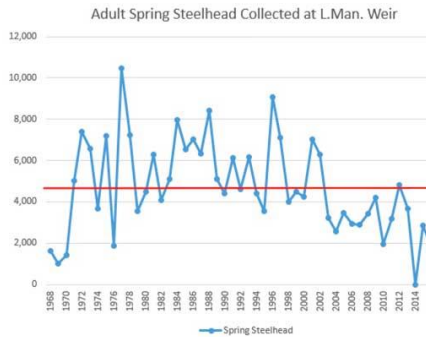




NRC Proposal New Steelhead Limits



New Proposal

There is a new proposal up for consideration by the NRC that would reduce Steelhead bag limits on several sections/streams in Michigan. Here is the **NRC Proposal New Steelhead Limits** being considered by the NRC. The current steelhead management plan for Michigan needs to be revised to reflect current trends, conditions, and annual adult spawning migrations.

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We are not opposed to people having the opportunity to harvest a fish even though we practice catch and release. This request for change has nothing to do with gear restrictions and by no means should we dictate how people can legally fish for steelhead. Steelhead populations are in decline and have been on the long slide for over the past decade. Which raises several questions and highlights a need to address and discuss the future of Steelhead management in our state.

Data gaps and changing environmental conditions have muddied the waters, but indicators are everywhere. Anyone who has spent any amount of time on the water can see the changes that have occurred. Which poses several questions. What is the current status of spawning steelhead in our streams? Does the current management scheme reflect what anglers are currently experiencing in their catch rates? Can a declining steelhead population survive added angling pressure with today's current harvest allowance? Remember to practice responsible

The MDNR has admitted there is a problem, but currently there has been a failure to act even though there are plenty of red flags.

Little Manistee River

The Little Manistee River Weir boasts the best available data for returning spring Steelhead. This little river is the sister river to the Big Manistee. Albeit smaller in size, it can still shed light on the current trend of Steelhead returns in the Big Manistee River. Since 2002 there has been a significant reduction in Spring Steelhead in the Little Manistee River. The 6 year average from 2009-2014 was 3,433 returning adults and from 2015 to present it was 2,389 returning adults (excludes 2020). In the last 6 years there has been a 30% reduction in average spawning adults. If this trend continues, then what? The spring 2021 returns were the lowest since 1970. More importantly, every year since 2003, the spring steelhead counts have been

NRC Proposal

Continued page 9

Winter Anglers: Release your fish responsibly

catch and release when you're fishing open streams or on the ice this winter.

Fish are very fragile in cold air temperatures (particularly their eyes and gills), so they should not be exposed to the elements for long periods of time. Release them gently as soon as possible. Do not let them lay on the ice. By releasing your fish responsibly, you are helping the fishery and providing other anglers the opportunity to catch the same fish.

If you are fishing an open stream, try:

- Reducing the time spent fighting the fish.
- Keeping the fish in the water as much as possible.

- Using a rubber net and wet hands or gloves.
- Keeping the handling time to 60 seconds or less. Keep unhooking tools nearby.
- Cutting the line and letting the fish go if the fish is deeply hooked.
- Treating the fish gently throughout the release. Support the fish with both hands and place the recovering fish in the water. Gently move the fish from side to side.

[For tips on how to release different fish species, visit this DNR webpage.](#)



2022 Black Lake sturgeon season wraps within 36 minutes

After only 36 minutes of fishing, this year's sturgeon season on Black Lake (in Cheboygan and Presque Isle counties) ended at 8:36 a.m. Saturday, Feb. 5. The season, which included spearing and hook-and-line fishing, was scheduled to run Feb. 5-9, or until the harvest limit quota of six lake sturgeon had been reached.

Anglers initially were allocated a season quota of seven sturgeon, but the Michigan Department of Natural Resources set the harvest limit at six fish. This action helps accommodate the expected number of anglers and anticipate the possibility of near-simultaneous harvest of more than one fish.

There were 565 registered anglers, including a good number of supervised youth. According to the DNR, five sturgeon harvested were male and one was a female, ranging from 46 to 62 inches long and 23 to 67 pounds in weight.

