



## Lake Superior Lake Trout Recovery - A Remarkable Journey

*Two recent stories from 2024 declared that Lake Trout in Lake Superior are fully recovered*

That’s good news because Lake Trout have had a rough time for decades.

“It has taken over 60 years to rehabilitate Lake Trout in Lake Superior,” said [Don Schreiner](#), Minnesota Sea Grant fisheries specialist, retired Minnesota DNR Lake Superior Fisheries Supervisor and former member of the Great Lakes Fishery Commission’s (GLFC) Sea Lamprey Control Board.

Schreiner was also the principal author of the MNDNR Special Publication ["Lake Trout Rehabilitation in the Minnesota Waters of Lake Superior, 1962-2014,"](#) which synthesized efforts to rehabilitate Lake Trout (*Salvelinus namaycush*) in the Minnesota waters of Lake Superior.

Prior to the 1940s, Lake Superior was considered one of the premier Lake Trout fisheries in the world and supported a large commercial fishery. From the late 1800s to the 1940s, Lake Trout were distributed to markets throughout the metropolitan areas of the eastern and central United States. Lake Trout were also a native apex or keystone predator in Lake Superior and supported a growing recreational fishery until the mid-1950s.

Beginning in the 1940s, the Lake Trout population began to decline from commercial overfishing. By the 1950s, non-native Sea Lamprey decreased the abundance of Lake Trout even further. Sea Lamprey are a destructive parasite that attacks Lake Trout and that made their way to Lake Superior through the Welland Canal, which connects Lake Ontario and Lake Erie, circumventing Niagara Falls.

The harvest of Lake Trout in Lake Superior declined so dramatically by the early 1960s that fish management agencies severely restricted the Lake Trout harvest from both the commercial and sport fishery in an effort to protect the remaining populations. At the same time, the number of commercial operators in Lake Superior declined.

Starting in the mid-1960s reestablishment of Lake Trout populations in Lake Superior became a major goal of the Great lakes Fishery Commission and Lake Superior fish management agencies. Successful Sea Lamprey control, restrictive harvest regulations, and Lake Trout stocking all contributed to rehabilitation of Lake Trout in Lake Superior in the intervening 60 years.

### Lake Trout Recovery

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## Happy New Year

### Enjoy the ice, but check it often

With fresh snow in many parts of the state, anglers and others recreating on the ice must keep in mind that snow can hinder ice-making and cover up potentially dangerous areas, according to the Minnesota DNR.

In addition, it’s vital people check the ice thickness frequently, and keep in mind the DNR’s ice thickness recommendations, which apply to new, clear ice (double them for white or snow-covered ice):

- More than 4 inches for ice fishing or other activities on foot.
- 5-7 inches for a snowmobile or a small ATV.
- 7-8 inches for a side-by-side ATV.

- 9-12 inches for a car.
- 13-17 inches for a truck.
- More than 20 inches for a large truck with a wheelhouse shelter.

When measuring the thickness of the ice, measure only the clear ice – not any slush or snow that’s settled on top of it. It’s important to keep in mind, too, that ice thickness and quality can vary even within a small area on the same body of water.

DNR conservation officers report lakes throughout the state are attracting increasing numbers of anglers. COs continue reminding ice recreationalists of the importance of

### Enjoy but check the ice

*Continued on page 9*

## How underwater drones are transforming fisheries data collection in remote areas

Remote underwater gliders—or underwater drones—present opportunities for all kinds of data collection and oceanographic research. They're incredibly cost effective, requiring less staff and equipment than traditional methods. They can remain deployed longer than a ship can be out, and they can go places where a ship can't go. And, you can pilot them anywhere with a laptop and an internet connection—even from your couch!

On our latest podcast, we talk with Jen Walsh, a research biologist and glider pilot for the **Southwest Fisheries Science Center**. She talks about how we're using gliders in remote areas, like Antarctica, and how they're changing the way we collect fisheries data and learn about the ocean.

The Southwest Fisheries Science Center is headquartered in La Jolla, California, and has science laboratories located in Santa Cruz and Monterey, California. We also have field stations in Granite Canyon and Arcata, California, and two field camps on the Antarctic Peninsula.

Established in 1964 to study the sardine and tuna fisheries of the U.S. West Coast, we provide scientific information to support fisheries management and conserve protected species in the California Current, throughout the Pacific Ocean, and in the Southern Ocean off Antarctica.

Our scientists conduct marine biological, economic and oceanographic research, observations, and monitoring of living marine resources and their environment. We also conduct research on the impacts of environmental variability and climate change on marine ecosystems and on fishery and conservation socio-economics. We work with numerous partners and our NOAA Fisheries counterparts—the Northwest, Pacific Islands and Alaska Fisheries Science

Centers and the West Coast Regional Office—provide sound science for national and international management decisions.

### Ecosystem Science Division

The Ecosystem Science Division collects ecosystem observations that characterize the physical environment and organisms living therein, synthesizes ecosystem information, applies models, and collaborates broadly to provide scientific evidence that sustains fisheries, conserves protected resources, and builds resilience to change. Programs include: [Antarctic Marine Living Resources](#), [California Cooperative Oceanic Fisheries Investigations](#), [Climate and Ecosystems](#), Offshore Wind & [Trinidad Head Line](#), and Science Operations and Support. *New web pages coming soon!*

### Fisheries Ecology Division

The [Fisheries Ecology Division](#) focuses on demersal and anadromous fish of the California Current and inland waters. We conduct stock assessments for the management of groundfish and salmon fisheries and provide scientific information to support the conservation of threatened and endangered species and their habitats.

### Fisheries Resources Division

The [Fisheries Resources Division](#) conducts research on valuable coastal pelagic and highly migratory marine species in the eastern Pacific Ocean. We focus on the ecology, ecosystems, and fisheries of sardine, anchovy, mackerels, abalones, tunas, and sharks in support of domestic and international fisheries management. ✧

### *New Year's Guidance*

Kind words can be short and easy to speak, but their echoes are truly endless.

Mother Teresa



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#### Position Statement

Representing a major interest in the aquatic resources of the Great Lakes states and the province of Ontario, the Great Lakes Sport Fishing Council is a confederation of organizations and individuals with a concern for the present and future of sport fishing, our natural resources and the ecosystem in which we live. We encourage the wise use of our resources and a search for the truth about the issues confronting us.

#### Inland Seas Angler

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## Lake Erie Walleye numbers are down, 2024 Hatch Results

**COLUMBUS, Ohio** – Results from the annual Lake Erie fish surveys revealed that walleye hatches were below average and yellow perch hatches were above average in two of the three management zones.

Although the 2024 walleye hatch was below average, anglers will be able to enjoy many more years of remarkable fishing thanks to robust hatches from 2018 to 2023. Based on the 2024 results, anglers can expect good perch fishing in western of Lake Erie.

Data from annual trawl surveys conducted by the DNR are combined with those collected by the Ontario MNR to indicate the success of spawning and early life survival of walleye and yellow perch in the western basin. In the central basin, Ohio's trawls are utilized in conjunction with other agency surveys to gauge hatch success.

Results allow biologists to predict how many young fish will enter the catchable population two or three years later. These indices are a key piece of information used by the inter-agency Lake Erie Committee of the Great Lakes Fishery Commission to determine annual levels of safe harvest for walleye and yellow perch.

### Walleye

Lake Erie is known as “The Walleye Capital of the World” because of its world class walleye fishing. Lake Erie has a robust, sustainable population of adult walleye following an unprecedented run of six straight above-average walleye hatches.

Surveys conducted in 2024 show a below average hatch. The 2024 western basin walleye hatch index was 19 fish per hectare (a standard measure of catch per area). This was the smallest hatch since 2016 and below the average of 58 fish per hectare, ranking 21st of 37 years. Anglers can still expect these fish to contribute to the catch in 2026.

