds in Michigan waters: two in the Lake Superior drainage, 11 in the Lake Michigan drainage, nine in the Lake Huron drainage, and two in the Lake Erie/Lake St. Clair complex. Of these 24 populations, only five are large in size and three of these are considered to be abundant and stable enough to support harvest fisheries. Among the remaining 19 populations, 12 are below the minimum viable population size (80 adults) and are at high risk of extirpation due to random factors. Four populations are classified as small in size (80–200 adults) and are at a high risk of declining to below the minimum viable population size. Three populations are classified as medium in size (200–750 adults).

A limited number of management actions can be taken to achieve population objectives for lake sturgeon. Some of the tools available to fishery managers include fishery regulations and enforcement to reduce fishing mortality, habitat rehabilitation to improve conditions or connectivity, stocking, and education. Use of these tools for the rehabilitation of this species should focus on: (1) minimizing or eliminating fishing mortality for populations with less than 750 adults and maintaining fishing mortality at or below 2–5% per year for large populations; (2) improving habitat conditions or access to spawning habitat; (3) supplemental stocking in populations where recruitment is limited and spawning habitat improvements are not feasible or cost effective; (4) working with the U.S. Fish and Wildlife Service to promote the most effective sea lamprey control techniques that still protect lake sturgeon populations; and (5) educating anglers and the general public about the plight of lake sturgeon to encourage them to participate in management and rehabilitation of this unique species.

Prioritization of management actions for lake sturgeon rehabilitation activities is necessary given limited fiscal and personnel resources and in consideration of management needs of other species across the state. Although a case-by-case evaluation will typically be needed, higher priority for action will be given to smaller populations that are above the minimum viable population size and populations that are experiencing declines of more than 30% over a 15-year period. Populations below minimum viable population size provide particular challenges, and management actions such as stocking should be considered only after the factors leading to such a depressed state are evaluated. Combining resources and encouraging cooperative participation by other state, federal, tribal, and provincial agencies and nongovernmental organizations will be required for the goal of lake sturgeon rehabilitation to be realized.