- The first fish was a 59.5-inch female that weighed 48 pounds.
- Fish number two, the largest fish, was a 62-inch male that weighed 67 pounds.
- Fish three was a 47-inch male that checked in at 25 pounds.
- Fish four was a 57-inch male that weighed 45 pounds.
- The fifth fish was a 46-inch male that weighed 23 pounds.
- The sixth fish was a 56-inch male that weighed 35 pounds.



All six harvested fish taken had been captured before by Michigan State University and the DNR during spring spawning runs in the Black River or from past surveys of Black Lake. The harvested 62-inch male originally was captured in every other year in the spawning run from 2002 through 2020. The 57-inch male had been captured and [tagged](#) during the 2002, 2006, 2007, 2009, 2013, 2019 and 2021 spawning runs in the Black River. The 56-inch male had been captured in the 2013, 2016, 2017, 2019 and 2021 spawning runs. In addition, the 47-inch male had been tagged in the 2006, 2010 and 2012 spawning runs.

Participating anglers were notified of the season closure in a variety of ways, mainly from nearly instantaneous text alerts and ice shanty visits from DNR personnel. All methods were used to indicate the season's end within minutes of the final fish being harvested. DNR law enforcement officials and other department personnel again were embedded in the on-ice fishing communities and were able to quickly and safely report harvested fish this year, as well as to quickly contact all lake sturgeon anglers on the ice and close the season.

Rehabilitation of lake sturgeon in the Cheboygan River watershed is a cooperative effort involving the DNR, the Black Lake Chapter of Sturgeon For Tomorrow, Michigan State University, Tower-Kleber Limited Partnership, the Bay Mills Indian Community, the Grand Traverse Band of Ottawa and Chippewa Indians, the Little River Band of Ottawa Indians, the Little Traverse Bay Band of Odawa Indians and the Sault Ste. Marie Tribe of Chippewa Indians.

For more information on lake sturgeon in Michigan, visit Michigan.gov/Sturgeon. To learn more about all fishing opportunities statewide, go to Michigan.gov/Fishing. ✧



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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

GREAT LAKES BASIN REPORT

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Additional angling opportunities created by successful fall fish stocking season

Eight different species, 672,478 fish, weighing in at nearly 13.5 tons – those are the totals from the Michigan Department of Natural Resources' fall 2021 fish stocking efforts at 123 locations across the state.



“It was another outstanding fall fish stocking season that will provide enhanced opportunities throughout Michigan,” said Ed Eisch, DNR fish production manager. “When added to our successful spring and summer stocking efforts, that brings the total for 2021 to more than 18.2 million fish put into Michigan’s waters.”

The number and type of fish stocked vary by hatchery, as each facility’s ability to rear fish differs because of water supplies and temperature. In Michigan, there are six state and three cooperative hatcheries that work together to produce the species, strain and size of fish needed by fisheries managers. These fish must then be delivered at a specific time and location for stocking to ensure their success. Most fish in Michigan are stocked in the spring.

Fall fish stockings in 2021 consisted of eight species that included: brook trout, brown trout, channel catfish, coho salmon, lake trout, Eagle Lake and steelhead strain rainbow trout, walleye and muskellunge.

- Marquette State Fish Hatchery (near Marquette) stocked 38,003 fall fingerling and adult brook and lake trout that weighed a combined 8,018 pounds. These fish were stocked at 46 locations, both in the Upper and Lower peninsulas.

- Oden State Fish Hatchery (near Petoskey) stocked 37,000 Wild Rose brown trout and 113,863 Eagle Lake rainbow trout fall fingerlings that weighed a combined 4,093 pounds. These fish were stocked at four locations.
- Platte River State Fish Hatchery (west of Traverse City) stocked 70,194 fall fingerling coho salmon weighing 2,999 pounds. These salmon were stocked in the East Branch of the AuGres River located in Iosco County.
- Thompson State Fish Hatchery (near Manistique) stocked 349,213 fall fingerling steelhead that weighed 3,810 pounds at four locations. In addition, the first year of musky production was a success at Thompson, stocking 20,037 fish at 12 locations.
- Wolf Lake State Fish Hatchery (west of Kalamazoo) stocked 9,850 Great Lakes strain muskellunge fall fingerlings that weighed 1,083 pounds and were stocked at 13 locations.
- Several fisheries management units (Northern Lake Michigan, Southern Lake Michigan, Central Lake Michigan, Lake Erie and Southern Lake Huron) also stocked fall fingerling walleyes in 2021. The Northern Lake Michigan management unit stocked 4,927 Bay De Noc strain fall fingerlings weighing 730 pounds, while the Lake Erie and Southern and Central Lake Michigan management units stocked 23,133 Muskegon strain fall fingerlings weighing 2,108 pounds.
- Three sites were stocked with a total of 5,035 channel catfish from Ohio, with a total weight of 1,014 pounds. These fish were part of an annual agreement that includes Michigan providing Ohio with steelhead eggs in exchange for fall fingerling channel catfish.
- Also as part of an annual cooperative exchange, 2,123