Central basin results were similar with a survey index of 7 young-of-year walleye per hectare, slightly below the average of 7.6 fish per hectare. This was the lowest value since 2017. Central basin walleye hatches are likely a small component of the lake-wide population, but tagging studies suggest that fish hatched in the central basin spend more time there compared to migratory walleye from the western basin. Central basin walleye hatches may seasonally provide local fishing opportunities when schools of migratory walleye are not present.

Walleye typically grow to the 15-inch minimum length for harvest two years after hatching. Because recent hatches have been above average and walleye can live more than a decade, Lake Erie anglers can expect walleye fishing to remain fantastic for many years.

### Western basin yellow perch

The western basin yellow perch hatch was above average and should make a noticeable contribution to the catchable adult population in 2026. The Ohio-Ontario survey index was 673 young-of-year yellow perch per hectare, above the average of 462 fish per hectare and ranking seventh of the survey's 37 years.

In 2024, mid-summer and late fall yellow perch fishing in the western basin provided great catch rates and excellent fish size. DNR surveys in the past decade have shown a trend of more consistent hatch success in the western basin. This year's hatch, along with contributions from previous years, should continue the trend of good yellow perch fishing in 2025 and beyond.

### Central basin yellow perch

The central basin is split into two management zones for yellow perch: the central zone (Huron to Fairport Harbor) and the east zone (Fairport Harbor to the Ohio-Pennsylvania border). Hatch results were encouraging in the central zone, with an index of 50 young-of-year perch per

hectare, above the average of 37. The east zone index of 11 per hectare was below the average of 36. The central and east zone hatches ranked 10th and 22nd of the 35 survey years, respectively. Late fall limit catches of large yellow perch were again common near central basin harbors in 2024, indicating that good seasonal opportunities still exist despite lower population sizes.

Variability in regional yellow perch hatch success is expected on Lake Erie because of the size of the lake, differences among basins and zones, and prevailing weather conditions. Hatch success is largely determined by the timing and availability of favorable conditions for both spawning and survival of newly hatched yellow perch in the spring and summer. Strong lake-wide yellow perch hatches are rare.

For more info on [Lake Erie fisheries](#) and to find fishing reports, maps, and more resources, visit [wildohio.gov](http://wildohio.gov). [Download the HuntFish OH mobile app](#) for fishing info on the go. ✨

## Chicagoland Fishing Expo Tickets on Sale Now!

The Chicagoland Fishing Expo returns to the Schaumburg Convention Center [January 23-26, 2025](#).

Make your 2025 fishing season your best yet! Everything fishing under one roof. Exhibitors include major fishing tackle & smaller specialty manufacturers; local tackle retail shops; boat dealers; guides & charters; local fishing clubs, taxidermists and much more. LEARN new techniques from the experts, visit with manufacturers to see the latest & greatest tackle, and then BUY from the retailers. Compare and Save!! Many one-of-a-kind items available from privately owned small mom and pop operators. A great lineup of fishing experts providing seminars covering most species and techniques. ✨



## Michigan's State of the Great Lakes report: a lot of work ahead

Michigan's annual [State of the Great Lakes](#) report outlines some of the issues to be tackled in the future. The 40 page report included a number of accomplishments and jobs still ahead for improving the environment of the lakes and the well-being of the people who drink, fish, and swim in the waters of the Great Lakes.

An overview from the Office of the Great Lakes noted invasive species, the legacy contamination that remains, new contaminants, water quality, water use, and other challenges continue to remain a priority. Special attention was given to the issue of plastic and microplastic pollution in the Great Lakes. Research into possible solutions is ongoing.

The effects of climate change on the Great Lakes underlie many of the challenges to be tackled.

A lake-by-lake summary of the four Great Lakes bordering Michigan was a mix of plans to tackle issues and some news to be applauded.

Starting with Lake Michigan, Beaver Island is now Michigan's first International Dark Sky Sanctuary and one of only 20 in the world to be certified by [DarkSky International](#).

Along Lake Superior's shores, the Michigan Department of Environment, Great Lakes, and Energy is planning to remove millions of tons of "stamp sands." That's waste from mining a century ago. Miles will be cleared along the shoreline and rocky spawning ground for whitefish and lake trout, according to the report.

At Lake Huron's Saginaw Bay and the rivers going into it, advances in cleaning up legacy pollution are being hampered by soil and fertilizer runoff. A federal Area of Concern designation continues, being one of Michigan's two biggest toxic hotspots.

Despite a mandate from the U.S. Environmental Protection Agency, Michigan and Ohio continue to struggle to find ways to reduce fertilizer pollution that is feeding toxic cyanobacterial blooms in Lake Erie.

◇

## 2025 Ontario fishing regulations released

A [new Ontario Recreational Fishing Regulations Summary](#) is now available. Some changes have been applied to the Ontario fishing regulations, effective January 1, 2025. They include:

### Changes in FMZ 6

- Changes to the list of lake and rainbow trout waterbodies in Additional Fishing Opportunities

### Changes in FMZ 7

- Changes to the list of brook trout waterbodies in Additional Fishing Opportunities
- Opening Borealis Lake as part of the three-year aurora trout rotational cycle

### Changes in FMZ 8

- As part of the three-year aurora trout season rotational cycle: Closing Big Club, Pallet, and Nayowin lakes
- Opening Lake 57 and Pack Can Lake

### Changes in FMZ 10

- Changes to the list of lake trout waterbodies in Additional Fishing Opportunities

### Changes in FMZ 11

- Changes to extend dip netting season for (lake herring) and whitefish to apply to all waters where angling is permitted in Zone 11

### Changes in FMZ 17

- Changes to the Extended Fall Season for Atlantic salmon, brown trout, Pacific salmon and rainbow trout in the Ganaraska River
- New fish sanctuary – No fishing September 1 to October 14
- Ganaraska River: from south side of the Jocelyn Street Bridge to the southerly limit of the CNR right-of-way ◇

## Grants available to grow Wisconsin's fishing community

Does your organization want to increase anglers in Wisconsin and expand angling from non-traditional audiences? Consider applying for the Angler Recruitment, Retention, and Reactivation (R3) grant.

The Angler R3 Grant provides cost-sharing funds to community-based organizations, government agencies, tribes, colleges and schools to ensure the education and development of safe and ethical adult anglers.

### Grant Details

- The deadline to apply is **February 18, 2025**.
- A total of \$30,000 is available.
- Grants are limited to \$5,000.
- Applicants are required to provide 25% matching funds for their project, either in cash or in-kind.
- This grant program is administered as a reimbursement program. This means you must incur and pay all costs associated with the project before seeking reimbursement from the DNR. No grant advances are available.
- This grant is supported by the federal [Sport Fish Restoration Fund](#), which is generated by an excise tax on fishing equipment and motorboat fuel.

Past recipients have used this grant to support angler education programs at schools, fly fishing classes for women and veterans, training for people promoting accessible fishing and to expand fishing programs at camps for children.

Programs for adults who never learned how to fish as well as youth programs that go beyond one-day events will also be considered.

Grant cycles are for two years, and funding will become available to the recipient once a grant agreement is signed by all parties, approx. one year after the application is submitted.

For more info [Angler R3 Grant Program webpage](#). Have an idea? Call Theresa Stabo, DNR Angler Outreach Program Specialist at [Theresa.Stabo@wisconsin.gov](mailto:Theresa.Stabo@wisconsin.gov) or 608-577-6332. ◇

## 2025 Black Lake sturgeon season begins **Feb. 1**

The 2025 lake sturgeon fishing season on Black Lake in Cheboygan County, Michigan, will begin at 8 a.m. **Saturday, Feb. 1.** All anglers must register online in advance to participate in the fishing season, and those age 17 or older must have a valid [Michigan fishing license](#).

