

Sturgeon remain rare in Great Lakes, but Detroit River's population thrives

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A pair of federal fish experts braced themselves as they cradled a

hulking fish over the side of their boat just north of the Grosse Ile Toll Bridge. Its kick would be strong enough to unhorse a novice angler, but the duo had performed this routine 31 times in a handful of weeks and were on pace to do it maybe a hundred more before the season's end.

Still, it felt like a lucky catch. The U.S. Fish and Wildlife Service's Gibraltar-based lake [sturgeon](#) team had been out all day without finding much more than a mudpuppy. It was early May, and by then, the water had reached above 50 degrees, warm enough that their targets were less likely to feed on the bits of round goby serving as bait.

But finally, after pulling hundreds of empty hooks out of the Detroit River, they caught one. Into the tank he went, all 70 pounds and 5-plus feet of him, a fish that had sustained multiple sea lamprey bites and probably spent his near-50 years meandering the waterways that connect lakes Huron and Erie.

He's far from alone.

Throughout the Great Lakes, lake sturgeon populations have been decimated to approximately 1% of their historic numbers, but that's not the story in the Detroit and St. Clair rivers. Here, the species holds strong at about 30,000 fish. The rivers boast the most resilient lake sturgeon population in the Great Lakes basin.

That's despite the legacy of industrialization that still impairs the two waterways. The Detroit and St. Clair rivers were contaminated by decades of sewage overflows, coal burning and industrial ooze. Their shorelines were hardened, lined with seawalls and factories. They are major thoroughfares for shipments of coal, salt and iron ore.

Those actions swept away fish spawning habitat and damaged ecosystems. Still, the rivers' robust lake sturgeon numbers have become

central to endeavors to rehabilitate the species throughout the Great Lakes.

"I've been working here for 14 years now, and people think 'the Detroit River? There's no fish there. Why are sturgeon there?'" said Justin Chiotti, fish biologist for the Fish & Wildlife Service's Alpena conservation office's Detroit River Fish Laboratory in Gibraltar. "But they don't see the thousands of people that are out here walleye fishing every day, don't see that this is home to the largest lake sturgeon population in the Great Lakes."

The Gibraltar-based lake sturgeon team sets 700-foot lines targeting lake sturgeon throughout the Detroit River and checks them at least weekly through April and May. Some are set alongside natural areas, such as Fighting Island. Others are within clear sight of steel mills, factories and chemical waste sites.

When they hook a sturgeon, the biologists pull it on board to collect data on its size, sex, age, injuries to help them understand more about the population's size, growth and trajectory. They also install tags used to monitor where the fish moves during its life, which likely will last longer than a biologist's career. Then, they return the fish to the water.

Although the rivers maintained a sizeable lake sturgeon population throughout the industrial age, the species has benefited from a surge in attention and restoration planning, said Sheri Faust, executive director of Friends of the St. Clair River.

That has largely been financed by the federal Great Lakes Restoration Initiative, launched in 2010. Since then, local groups have received millions of dollars for habitat restoration projects, including new artificial reefs aimed at providing more spawning habitat for sturgeon and other fish.

"The [restoration work](#) that the U.S. Fish and Wildlife and Michigan DNR (Department of Natural Resources) have been doing for a decade, I think, is a testament to the success of this threatened and endangered species," Faust said. "It's an example that can be modeled and replicated elsewhere to also protect and preserve lake sturgeon."

The decline of a formidable fish

As individuals, lake sturgeon are formidable. Adults typically grow between four and six feet long, weigh 30 to 80 pounds and live 50 to 100 years, although the largest and oldest can reach seven feet, 300 pounds and 150 years.

They once were formidable as a collective, too, in numbers so great that lore says "You could walk across the river" on their backs, said Andrew Briggs, Michigan Department of Natural Resources fisheries research biologist.

That wasn't just in the Great Lakes or big connecting channels like the Detroit, St. Clair or St. Mary's rivers, said Michael Kelly, director of the Virginia-based nonprofit Conservation Services' Great Lakes office, which is helping to finance restoration work in the Saginaw Bay river system. Lake sturgeon also thrived in tributaries such as the Saginaw River.

"At one time, these rivers were full of them," Kelly said. "They've been around for 150 million years largely unchanged, but it's only in the last 200 years where they've run into problems. Coincidentally, it's only been 200 years since European settlers appeared on the scene. There's no question that mankind is to blame for the near extinction of this species."

Logging, a primary Michigan industry in the late 19th century, crowded

lake sturgeon out of their spawning habitats in Great Lakes tributaries. Loggers sent their harvest down rivers to mills. Along the way, the logs scoured river bottoms and eroded their banks, piling sediment over the rocks where sturgeon spawn.

Many Great Lakes anglers also saw the abundant behemoths as problems. Lake sturgeon were large enough to tangle nets designed for smaller fish. By some accounts, sturgeon were numerous enough to capsize fishing boats. Sturgeon were slain, discarded, tossed ashore. Sometimes, their oily flesh was used for fuel.

"There's stories of how they'd stack them up like cordwood until they realized their market value," said Corey Jerome, biologist for the Little River Band of Ottawa Indians in Manistee. "Then it changed from nuisance fish to market fish."

Sturgeon caviar became a highly popular delicacy. Though the fish was then prized instead of derided, the result—overfishing—was the same.

Twentieth-century environmental protection laws pulled the region beyond the Gilded Age era of overharvesting and habitat destruction, but they didn't fix the problem sturgeon experts said is a significant challenge to sturgeon's ability to rebound.