Northern strain muskellunge from the Wisconsin DNR weighing 685 pounds were stocked at four locations in both the Upper and Lower peninsulas. The Michigan DNR provided Wisconsin with Great Lakes strain muskies in exchange for these fish.

In general, fish are reared in Michigan’s state fish hatcheries anywhere from one month to one and a half years before they are stocked.

The DNR welcomes visitors to its state fish hatcheries and interpretative centers to witness firsthand the fish rearing process and to learn about Michigan’s waters. For more information, visit [Michigan.gov/Hatcheries](https://www.michigan.gov/Hatcheries). For everyone’s safety, masks are recommended for all visitors entering public buildings.

To find out if any fish were stocked in your favorite fishing spot, visit the DNR’s fish stocking database at [MichiganDNR.com/FishStock/](https://www.michiganDNR.com/FishStock/). ✧

Burbot: a sought-after game fish

Jump on the burbot bandwagon! That’s right, many anglers seek out and enjoy catching burbot. These fish are known as very good table fare that can have a consistency similar to lobster. The state record burbot was a 19 lb., 10 oz. fish caught in 2016 on Lake of the Woods. Burbot are no longer considered rough fish in the Minnesota fishing regulations and the species will be listed as a game fish in the 2022 Minnesota fishing regulations booklet available this March. Please remember that if you are not planning to use the burbot you catch, release it for others to enjoy – the same goes for any other fish you catch. It is illegal to leave fish on the ice. Also remember to check for any special regulations that apply to burbot on the water where you’re fishing. ✧

\$3 million being invested into Lake Michigan's shoreline to fight, climate change, Asian carp

CHICAGO – Three million dollars in funding will be invested to protect Lake Michigan and its shoreline from climate change and invasive species.

Throughout the years, erosion, the impact of strong storms and rising water levels have started to wear on the shoreline. The federal government is investing \$1.5 million in funding to protect Lake Michigan and the City of Chicago is matching it.

“Residents blocks away from the lake were seeing flooding in their basement. Parking garages blocks away from the lake were seeing the effect,” Mayor Lightfoot said. “So climate change is real and this an issue we must address head on and this investment will go a long way in making that happen.”

Climate change is not the only threat to the lake — Asian carp is as well. This is a long time coming. This invasive species was introduced in Arkansas about 40 years ago and they’ve been moving up the Mississippi basin since then.

If the invasive fish reaches Lake Michigan, it will impact fisheries and the ecological balance of the Great Lakes. The federal funds will help with a project meant to keep the Asian Carp out of the reason.

The money will also make it possible to complete a shoreline study. It will help the Army Corps of Engineers to determine what repairs, improvements and construction needs to be done.

“If it rolls, floats or flies, it goes through Chicago. So we got to do this right. And this is long overdue to put actual dollars toward that end. It’s not just for Chicago it’s for the region and for the country,” U.S. Rep. Mike Quigley (D-Chicago) said.

Urgent repairs have been done along the shoreline, but the funds will allow for long-term solution to it and Lake Michigan. The study is expected to take three years to complete. ✧

Earthquakes are shaking Lake Erie

A series of earthquakes continue to shake Lake Erie just northeast of Cleveland, Ohio, generating dozens of reports by local residents. In the last 40 days, there have been 5 earthquakes of magnitude 1.6 to 2.5, all clustered just off-shore in the southeastern portion of the Great Lake.