The harvest limit for the 2025 season on Black Lake is six lake sturgeon. Officials will close the season when one of two scenarios occurs:

- The sixth fish is harvested.
- Five fish have been harvested at the end of any fishing day.

Fishing hours are 8 a.m. to 2 p.m. each day of the season. The season will end either at 2 p.m. Wednesday, Feb. 5, or when one of the above scenarios is met, at which point anglers will be notified via text message and on the ice by DNR personnel that they must immediately stop fishing for lake sturgeon.

Anyone who wants to participate this year must register online by January

31. Get more registration and season information at [Michigan.gov/Sturgeon](https://Michigan.gov/Sturgeon).

Participating anglers must bring their own bright red flags (1-foot diameter or larger) to hang on their fishing shanties. Season officials emphasize that anglers are required to hang one or more flags in highly visible locations on their shanties so DNR personnel can readily identify which anglers are sturgeon fishing.

Anyone harvesting a lake sturgeon must immediately contact DNR personnel on the ice. Official registration of each harvested fish will take place at a DNR trailer located on or near the ice at the end of Zollner Road in the northwest part of Black Lake. Harvest registration may include an examination of the fish's internal organs and removal of a piece of fin tissue for DNA analysis or aging.

Lake sturgeon rehabilitation efforts in Black Lake over the last two decades

have been a successful collaboration between the DNR, Sturgeon for Tomorrow, tribal agencies, Michigan State University and Tower-Kleber Limited Partnership. This population has increased in the past 20 years due to lake sturgeon rearing and stocking efforts and research and protection of spawning adults, and this trend is expected to continue.

Ice conditions may vary greatly, and anglers should always use extreme caution when ice fishing. The Black Lake sturgeon season start date will not be postponed due to weather or other conditions. The season may be canceled up to 48 hours prior to the start of the season if circumstances pose a significant safety risk to anglers and staff (per [Fisheries Order 240](#)). The DNR will post any updated information to the department website and notify anglers via text message and email if any changes occur.

Visit [Michigan.gov/IceSafety](https://Michigan.gov/IceSafety) for tips to stay safe on the ice. ✧

## Future salmon and trout incoming! Fall/winter egg-take efforts wrapping up

Every year, the DNR stocks fish in Michigan waters to provide fishing opportunities and maintain healthy ecosystems. Where do these stocked fish come from? It all starts with collecting fish eggs, and the DNR has been working hard gathering the necessary eggs to produce fish for stocking. Fall egg collections have been completed for wild Chinook and coho salmon and for captive broodstocks of brown, brook and lake trout, and rainbow trout egg collection will soon begin.

Chinook salmon eggs were collected October 1–16 at the Little Manistee River Weir. Eggs and milt (sperm) are gathered from fish during the annual salmon run. At the weir, salmon swim up a fish ladder and into holding ponds. From there, fish are brought into the facility, where eggs and milt are collected and eggs are fertilized.

“We experienced a solid run of wild

Chinook salmon this year,” said Aaron Switzer, Fish Production Program manager. “The run at the Little Manistee was healthy enough to provide all of Michigan’s egg needs. We were also able to provide eggs to Indiana and Illinois state-owned fish hatcheries.

Coho salmon eggs were collected at the Platte River State Fish Hatchery Weir from October 15 to November 1.

“We collected nearly 6.5 million coho salmon eggs at the Platte River weir. This includes 3 million for Indiana, Illinois and Wisconsin. All four states work together each year to ensure Lake Michigan continues to receive Pacific salmon to supplement the fishery,” said Switzer.

Not all egg collections are of wild fish, however. Captive broodstocks, fish kept at a hatchery to produce eggs and milt, will provide many of the eggs

that will later become stocked fish: 378,000 brook trout eggs, 448,000 lake trout eggs, 2.6 million brown trout eggs and 1.5 million rainbow trout eggs. An additional 422,000 splake eggs (brook trout and lake trout hybrid) will also be collected from captive broodstock.

At Oden State Fish Hatchery, egg collections for brown trout occurred through mid-October. Rainbow trout egg collections at Oden will begin in December and continue until mid-January. These captive egg collections will occur every one to two weeks over the season. Captive broodstock egg collections for brook and lake trout at Marquette State Fish Hatchery have already been completed.

To learn more about Michigan’s state fish hatcheries or to plan a trip to see behind the scenes, visit [Michigan.gov/Hatcheries](https://Michigan.gov/Hatcheries). ✧

## All-night lights change the behavior of fish, even into the next generation

### Artificial light at night caused fish to show anxiety-like behaviors and the effect was passed down to offspring

Scientists have shown that light pollution—especially light in the blue spectrum—can alter the behavior of fish after only a few nights, and have knock-on effects for their offspring.

The team studied how female zebrafish responded after being exposed to artificial light at night, known as ALAN, which is considered to be the main source of the world's light pollution. Fish were exposed to varying wavelengths of ALAN over nine nights, which caused them to swim less, stick closer together, and spend more time near the wall of the aquarium. These anxiety-like behaviors were seen in fish under all wavelengths of light, but short wavelength light in the blue spectrum caused the fastest and strongest changes. The results further reveal that light pollution can have long-lasting effects: offspring born from light-exposed mothers swam less despite never being exposed themselves.

Artificial light at night (ALAN) pollutes the environment by adding luminescence to places that would otherwise be dark at nighttime. ALAN exists outdoors through the lights that brighten streets, buildings, and industrial areas all night; and ALAN exists indoors through the devices that hold our attention into the evening. ALAN is known to impact most organisms by disrupting the natural rhythms of biological processes, which are coordinated by cycles of light and dark.

"Sleep is one of the main processes of animals that is disrupted by ALAN, so we were curious to know what that means for their ability to navigate their lives. What does it mean for their behavior?" says Wei Wei Li, the study's first author who did the work as a doctoral student in MPI-AB.

"The light levels that we used in our study matched what is already shining

into the homes of animals at night through the many sources we place outdoors. And we found extremely strong and clear negative effects on the behavior of fish and their offspring after only a few bright nights."

### The dangers of blue light

Because the negative effects of ALAN are known to occur in humans from exposure to light in the blue spectrum, the team wanted to know if different wavelengths also affected the behavior of fish differently. They exposed female zebrafish to all-night light at 10 light regimes: nine separate wavelengths across the visible spectrum as well as white light. Lights were set at 20 lux, approximately the intensity of streetlights seen at a distance, and what animals would be exposed to in outdoor environments.

They found that after eight nights of exposure, all wavelengths caused fish to swim less, stick closer together, and spend more time near the wall of the aquarium, a behavior known as "thigmotaxis" or wall-hugging, which is an indicator of animal anxiety. However, the effect of blue light could be seen sooner, after only five days of ALAN exposure, with light at 470 nm having the strongest effect of all. "This is consistent with what is known in humans, that exposure to the blue light of our electronic displays has the biggest effect on our sleep and possibly other physiological cycles," says co-author Aneesh Bose, who did the work while at MPI-AB.

The study did not set out to uncover a mechanism, but the authors speculate that sleep deprivation could be what underlies the patterns in their data. Their finding that behavioral changes revealed themselves after five or eight nights of ALAN exposure, rather than immediately, could be explained by lack of sleep. "The fish could pull a few all-nighters, but after too many nights of disrupted sleep it eventually caught up to them," explains Bose, who is now a researcher at Swedish University of Agricultural Sciences.

### Long-lasting changes

The study also revealed that the impacts of light pollution did not end in the individual, but were passed down to offspring. After exposure to ALAN, the study's female zebrafish were allowed to breed and the team raised their offspring under natural light conditions. After 15 days the researchers tested the swimming behaviors of larvae using specialized automated tracking software designed to quantify activity levels of the tiny fish. Offspring of exposed mothers showed decreased daytime movement despite themselves never being exposed to lights at night.