Dams built to generate electricity, power grain mills, control water or create lakes continue to block sturgeon from reaching their historic spawning grounds. That's significant since sturgeon "imprint" on the environment in which they are born and return to that place to reproduce. If their access is blocked, they might not reproduce.

"Overfishing decimated the population levels," the DNR's Briggs said. "With lake sturgeon being long-lived, it takes them a long time to mature... If you remove the majority of the adults out of the population,

it is going to take a very long time for them to recover. It takes them a long time to reach maturity and, if you keep taking out the adults before they can reach maturity, they're just never going to repopulate. That was a big problem.

"But then once we started putting dams in, the fish that were able to spawn couldn't even reach their spawning grounds."

Dams challenge sturgeon spawning

That may be the secret behind the Detroit and St. Clair rivers' hardy lake sturgeon population, Chiotti said. No dams.

The other ills facing the river systems, namely the contamination of sediment from historic and ongoing industrial releases and dredging that ripped up much of their spawning habitat, don't seem to affect sturgeon's ability to reproduce as much as dams do.

"We went through that time period of heavy industrialization, and they still made it somehow," Chiotti said. "One of the theories is that there's no dam on this (river). It's a connecting channel with fast-flowing water. A lot of other systems, they blocked that habitat."

The Saginaw Bay stands as a contrast to the Detroit and St. Clair river system. The bay maintains only a remnant of its once-sizeable sturgeon population, Kelly said. Its tributaries are peppered with dams.

That's why dam removal projects are crucial to restoring lake sturgeon in the bay and its connecting river systems, Kelly said. The nonprofit he works for, Conservation Services, is helping to finance dam removal projects as part of sturgeon restoration work in partnership with natural resources agencies, including the U.S. Fish and Wildlife Service and Michigan DNR.

The coalition of groups has been working on dam removal projects for roughly two decades, Kelly said. So far, they have dismantled almost two dozen dams on the Flint, Cass, Tittabawassee and Shiawassee rivers. Those removals have opened more than 200 miles of stream to sturgeon and other fish, but there are hundreds of dams left, Kelly said.

An upcoming project to build a fish passage around the Dow Dam in downtown Midland will open up another 300 miles of fish habitat. Kelly called that project "the holy grail of fish passage in the Saginaw system." The work kicks off this coming fall or spring.

Stocking programs replace lost fish

Once rivers become suitable for sturgeon spawning, state, federal and tribal natural resource agencies and nonprofits stock them with young sturgeon they hope will someday return to reproduce. Stocking programs, alongside dam removals and habitat projects, were credited with keeping lake sturgeon off the list of federal endangered species list this year.

Tribal governments' natural resources departments are key players in those efforts. Many, including the Little Traverse Bay Bands of Odawa Indians and the Little River Band, raise sturgeon and stock them in nearby rivers.

Jerome said the Little River Band's leadership sees their community reflected in the trajectory of lake sturgeon.

"Some of the same things that were happening to sturgeon as their population was declining was similar timing to when a lot of the tribal issues were occurring," he said. "Trying to help both of those would help revitalize the tribal community as well."

Sturgeon are clan animals for the Anishinaabek people of the Great Lakes region, said Frank Ettawageshik, executive director of the United Tribes of Michigan and citizen of the Little Traverse Bay Bands of Odawa Indians. Protecting them is an inherent responsibility within their culture, he said.

"We don't think of the natural world as property," Ettawageshik said. "We think of it as relationships. They're our relatives. So we have to protect them. Things that we do, we're doing not because we're trying to protect something we own. It's because we're trying to protect the relatives."

St. Clair River sturgeon are a major source of the eggs and milt—the seminal fluid of fish—that will be raised in hatcheries around the region to stock Great Lakes tributaries with young fish. Approximately 3,000 of their offspring will be released into the Maumee River and 500 into the Saginaw River this year, the Fish & Wildlife Service's Chiotti said. Other Lake Erie tributaries, including the Cuyahoga River in Ohio, are being evaluated for future stocking programs.

The St. Clair River maintained sturgeon spawning ground during the Industrial Revolution and dredging navigational pathways, said Faust with Friends of the St. Clair River. The fish also adapted to the changed environments; some have been seen spawning on coal cinders, Chiotti said, and approximately 20,000 will spawn under the Blue Water Bridge at some point in their lifetimes.

Chiotti, biological science technician Michala Burke, fish biologist Jason Fischer, fish biologist Jordan McKenna and biological science technician Eric Adams are the scientists that power the Fish & Wildlife Service's Gibraltar-based "sturgeon team."

Just before Memorial Day weekend, the team dispatched north to the St.

Clair River for spawning season. The work is similar to what they did between Gibraltar and Detroit in early May—catch fish, measure them, collect a tail clip for a genetic sample and insert tags—but at a much more frantic pace.

Their work will coincide with an annual Sturgeon Festival thrown by the Friends of the St. Clair River to celebrate the species and raise money for conservation programs. This year's festival is scheduled for June 1.

Sturgeon serve as a character the friends group uses to teach people about their restoration work in the river that along with the Detroit River has been designated one of the most degraded places in the Great Lakes region, although the St. Clair River is well on its way to being removed from that list of toxic hot spots.

"When we talk about the health of the St. Clair River—can we drink the water, can we go swimming at the beaches—lake sturgeon help us tell that story," Faust said. "They help us make the connection between the water that we use for recreation and enjoyment, bird watching and freighter watching. It's the same water. The water that we drink is the same water that the sturgeon are swimming in."

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