Lake Erie is the fourth largest lake of the five Great Lakes by surface area, but holds the smallest volume of any lake. While it is the shallowest of the Great Lakes, it does have some deep locations; the deepest point is more than 200 feet deep. While the deepest point of the Lake Erie is in the northeastern part of the lake not far from Niagara Falls, this latest earthquake activity has been centered beneath a relatively shallow area of the lake with depths of less than 40 feet.

The earthquakes striking Lake Erie have been roughly 2 miles off-shore and have been centered about 3 miles deep. Unlike active fault zones in the western United States, Ohio is only home to ancient faults, also known as magnetic faults that could occasionally move from time to time. USGS cautions that it’s very rare for there to be a significant earthquake there to cause damage, but say a damaging earthquake is within the realm of possibilities.

The area experiencing earthquakes now may be experiencing aftershocks of a much larger earthquake that struck in 2019. On June 11, 2019, a 4.0 magnitude earthquake rattled southeastern Michigan, northern Ohio, and portions of western Pennsylvania.

The Ohio Department of Natural Resources reports that there have been more than 200 earthquakes with epicenters around Ohio since 1776. Most of those earthquakes over time have struck in the area seeing seismic activity now.

There have been no reports of any damage or injuries from these earthquakes. The earthquakes have also been too weak to generate any kind of tsunami in the Great Lakes. ✧

DNR seeks comments on Duluth area fisheries management plans

The Minnesota DNR invites anglers and others to comment on fisheries management plans for several waterbodies through March 15.

The plans include info such as water chemistry characteristics, water temperature information, species presence, stocking, regulations, and historic catch rates from previous fisheries surveys.

The plans also can identify factors that might limit a fishery’s potential and seek to address these limiting factors by prescribing management tools when biologically, fiscally, and socially appropriate.

Fisheries information and management activities are being updated for the following lakes and streams in Carlton County.

Carlton County waters:

- Hanging Horn Lake – updated plan focusing on managing naturally reproduced walleye and cisco and discontinuing failed trout stocking.
- Little Net River – initial management plan including proposal to introduce brook trout to specific reaches of the river.
- Red River – initial management plan including proposal to introduce brook trout.

Anyone can review the current plans for waters in the area as well as recent fish population assessment information at the DNR’s Duluth area fisheries office, 5351 N. Shore Drive in Duluth, by making an in-person appointment. People can call 218-302-3266 or email [Deserae Hendrickson \(deserae.hendrickson@state.mn.us\)](mailto:deserae.hendrickson@state.mn.us) to make an appointment, request a copy of a plan or submit comments on a plan.

Comments and suggestions for managing other lakes and streams in the Duluth work area are welcome at any time and will be considered when those plans are due for review.

The draft plan is also available on the [DNR Duluth area fisheries page \(mndnr.gov/areas/fisheries/duluth/index.html\)](http://mndnr.gov/areas/fisheries/duluth/index.html). ✧

Ice cover could help Lake Erie's struggling yellow perch as reduced fishing limits loom

Declines in yellow perch caused Ohio to cut daily limits for anglers last year, while this year's limits should be announced in the coming weeks.

Prized by both commercial netters and hook-and-line anglers, yellow perch these days could use help.

A year ago Ohio was forced by a prolonged decline in yellow perch to cut daily limits to 10 fish from 30 for recreational anglers from Huron to Fairport Harbor, and netters took a commensurate hit.

Historically, the abundance of yellow perch was a big reason to fish at Lake Erie. This was true long after important species such as lake herring, whitefish and blue pike vanished or nearly did so. Daily catches of 100 yellow perch were legal, and not altogether unusual, for decades.

And while walleye have produced prodigiously in recent years, the numbers of perch in the shallower western basin have merely held steady while showing losses in the deeper

central basin.

Trawl surveys done in the western basin last summer found 380 spring-hatched yellow perch per hectare, a measure equal to 2.47 acres. Results fell just below the 34-year average of 398 perch.

Results in the central basin, which is divided into a central zone and an eastern zone, were not encouraging. Fall surveys in the central zone turned up 11 spring-hatched perch per hectare, much fewer than the average of 39. The survey of year-old perch netted 18 per hectare, again below the average of 33.