We found that light pollution disrupted the natural behavior of fish, and this disruption may have fitness and performance consequences.

Adds Duan: "Many of the places we light up at night are close to animal habitats. The best thing we can do is to minimize the use of blue wavelength light sources where animals are trying to sleep." ✧

## Inland trout early catch and release season opened Jan. 4

The Wisconsin DNR reminds anglers that they will be able to target any of Wisconsin's inland trout species using artificial lures only starting Saturday, Jan. 4, 2025, through May 2, 2025, on designated early season trout streams. Any trout caught during this time will need to be immediately released. All anglers are encouraged to continue to practice responsible catch and release and reduce their reel and handling time with the fish as much as possible. Tips on how to release your catch responsibly can be found on the DNR's [Responsible Release webpage](#).

Anglers will be able to keep the trout they catch once the general hook and line season opens on May 3, 2025. Check the [Guide to Wisconsin's Trout Fishing Regulations](#) for specifics. ✧



## Lake Superior Fisheries Management Outreach Update

The Wisconsin DNR's Lake Superior Fisheries Management Team recently hosted an informational public meeting to discuss recent evaluations of splake and brown trout stocking programs, future Lake Superior stocking plans and walleye regulations in western Lake Superior. A recording is now available on the [Lake Superior Fisheries Outreach webpage](#).

This meeting covered the successes and lessons learned from recent stocking evaluations that will be used to continue enhancing the successful Seeforellen brown trout fishery in Lake Superior.

The discontinuation of stocking splake was presented. Concerns over the continued stocking of splake potentially leading to introgression and population genetics problems for its parent species, lake trout and brook trout in conjunction with the recently adopted DNR statewide guidelines for the [genetic management of fisheries](#), led to the decision to discontinue the current splake stocking.

In addition, the management team evaluated walleye regulations in western Lake Superior and the St. Louis River Estuary. It developed a regulation proposal with public input provided during a previous public meeting. St. Louis River walleye commonly migrate into Lake Superior, but walleye regulations currently differ between the lake and river. The proposed regulation would be applied to the St. Louis River and management unit WI-1 and is intended to address that need for consistency while also integrating angler preferences to protect more of the spawning stock from harvest. The public will be able to vote on the proposed regulation (15-in. minimum length limit with a bag limit of two, but only one over 20 in.) during the 2025 Wisconsin Conservation Congress Spring Hearing.

If you have questions, contact Brad Ray, DNR Lake Superior Team Supervisor, at [Bradley.Ray@wisconsin.gov](mailto:Bradley.Ray@wisconsin.gov) or 715-779-4036. ✧

## Upcoming Programs to Expand Your Outdoor Skills

Outdoor skills programs offered by the Wisconsin DNR provide great opportunities to gain hunting, trapping, shooting and fishing experience. These programs are open to the public and cater to a variety of skill levels, schedules and interests.

### Upcoming Programs

#### Fishing Programs

- Jan. 25: [Angler Education Instructor Training And Certification](#), DNR La Crosse Service Center (La Crosse)
- March 15: [Angler Education Instructor Training And Certification](#), Kettle Moraine State Forest – Northern Unit (Campbellsport)
- March 16: [Learn To Fish Clinic](#), Kettle Moraine State Forest – Northern Unit (Campbellsport)

#### Hunting and Shooting Programs

- Jan. 18: [Pass It On – Youth Pheasant Hunting Opportunities](#), Cackle Creek Hunt Club (Ashippun)
- Feb. 23: [Pass It On – Youth Pheasant Hunting Opportunities](#), Cackle Creek Hunt Club (Ashippun)
- March 22: [Spring Youth Archery](#), MacKenzie Center (Poynette)

Learn more and find instructions to register for classes on the [DNR's Events page](#). Make sure to check back often throughout the season – new events are added as they are scheduled.

If you'd like to host an outdoor skills program, please reach out to:

- Hunting, Trapping and Shooting: Emily Iehl at [Emily.Iehl@wisconsin.gov](mailto:Emily.Iehl@wisconsin.gov)
- Fishing: Theresa Stabo at [Theresa.Stabo@wisconsin.gov](mailto:Theresa.Stabo@wisconsin.gov) ✧

## Study reveals cleaner water could hurt some Lake Erie fish

Cleaner water could have negative impacts on certain types of fish in Lake Erie, [a study by researchers at Ohio State](#) and other universities found.

Stuart Ludsin, an Ohio State professor of ecology and co-author of the study, calls supervising nutrient levels in Lake Erie a “wicked management problem.” Reducing the nutrients like phosphorus makes the water cleaner and reduces harmful algal blooms and low-oxygen areas called “dead zones.” That’s good for some fish species, like lake whitefish or walleye. Lake whitefish live on the bottom of the lake and their food supply is affected by low-oxygen dead zones, Ludsin said.

But the study found that reducing nutrients would impact food creation for other species, like yellow perch, a fish that has commercial value and is popular for recreational fishing, Ludsin said. That could impact fisheries that breed and raise the fish. “It does not appear [that there is] any single level of ecosystem productivity or nutrient loading that’s going to maximize the production of all three species simultaneously,” Ludsin said.

Ludsin said there may be a level of nutrients that would be a good compromise and would not significantly hurt any single fishery or impact the lake’s other uses. “The key thing is figuring what’s that level that’s palatable by those people who really care about the lake,” Ludsin said.

Ludsin said the study showed that the best way to manage the lake’s health is for those who have a stake in the lake’s wellbeing to come together and have a conversation about nutrient management. He said those who make decisions about the lake should move toward ecosystem-based fisheries management, where all stakeholder values are considered.

Climate change also must be considered, as it’s expected to exacerbate the water quality issues and harmful algal blooms on the lake, Ludsin said. ✧

## Judge adds Ohio EPA as a defendant in landmark Lake Erie case

Senior U.S. District Judge James Carr is allowing the Ohio EPA to become a defendant in the landmark Lake Erie TMDL lawsuit he's hearing in Toledo. The judge's ruling was entered in the U.S. District Court's electronic filing system.

Ohio Attorney General Dave Yost motioned on behalf of the Ohio EPA in October "to intervene as a defendant as a matter of right" in the case, or, alternatively, for what's known as permissive intervention.

The case centers around the state of Ohio's first-ever planning document for western Lake Erie under the federal Clean Water Act's Total Maximum Daily Load, or TMDL, program.

Though nonbinding, TMDLs can be used as a general tool, or guidance, for policies affecting agricultural runoff, which the Ohio EPA and others have consistently ranked as the largest source of algae-producing phosphorus in western Lake Erie by a long shot. The goal of a TMDL is to put a large watershed on a so-called "pollution diet" by targeting major sources of phosphorus.

TMDLs are required under the federal Clean Water Act for impaired bodies of water such as western Lake Erie, which has been subjected to chronic bouts of toxic algae since 1995.

The Ohio EPA first opposed writing a TMDL, then agreed to submit one last summer to comply with the terms of a consent decree that had been reached in Judge Carr's courtroom.

The plaintiffs—the Board of Lucas County Commissioners, the Midwest-based Environmental Law & Policy Center, and the city of Toledo—claim the U.S. EPA, its administrator, Michael Regan, and its Midwest regional director, Debra Shore, allowed the Ohio EPA to fulfill its obligation by crafting a TMDL that is weak, ineffective, and meaningless. They take issue with the state-written document because it does not address dissolved reactive phosphorus, the

most potent form of that fertilizer when it gets into the water.

The U.S. EPA and its two administrators were the sole defendants before the Ohio EPA was added. The federal agency and those working for it are represented by the U.S. Department of Justice. They dispute the plaintiffs' allegation.

