Reintroducing Lake Sturgeon to the Maumee River

Bringing a Great Lakes flagship Species Back to Northwest Ohio!



Photo credit: USFWS



Photo credit: Andrew Muir, GLFC

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FAST FACTS ON THE GENTLE GIANTS

- Lake sturgeon, (*Acipenser fulvescens*) are a primitive species that has changed very little in their 136 million years of existence and are currently one of the most threatened species in the Great Lakes.
- Historically, Lake sturgeon were found throughout their native range of the Great Lakes, Hudson Bay and Mississippi River drainages, but now they are mainly found in small, fragmented populations.
- The oldest and largest fish in the Great Lakes, sturgeon can live 80-150 years and grow to more than eight feet long and 200 pounds.
- Lake sturgeon are easily recognized by their long torpedo-shaped bodies with leathery skin and five rows of bony plates called *scutes*.
- Lake sturgeon do not have teeth but instead use their large protrusible mouth and four white whiskers called *barbels* to help locate bottom-dwelling snails, mussels, crayfish and insect larvae.
- Lake sturgeon spawning sites have clean, coarse rocks with *interstitial spaces* (*cracks between the rocks*) to protect eggs and larvae from predators and swift flowing water to cleanse and oxygenate the eggs.

LAKE STURGEON HISTORY

Lake Erie once contained a population of Lake sturgeon estimated as high as 1.1 million fish, the largest population of all the Great Lakes. Historically in the Maumee River, Lake sturgeon spawning occurred between the Missionary Islands near Waterville and Ewing Island near Perrysburg. However, in recent history, their populations suffered extreme decreases due to over-harvesting, habitat modifications and negative perceptions.

Fishermen initially considered them a nuisance species and many sturgeon were indiscriminately killed. Commercial fisheries for sturgeon opened across the Great Lakes in the mid-1800s and without regulations, quickly decimated the populations. In Lake Erie, harvest peaked around five million pounds of sturgeon in 1885 before experiencing a rapid decline. Despite closing these fisheries by the mid-1900s, Lake sturgeon populations have not rebounded. Lake sturgeon decline was also compounded by dams blocking access to spawning and nursery areas and habitat degradation due to deforestation, dredging and manufacturing and agricultural pollution.

HOW DO WE RESTORE POPULATIONS?

Most adult sturgeon spend their time in lake environments but will migrate into river systems to reproduce. Lake sturgeon *imprint* to the rivers where they were born, which means they can cue upon aspects of the water chemistry and return to that river to spawn. Stream-side rearing is an effective reintroduction strategy for a targeted area. This process works by collecting eggs from a stable population (like the St. Clair River) then hatching and rearing them in a stream-side facility with water pumped in from the Maumee River to allow for imprinting to our local waterway. The plan is that approximately 3,000 young sturgeon will be raised in a stream-side rearing facility at the Toledo Zoo and released into the Maumee River each fall.

Close monitoring of the released fish will be conducted to assess survivorship, habitat use and dispersal. Each released fish will receive a small microchip, called a PIT (Passive Integrated Transponder) tag for identification purposes. A small subset will be equipped with acoustic tags to help track their movement patterns and habitat use post release. *Acoustic telemetry* allows scientists to track sounds emitted by the tags from a distance, which can provide insight on where the fish go, how far they travel and the types of habitats they use.

BENEFITS OF REINTRODUCTION

- Lake sturgeon serve as an indicator of biodiversity and Great Lakes health because they are sensitive to habitat destruction and pollution. Their presence in a system indicates a relatively healthy and stable environment that likely benefits many other species.
- Restoring native species can help build more resilient and healthy ecosystems.
- Increasing awareness and knowledge of the Maumee River, a crucial natural resource for our region.
- Bring awareness to the charismatic and imperiled Lake sturgeon, which have been in existence for over 100 million years