East of Fairport Harbor, survey results showed two first-year perch per hectare, the long-term average being five. The numbers for year-old fish were five per hectare, considerably fewer than the average of 29.

Evidence suggests when perch hatches do well in the western basin, they tend to fare poorly in the central basin and vice versa.

One suspect for that is climate change. Ice cover on the Great Lakes has diminished in duration by a couple of weeks from the old normal, records indicate. Continued warming could make regular ice cover on Lake Erie less likely in the coming decades.

A study by researchers from Ohio State University published several years ago suggested Lake Erie yellow perch hatches are more robust after winters that produce longer and later periods of ice cover. The findings were intriguing but, as even the authors acknowledged, not conclusive.

Nutrient runoff could be another factor, triggering large plankton blooms that serve as a food source for tiny, growing fish in the shallow western lake but which suck needed oxygen out of the deeper central waters.

Research is ongoing, said biologists.

Ohio anglers should learn their 2022 limits sometime in March. ✧

Project to keep Asian carp out of Lake Michigan closer to becoming a reality

A \$226 million boost from the federal infrastructure package will allow the U.S. Army Corps of Engineers to finish design and start construction on the Brandon Road Lock and Dam. The barrier in the Des Plaines River, downstream of Chicago, [will use smart technology](#) in an effort to keep the carp that have infested the Mississippi River Basin out of the Great Lakes

A recent study on the harm Asian carp could do to the the Great Lakes lent urgency to plans to construct an effective barrier to carp entering the lakes. In a key step aimed at keeping invasive carp out of the Great Lakes, the Corps is pegging [\\$226 million](#) for pre-construction, engineering and design on a lock-and-dam project 50 miles downstream of Chicago.

The Corps also included initial federal funds needed to begin construction at the completion of the project's design and engineering work. Adding urgency to the project, a 2019 U. of Michigan [study](#) found that Asian



carp could survive in much more of Lake Michigan than scientists previously believed. The findings ramped up pressure on Congress to fully fund a barrier to prevent the invasive fish from wreaking havoc across the Great Lakes and threatening its \$7 billion annual fishing industry.

Natives of China, silver and bighead carp have already spread across the Mississippi River Basin and into the Illinois River near Chicago. Some of the most destructive species to invade North American waters, they crowd out native fish by gobbling up their food, and can overconsume shoreline plants and degrade water

quality. According to the U-M study, the entire extent of Lake Michigan has habitat suitable for bighead carp somewhere in the varied depths of the lake.

Funds for the Brandon Road Lock and Dam project in Joliet, Ill., are coming from the [\\$1.2 billion federal infrastructure bill](#) signed into law in November.

According to the Corps, the total cost of the project will be around [\\$858 million](#), and is estimated to take six to eight years to complete. The project is slated to install acoustic fish deterrents, an air bubble curtain, an electric fish barrier and other provisions to keep the carp from reaching Lake Michigan and spreading throughout the Great Lakes.

Michigan has pledged \$8 million toward early phase funding, as Gov. Gretchen Whitmer in December joined seven other Great Lakes governors in [calling for full federal backing](#) of the project. ✧

2022 Sturgeon Spearing Season opened Feb. 12

Spearing Season Forecast Now Available

OSHKOSH, Wis. – A giant among Wisconsin's inland fresh water fishes, the bottom-dwelling lake sturgeon is a living fossil – a relic from the Middle Ages of fish evolution. The Winnebago system is home to one of the largest lake sturgeon populations in North America and is one of only two locations where lake sturgeon can be harvested with a spear.

The state's annual sturgeon spearing season began February 12 and runs for 16 days (February 27), or until any of the pre-determined harvest caps are met. The system-wide harvest caps for the 2022 season are 400 juvenile females, 875 adult females and 1,200 males.

Water Clarity Report

During the week of January 24, 2022, the DNR conducted pre-season water clarity readings. Fourteen depth readings over six geographic regions of Lake Winnebago were taken. Reading locations were chosen by access and safety of travel conditions. The average water clarity was 10.71 feet. Strong winds prior to freeze-up and patches of open water that held strong into January likely played a role in the decreased average clarity this season.