"In this case, while U.S. EPA and Ohio EPA may have similar interests and objectives, it was Ohio EPA [which] actually prepared the TMDL that plaintiffs challenge, and it is Ohio EPA [which] must ultimately implement the TMDL, including through the delegated discharge permit program," the motion states. "No other party in the action can adequately represent Ohio EPA's interests. Given its interest in the TMDL and responsibilities under the CWA and over Ohio's waters, only Ohio EPA can best protect its interests."

Fritz Byers, who represents the Board of Lucas County Commissioners, said the plaintiffs were also declining comment on the judge's decision. None of the plaintiff attorneys objected when the state agency asked to be added in October.

Still to be decided are requests from other parties—including a consortium of 11 major agricultural groups, as well as a group of business and government entities—to intervene as defendants. Three environmental groups—Lake Erie Waterkeeper, the Waterkeeper Alliance, and Food & Water Watch—have asked Judge Carr to admit them to the case as co-plaintiffs with the county commissioners and the Environmental Law & Policy Center.

The judge said he is giving all parties until January 20 to convince him that their rights would not be adequately served by simply filing what's known as Amicus Curiae briefs in order to state their views, rather than widening the case more by declaring them co-plaintiffs or co-defendants. Plaintiffs

and defendants would have until January 30 to respond.

Finally, the judge also put to rest a dispute over 18 scientific journals and one court opinion that U.S. Department of Justice attorneys, on behalf of the U.S. EPA, had been trying to withhold from the Board of Lucas County Commissioners and the ELPC. The federal attorneys had been trying to claim that producing those documents "would somehow violate the Copyright Act." The plaintiffs eventually gained access to them.

Judge Carr ruled the argument moot and had the motion withdrawn.

◇

## Snowmobilers: Act now for winter Season

The Wisconsin DNR encourages snowmobilers eager to take advantage of winter's snow to keep safety at the forefront of their preparations. This includes staying alert to the rapidly changing ice conditions commonly found in the early and later parts of winter. "The biggest thing we want folks to remember is that no ice is completely safe," said Lt. Jacob Holsclaw, DNR off-highway vehicle administrator. "On a sunny day, ice that may have been thick enough to drive on in the morning may be unsafe by the afternoon."

This rule also applies to ATVs and UTVs. Last season, several [ATVs and UTVs went through the ice, with two resulting in fatalities](#). Local fishing clubs, outfitters and bait shops are the best sources for current ice conditions. The DNR also encourages all snowmobilers to take a [safety education class](#). According to Wisconsin law, anybody at least 12 years of age and born after January 1, 1985 must have a valid safety education certificate to operate a snowmobile. [Sign up now](#) for a spot, as classes fill up fast. Visit the DNR's [Ice Safety webpage](#) for more info and [Wisconsin snowmobile regulations](#) for laws for operational restrictions, safety tips and more. ◇



## Lake Trout Recovery

*Continued from page 1*

Full recovery of Lake Superior Lake Trout was officially declared a success in the fall of 2024.

The [Great Lakes Fishery Commission](#) published a [news release](#) in late November 2024 that highlighted the proclamation by the [Lake Superior Committee](#) that Lake Superior Lake Trout have been fully restored.

The [Lake Superior Committee](#) is coordinated by the Great Lakes Fishery Commission, and consists of fishery managers from the three Great Lakes States which border Lake Superior (Minn., Wisc., and Mich.), the Province of Ontario, and the U.S. tribes represented by the 1854 Treaty Authority, Chippewa-Ottawa Resource Authority (CORA), Great Lakes Indian Fish and Wildlife Commission (GLIFWC), and the Red Cliff Band of Lake Superior Chippewa Indians.

Lake Trout rehabilitation would not have been possible without the sacrifices of Lake Superior commercial netters and anglers, along with the dedication of provincial, state and tribal fish management agencies. The Sea Lamprey control program facilitated by the GLFC and carried out by the U.S. Fish and Wildlife Service, and Fisheries and Oceans Canada also played a critical role.

“Rehabilitating Lake Trout in the world’s largest freshwater lake did not happen overnight; it required an unwavering commitment to a shared vision across multiple generations of fishery managers from Indigenous, provincial, state, and federal agencies. It is undoubtedly one of the most successful stories of native species restoration in the world. Lucky for us, we have a front row seat,” quoted Ethan Baker, chair of the [Great Lakes Fishery Commission](#).

The [Minneapolis Star Tribune](#) story, published December 7, 2024, states that since Lake Trout in Lake Superior have recovered, the Minnesota Department of Natural Resources

## New brown trout strain stocked

Over the past 20+ years, Plymouth Rock strain eggs were reared at Jake Wolf Hatchery and stocked as large (5- to 6-inch) fingerlings during July. Last year, Crawford strain eggs were obtained from the FWS federal hatchery system and will be reared at Jake Wolf before stocking at 11 locations along the Illinois shoreline during May. Earlier stocking is possible because the Crawford strain trout spawn earlier and grow faster than the Plymouth Rock strain. We are anticipating that earlier stocking and faster growth will lead to better brown trout survival and higher returns to Illinois anglers. ✧

*↪ continued from column 1 ↩*

(MNDNR) began sampling a small number of Lake Trout (18 females and 18 males) to use as a source of eggs for rearing young Lake Trout to be stocked in inland lakes.

“It’s kind of a good story to tell. We busted our butts to rehabilitate lake trout in Lake Superior and now the population is doing so well we are using those adult fish for inland stocking programs,” Cory Goldsworthy, MNDNR [Lake Superior Fisheries](#) Supervisor said.

This new approach of collecting wild Lake Trout from Lake Superior to use as broodstock could potentially save significant amounts of money since captive broodstock would no longer need to be held in hatchery facilities on a year-round basis. In many cases fish derived from wild sources survive better, grow better, and can reproduce more successfully in the wild than fish from captive broodstock because they undergo minimal domestication.

“Two management activities that will sustain the progress achieved in Lake Trout rehabilitation, ARE continued funding for Sea Lamprey control efforts and the implementation of conservative harvest regulations for both the sport and commercial fisheries,” said Schreiner. ✧

## Enjoy but check the ice

*Continued from page 1*

wearing safety gear such as ice picks and a life jacket or float coat, and to check the ice for themselves—not rely on someone else’s tracks, footprints, or social media post.

Col. Rodmen Smith, DNR Enforcement Division says: “There are plenty of good ice-fishing opportunities out there, but please check the ice yourself and take our thickness guidelines seriously.”

Every year, unexpected falls through thin ice result in serious injury or death. Checking the ice thickness with a spud bar, auger, or other device is the best way to prevent falling through. Wearing a life jacket or float coat is the best way to avert tragedy should someone fall through the ice, since the initial shock of falling into cold water can incapacitate even strong swimmers. A good set of ice picks will help the person get out, and a cell phone, whistle or other communications device makes it more likely they would be able to call for help. Make sure to let someone on shore know where you’re going and when you plan to return.

More info: [ice safety](#) (mndnr.gov/icesafety) and [boating safety](#) webpages (mndnr.gov/boatingsafety).

## Jan. 20 the 1<sup>st</sup> 2025 Free Park Day at Minn. state parks, rec areas

The Minnesota DNR is waiving vehicle permit fees at all 73 state parks and recreation areas on Monday, Jan. 20. This Free Park Day is one of four days each year on which the DNR waives the requirement for a vehicle permit at state parks and recreation areas. There is one fee-free day for each season of the year, giving Minnesotans an opportunity to experience state parks and recreation areas at different times of the year. The 2025 free park days are scheduled as follows:

- Monday, January 20
- Saturday, April 26
- Saturday, June 14
- Friday, November 28 ✧

## Minnesota DNR looking to fill 200 paid summer internships

The Minnesota DNR is looking for passionate and dedicated students interested in learning more about natural resource careers through paid summer internships. DNR summer interns receive valuable training, develop key skills and contribute in important ways to the department's mission of working with Minnesotans to conserve and manage natural resources, provide outdoor recreational opportunities, and provide for commercial uses of natural resources in a way that creates a sustainable quality of life. The DNR has a wide variety of internship opportunities throughout the state, including in fisheries, forestry, park operations, watercraft inspections, communications and more. Interns work 20 to 40 hours per week and receive a competitive wage of \$19 per hour. To be considered for an internship, fulfilling an academic requirement or receiving academic credit is required.

To review the internship opportunities and apply for those of interest, visit the state of Minnesota [careers website](https://mn.gov/mmb/careers_website) (mn.gov/mmb/careers/).

- Select "Search for jobs" from the toolbar.
- In the External Applicants box, select "Search for jobs now" and select "View all jobs."
- Filter by "Natural Resources Dept" in the Agency category and "Student Worker and Internships" in the Job Family category.

Internship applications will be accepted through January 31. Positions will start in May and June. Applicants seeking employment with the DNR who are not eligible for an internship should regularly check the website for seasonal and year round opportunities. ✧

## Fish hatcheries get \$75 million

A \$75 million investment in Ontario's fish hatcheries program is expected to boost fishing opportunities across the province. Infrastructure upgrades are planned for three critical fish culture stations to increase the production of key species and support stocking efforts, the [Ministry of Natural Resources \(MNR\)](#) announced.

The upgrades include:

- Construction of a new building for raising walleye at the Blue Jay Creek Fish Culture Station on Manitoulin Island to increase walleye production by as much as 600% annually.
- Improvements to the North Bay Fish Culture Station to enable stocking of more than 555,000 high-demand fish, including brook, lake, and rainbow trout.
- Upgrades to the Hill's Lake Fish Culture Station in Englehart to increase its capacity to raise and stock more than 530,000 popular fish, including splake and aurora trout.

Planned improvements include replacing aging infrastructure, increasing capacity for growing larger fish, and making operations more efficient and cost effective in part by reducing energy consumption.

Fish are raised in fish culture stations prior to being released into lakes to support fishing and conservation. The ministry stocks approximately eight million fish weighing a combined 200 metric tons into more than 1,200 public waterbodies annually. At peak times, there are some 20 million fish within the ministry's nine fish culture stations.

The province has more than 250,000 lakes and 490,000 kilometres of rivers. More than 1.5 million recreational anglers have an economic impact of \$1.6 billion per year in Ontario, the province stated. ✧

## New boat wash station at Geneva State Park

**GENEVA, Ohio** – The Ohio DNR announced a new state-of-the-art boat wash station at Geneva Marina located in Geneva State Park through the Ohio Clean Marinas Program.

The new boat wash station uses a system that cleans and reuses water from power washing and prevents harmful materials contained in the wastewater from running off into Lake Erie, such as algae, paint chips, and invasive species like zebra mussels or aquatic plants like hydrilla. The wastewater is then treated with bromide and UV light, so it can be reused, saving water and money.

"As a platinum-certified Ohio Clean Marina, it is important to us that we are taking every step to protect Lake Erie," said Geneva Marina Manager Jim Witt. "This boat wash treatment station is helping us do that by keeping bottom paint and other toxic chemicals out of Lake Erie."

With the completion of the boat wash station, the Ohio Clean Marinas Program hosted two special workshops to educate marina owners across the state about pressure wash water management and other environmental issues. These workshops included presentations on the environmental risks associated with boat bottom washing and hands-on field trips to Geneva State Park, and Huron Lagoon and Holiday Harbor Marina to showcase best practices in action.

In addition to pressure wash water management, the Ohio Clean Marinas Program offers workshops on a variety of topics essential to marina sustainability, including stormwater management, marine debris, green infrastructure, aquatic invasive species control, and boat shrink wrap recycling with the goal of engaging these businesses to become a certified Ohio Clean Marina. ✧

## Sled Safe this season

Snowmobile season is officially underway in Wisconsin. We're sure you're itching to get your thumb on the throttle and hit the trails, but before you do, ensure you're taking every precaution to be safe. Here are some safety reminders to take with you:

- Don't drive or ride impaired!
- Avoid riding on lakes and rivers and wear a life jacket over your outer clothing if you must ride on ice. Stay off ice with moving water near or under it.
- Stay on the trail.
- Watch the weather and monitor ice conditions by asking local experts like outfitters, bait shops and fishing clubs.
- Never ride alone.
- Always wear a DOT-approved helmet and facemask and layer clothing to keep warm and dry.

[Learn more about how to keep yourself safe on Wisconsin's snowmobile trails online](#) ✧

## OutWiGo for Free Fishing Jan. 18-19

The Wisconsin DNR is hosting [Free Fishing Weekend January 18-19](#) to share the fun and excitement of winter fishing. Anglers of all ages can wet a line in any Wisconsin waters open to fishing without a fishing license, trout stamp or salmon stamp.

All other [2024-2025 Hook and Line regulations](#) including bag limits, size limits and species restrictions remain in effect. While most trout streams are open during the catch-and-release season on Free Fishing Weekend, there are trout streams, spring ponds and lakes that are closed to fishing. Please review the [trout regulations](#) or check with your [local biologist](#) if you have questions about specific waters. For trout streams that are open, only artificial lures are allowed, and anglers must release all trout caught. If you plan to keep fish, review the DNR's [Safe Eating Guidelines](#) to stay informed of potential consumption advisories impacting some waterbodies throughout the state. ✧

## Learn about Fisheries management in NE Wisconsin at Upcoming DNR meetings

The Wisconsin DNR announced it will host a series of informational meetings across the state's northeast region to educate anglers on various fisheries management and habitat topics. The meetings are part of a spotlight series highlighting various fisheries in Green Bay, the Winnebago System and inland waters in northeast Wisconsin. Over the next few months, the sessions will be held both in person and virtually via Microsoft Teams from 6 to 8 p.m., giving the public a chance to meet and learn from their local DNR fishery resource specialists. For more information, go to: [DNR's Meetings and Hearings calendar](#).

### Event Details

- **The Winnebago System: History And Status Of Lake Sturgeon And Walleye Management**  
*Presenters:* Margaret Stadig, DNR Senior Fisheries Biologist and Angelo Cozzola, DNR Senior Fisheries Biologist  
*When:* Jan. 22, 2025  
*Where:* Fox Valley Tech College Room 133  
150 N Campbell Rd, Oshkosh, WI 54902
- **Northeast Wisconsin Trout Habitat Management**  
*Presenters:* Jonathan Pyatskowitz, DNR Habitat Specialist and Kyle Kossel, DNR Habitat Technician  
*When:* Jan. 28, 2025  
*Where:* Shawano Middle School, LGI Room  
1050 South Union St, Shawano, WI 54166
- **Wautoma Area Fisheries Updates**  
*Presenter:* Scott Bunde, DNR Senior Fisheries Biologist  
*When:* Feb. 5, 2025  
*Where:* Wautoma High School Library  
514 S. Cambridge St, Wautoma, WI 54982
- **Shawano Lake Walleye Movement & Survey Results Of 2024 Area Surveys**  
*Presenter:* Elliot Hoffman, DNR Senior Fisheries Biologist  
*When:* Feb. 11, 2025  
*Where:* Shawano Middle School LGI Room  
1050 South Union St, Shawano, WI 54166
- **Where Do Fish Go, The Peshtigo River Array And High Falls Walleye Movement Projects**  
*Presenter:* Chip Long, DNR Senior Fisheries Biologist  
*When:* Feb. 19, 2025  
*Where:* Peshtigo DNR Field Office  
101 N Ogden Rd, Peshtigo, WI 54157
- **History And Status Of Brown Trout On Green Bay**  
*Presenter:* Tammie Paoli, DNR Senior Fisheries Biologist  
*When:* Feb. 26, 2025  
*Where:* Peshtigo DNR Field Office  
101 N Ogden Rd, Peshtigo, WI 54157
- **Green Bay Walleye And Muskellunge Management**  
*Presenter:* Jason Breeggemann, DNR Senior Fisheries Biologist  
*When:* March 3, 2025  
*Where:* Green Bay DNR Svc Center  
2984 Shawano Ave, Green Bay, WI 54313
- **Habitat Management Of Central Wisconsin Trout Streams**  
*Presenter:* Shawn Sullivan, DNR Fisheries Habitat Specialist  
*When:* March 10, 2025  
*Where:* Waushara WWII Vets Memorial  
440 W Main St, Wautoma, WI 54982 ✧



## Agricultural runoff damages our water and kills wildlife. Could a simple drainage stopper be the solution?

The sight of the first snow on the horizon of Bill Wiley's 500-acre farm in Shelby County, Ohio, is a welcome relief. The 2024 growing season has been incredibly dry. "We are about eight inches behind regular precipitation for the year," he said.

But Wiley, who farms corn, soybeans, wheat, pumpkins and gords, has installed two inline water control structures that control the flow of drainage water from two of his fields. He hopes these devices can keep thousands of gallons of precious water—and expensive fertilizer—back in his fields, helping him achieve better yields while protecting the environment. "Whatever you can keep in the soil, nutrient-wise, is better for you, and the environment," he said.

Much of North America's food is produced on land in the Midwest and within the Great Lakes basin that, without drainage, would be too wet to be productive. "Without drainage, agriculture cannot happen in the majority of the Midwest," said Vinayak Shedekar, an assistant professor of agricultural water management at the Ohio State University.

As a result, around one-quarter of arable land in the U.S. and Canada is artificially drained. But these drainage systems have a major shortcoming: in addition to carrying away excess water during and after flooding, they take nitrate and other fertilizer chemicals that can fuel conditions favorable for neurotoxin growth into public waterways, killing wildlife and threatening water supplies hundreds of miles downstream. To counter this, researchers, companies and farmers such as Wiley are developing and deploying systems that can control that flow, benefiting landowners, water consumers and the environment alike.

Dr. Shedekar said that 25 years of studies suggest these controlled

drainage structures, manufactured by companies in Iowa, Indiana and beyond, have resulted in a 20 to 50% reduction in nitrate loads coming out of drainage outlets. Around 40 million people in cities and towns such as Toronto, Buffalo, Toledo and Chicago rely on the Great Lakes for their drinking water. Thousands of people in the recreation and tourism industries need clean Great Lakes water for their economic survival.

Yet agriculture runoff is a major environmental problem for the wider Great Lakes region. Nitrates and phosphorus act as a fuel for the dangerous algae bloom growth that's increasingly common in the western Lake Erie basin during the summer months. Roundly seen as the most polluted Great Lake, Lake Erie has been hit particularly badly by agricultural runoff, in large part from the heavily-polluted Maumee River that flows into the lake at Toledo in northwest Ohio.

The western basin of the lake, just 120 miles from Bill Wiley's farm, has struggled especially badly with elevated toxins from algae blooms, forcing the city of Toledo to spend a half billion dollars on a water purifying system following a 2014 contamination event that shut down water access for 400,000 people for days.

All the while, experts say that it's here in the Great Lakes region, with its tens of millions of acres of flat and poorly drained soil, where controlling drainage water on farms can work best. "We are working with hundreds of farmers, landowners, agencies and organizations annually," said Ben Reinhart, a conservation planner at Ecosystem Services Exchange, a technical service provider that oversees the design and installation of a host of controlled drainage structures and devices. "In northwest Ohio alone, hundreds of structures have been

installed with help from Ohio's department of agriculture and county-level soil and water districts."

The company operates in the Corn Belt states, the Chesapeake Bay region, Arkansas and Mississippi. According to Reinhart, if farmers can reduce drainage outflows by 40-50% then they can in turn reduce nutrient outflows by that same amount. This means farmers have the opportunity to improve their yields by 5-15%.

Manual inline water control structures—those that are raised and lowered by hand—cost between \$1,000 and \$2,000 each, with installation costing about the same, depending on pipe size and the height of the device, said Reinhart. But to incentivize farmers, the US Department of Agriculture's environmental quality incentives program typically pays for all design and engineering costs, and 75% of the cost to buy and install the structures. Many states and counties also have their own funding efforts to support farmers interested in deploying the systems.

Reinhart said that in recent years, innovations around automating the systems and newer conservation program delivery models have increased the level of interest from farmers and landowners. "That's really starting to provide some spark around interest and adoption from the engineering side of things," he said.

"It definitely is a change of mindset for some folks. But I think there's a growing awareness around the role of water in agriculture, not just from having too much water (but) a lot of years there are periods when we don't have enough." "What we're doing is turning on and off drainage for whenever you need or don't need it."

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## Sea Lamprey abundances spike after Covid-Related Travel Restrictions

*Relaxation in sea lamprey control in 2020 '21 resulted in above-target numbers, but trends are positive thanks to recent control efforts*

ANN ARBOR, MI—The Great Lakes Fishery Commission (Commission) has announced the annual sea lamprey abundances for each Great Lake in 2024. In it, the Commission noted that populations of non-native predatory sea lampreys are above targets in all five of the Great Lakes. The sea lamprey, a highly noxious fish, spiked in numbers when field crews were constrained in their ability to conduct sea lamprey control in 2020 and 2021. Because of the sea lamprey's life cycle, scientists are now seeing the ramifications of those reduced control seasons. Recent levels of sea lamprey control give the Commission reason to believe that sea lamprey numbers are now on the way back down.

Sea lampreys are an invasive fish that entered the upper Great Lakes accidentally through shipping canals starting in 1921. Sea lampreys feed on the blood and body fluids of fish by attaching to them with a tooth-filled, suction cup mouth and file a hole through the fish's scales and skin with a piston-like rasping tongue. The average sea lamprey is capable of killing up to 40 pounds (18 kg) of fish during its parasitic stage.

Before sea lamprey control, which began in 1958, the species killed far more fish than humans did, causing considerable economic and ecological damage. Sea lampreys have made the Great Lakes home, but the control program has been one of history's biggest invasive species control success stories, reducing populations by 90% or more in most of the Great Lakes. That said, sea lampreys, like a coiled spring, have the ability to bounce back forcefully in numbers if controls are relaxed.

Sea lamprey abundances relative to targets are reported as 3-year averages for all lakes. According to the Commission's report, 2024 is the third year that reflected the impacts of reduced control effort due to the

COVID-19 pandemic. The number of adult sea lampreys captured during 2024 was 8,619 more than the three-year pre-COVID average of 38,167 (2017-2019). The largest increases in abundance were observed in lakes Superior and Ontario during 2023 and 2024. Although still above target, lakes Michigan, Huron, and Erie have seen flattening trends in abundance since treatments have returned to a pre-pandemic level.

"The increased abundance in all lakes is not unexpected given significantly reduced control effort during 2020 and 2021 due to the pandemic," said Commission chair Ethan Baker, who is also the mayor of Troy, Michigan. "Control effort in 2024 continued at pre-pandemic levels, but elevated and variable adult sea lamprey abundances should be expected over the next year or two before turning back downward."

"The sustained increase in sea lamprey abundances following a lapse in annual control effort highlights the continued need for ongoing sea lamprey control and continued research into new and innovative control methods in the Great Lakes," said Jim McKane, the Commission's vice-chair. "Native to the Atlantic Ocean, invasive sea lampreys remain a significant threat to the Great Lakes ecosystem, and control efforts must remain a top priority for conservation and management efforts in the region. After more than six decades of successful sea lamprey control, the reduced effort during the COVID-19 pandemic shows that if controls are ceased or relaxed for even a short period of time, sea lamprey populations will rebound, and the fishery will suffer."

The Commission was established by the Governments of Canada and the United States in 1955 in part as a response to the catastrophic damage caused by the sea lamprey invasion.

The 1954 Convention on Great Lakes Fisheries charges the Commission to conduct sea lamprey control, formulate a coordinated bi-national research program, and coordinate fisheries management among the jurisdiction in the basin. Sea lamprey control is conducted in partnership with Fisheries and Oceans Canada and the US Fish and Wildlife Service, with research support from the US Geological Survey and other agencies and institutions. [Future control methods](#) are a priority for the Commission and are supported by the Commission's science program.

"Maintaining consistent sea lamprey control in the Great Lakes basin is essential to sustaining the robust fishery that provides jobs, sustenance, and recreation for the people of the Great Lakes basin," said McKane. Added Baker, "Sea lamprey abundance targets are our benchmark for a healthy fishery. Targets for each lake are determined based on the average number of sea lampreys across a five-year period when sea lamprey wounding rates on fish are deemed acceptable. We continually strive to reach and maintain a level of sea lamprey suppression, which allows a fishery that supports the millions of people that live, work, and recreate in the Great Lakes."

"The COVID-19 pandemic provided an unintentional, but valuable, lesson. Restricted control effort during 2020 and 2021 allowed millions of larval sea lampreys, that would have otherwise been removed, to survive and parasitize millions of pounds of valuable fish," Baker continued.

A forthcoming multiagency study funded by the Commission, led by the US Geological Survey, and supported by state and federal agencies, will provide an in-depth analysis of the effect of reduced control effort during 2020 and 2021 on Great Lakes sea lamprey populations.

“Thankfully control effort has returned to pre-pandemic levels, but elevated sea lamprey populations should continue to be expected over the next year or two,” Baker concluded. “If there was ever proof of the effectiveness of sea lamprey control, the 2020 pandemic and its effect on sea lamprey populations was it.”

#### **Report Details, By Lake**

**LAKE SUPERIOR:** Adult sea lamprey abundance remains above target for Lake Superior. Stream-specific estimates showed the Brule and Bad rivers contributed 35% and 23%, to the adult abundance, indicating that impacts of reduced control effort during the pandemic may be delayed due to slower larval growth associated with the relatively cooler water temperatures in the Lake Superior basin. In addition, sea lampreys were discovered in an unnamed tributary near Nipigon, ON and in Little Carp River (Gogebic County, MI), though these streams are small and would have a marginal contribution to the lake-wide population. Additionally, sea lamprey escapement occurred upstream of sea lamprey barriers on the Big Carp and Misery rivers and Stokely Creek. Consequently, several factors could be

contributing to the increased abundance such as reduced control effort, change in sea lamprey distribution, newly discovered infestations, escapement past barriers, and fully recruited larval populations in index streams. Over the past three years, Lake Superior has received a higher-than-average amount of control effort and with this increased effort, a decrease in lake-wide abundance is to be expected beginning in 2025.

**LAKE MICHIGAN:** The Lake Michigan adult sea lamprey abundance target was decreased from 34,982 to 20,526 based on the average sea lamprey abundance estimate from 2015-2019, when wounding was near the target of 5 wounds/100 lake trout. In 2024, adult sea lamprey abundance remains above target. Stream-specific estimates showed the Manistique and Big Manistee rivers contributed most to the lake-wide adult abundance estimate at 45% and 22%. Additionally, sea lamprey escapement was documented upstream of the sea lamprey barrier on the Kewaunee River.

**LAKE HURON:** Adult sea lamprey abundance slightly increased and remains above target for Lake Huron.

Stream-specific estimates showed the Cheboygan River contributed most to the 2024 lake-wide adult abundance estimate at 34%.

**LAKE ERIE:** Adult sea lamprey abundance slightly increased and remains above target for Lake Erie. Stream-specific estimates showed Cattaraugus and Big Creeks contributed most to the lake-wide adult abundance estimate at 36% and 38%.

**LAKE ONTARIO:** Adult sea lamprey abundance remains above target for Lake Ontario. Stream-specific estimates showed the Humber and Black rivers contributed most to the lake-wide adult abundance estimate at 47% and 33%. A newly infested stream was discovered near Port Hope, ON (Ganaraska River), but the overall impact to the lake is considered minimal given the low abundance of larval sea lampreys observed. Additionally, sea lamprey escapement was documented above the sea lamprey barrier on Shelter Valley Creek. Decreases in the lake-wide adult abundance are a response to the resumption of pre-pandemic control effort. Lake-wide abundance is expected to continue to decline in 2025  
✧

#### **Other Breaking News Items:**

**(Click on title or URL to read full article)**

#### [Lake Michigan holds much mystery. But does it have the equivalent of a Bermuda triangle?](#)

The idea of an alleged 60-mile Lake Michigan triangle was popularized in a 1977 book called *The Great Lakes Triangle*. While there is no evidence for a specific Lake Michigan triangle, more ships have sunk in Lake Michigan than any of the other four lakes.

#### [First Nations around Ontario’s Lake Nipigon come together to protect their waters](#)

Several First Nation members came together for the first time to plan collaborative conservation efforts around Lake Superior with representatives from Lakehead U. and the IJC. One of the main goals of the collaboration was to create a co-management agreement that better combines Traditional Knowledge and experiences with western science

#### [Michigan DNR collects 6.5 million wild coho salmon eggs](#)

The Michigan Department of Natural Resources recently collected nearly 6.5 million wild coho salmon eggs in less than three weeks. The collection was part of a fall effort to accumulate eggs to stock fish in Michigan waters.

#### [Wisconsin DNR confirms investigation into oil spill from Enbridge’s Line 6 pipeline](#)

The Wisconsin Department of Natural Resources has opened an investigation into a spill of more than 69,000 gallons of crude oil from a pipeline along Enbridge Energy’s Line 6

#### [Believed to have been extinct, researchers ‘rediscover’ fish species on Lake Superior](#)

Researchers on Lake Superior have “rediscovered” the shortnose cisco, a Great Lakes fish species thought to have been extinct for decades



[Michigan eyes hunting, fishing, boating fee increases, change to park fees](#)

**Michigan Democrats are considering legislation to increase fees for hunting, fishing and boating by 30% or more to raise funding for the state Department of Natural Resources whose fish and wildlife programs have endured budget cuts amid funding shortages**

[‘It’s hell for the fish’: The US has a billion-dollar plan to halt a carp invasion](#)

The Brandon Road Interbasin Project at the Brandon Road Lock and Dam in Illinois is designed to keep invasive carps out of the Great Lakes. It’s a half mile long underwater obstacle course containing a bubble curtain, noise emitting speakers, electrified water and a navigation lock designed to flush fish downstream.

[Enbridge pipeline spills nearly 70,000 gallons of crude oil in Jefferson County](#)

An Enbridge Energy pipeline in Jefferson County, Wisconsin spilled nearly 70,000 gallons of crude oil underground on November 11th according to federal officials. The spill is Enbridge’s worst in Wisconsin, surpassing a 2012 incident that spilled 50,000 gallons in Adams County

[Bad River Band and other groups move to block reroute plans for Enbridge’s Line 5](#)

A northern Wisconsin tribe along with a coalition of groups moved Dec. 12 to block plans to reroute an aging pipeline around the tribe’s reservation, arguing state regulators have underestimated the environmental damage that construction would cause.

***Happy New Year***