Water appears to be a bit clearer in the northern portion of the lake, with fairly uniform visibility across Lake Winnebago. If stable weather patterns continue leading up to the sturgeon spearing season, spearers could see improved water clarity, but a longer spearing season is still anticipated.

Water clarity readings were not conducted on the Upriver Lakes as water clarity has less of an impact on Upriver Lakes harvest numbers. Preliminary reports from anglers and spearers out scouting on the Upriver Lakes indicate favorable water clarity in several areas again this season.

Registration Reminders

Any person who spears a sturgeon must accompany their fish to [an official sturgeon registration station](#), and any harvested sturgeon

must be registered by 2 p.m. on the day it was speared.

To help prevent the spread of COVID-19, this year's DNR registration stations will again be operated as drive-thru only. Spearers should remain in their vehicles throughout the registration process. Spearers should place their harvested sturgeon in an easily accessible location to allow staff to collect important biological data such as the size, sex and tagging history of the sturgeon.

The DNR reminds spearers that any fish harvested from Lake Winnebago must be registered at one of the registration stations on Lake Winnebago. Likewise, any fish harvested from lakes Polygon, Butte des Morts or Winneconne must be registered at one of the Upriver Lakes registration stations.

Please check the [2022 sturgeon spearing regulations](#) for more information on the registration process.

No Ice Is Safe Ice

Spearers are reminded that no ice is ever 100% safe and are urged to check with local fishing clubs and conservation groups near the area they plan to spear for local ice condition information. These groups regularly monitor conditions and maintain access points and ice roads. The DNR does not monitor ice conditions. [Find safety tips on the ice safety webpage.](#)

Additional season forecasts, a look at the 2022 water clarity report, and daily season harvest updates will be available throughout the season on the [Winnebago system sturgeon spearing webpage](#). Spearers can also [subscribe](#) to receive helpful daily sturgeon harvest updates via email.

Your Best Shot

Sturgeon spearing in Wisconsin is a sport rich in tradition. The DNR would love to see your highlights of the season. Photos of spearers with their catch, cutting in, shanty life, scenic views observed during the season or any other captivating spearing traditions are encouraged. Please

include a brief description for use in future outreach efforts. Send us your photos using this [photo submission form](#). [2022 Winnebago System sturgeon spearing regulation pamphlet](#). ✧

Construction starts on New Fish Passage thru Woodhull Dam

[DEC, Suffolk County, town of Southampton, and Peconic Estuary Partnership \(PEP\) announced the start of construction on a nearly \\$1 million fish passage](#) through Woodhull Dam on the Little River in Riverhead. The fish passage is essential to restoring critical spawning and maturation habitat for river herring and American eel. It will help produce sustainable populations of fish species that are valuable resources for a healthy and productive marine ecosystem.

The Woodhull Dam fish passage will restore access to 90 acres of high-quality habitat for river herring and American eel in the Cranberry Bog Preserve and Wildwood Lake, more than doubling the amount of spawning and maturation habitat currently available for river herring on the Peconic River.

DEC, Suffolk County, town of Southampton, and PEP worked collaboratively to secure nearly \$1 million for the design and construction of the fish passage. Funding was provided by DEC's Water Quality Improvement Project Program, U.S. Fish and Wildlife Service's National Fish Passage Funds, Suffolk County's Water Quality Protection and Restoration Program, Suffolk County Capital Funds, and town of Southampton's Community Preservation Fund Water Quality Improvement Project Plan.

Learn more about the work DEC and partners are doing to restore diadromous (migrating between salt and freshwater) fish passages on [DEC's website](#). ✧

Becoming an Outdoors-Woman (BOW)

DNR offers Beyond BOW winter events

One-day workshops help women experience outdoor recreation and education

The Michigan DNR BOW program will offer several Beyond BOW events this winter at various locations in Marquette County, Michigan.

The BOW program gives women, 18 and older, an opportunity to improve their outdoors skills in a relaxed, noncompetitive atmosphere. In addition to being fun to participate in, many of the BOW and Beyond BOW classes offer important outdoor skills, including snowshoe and cross-country ski.

Here is a list of the upcoming Beyond BOW events:

- **Feb. 19, 6:20 a.m. EST. Sunrise Snowshoe Hike, Sugarloaf Mountain:** Participants will meet at the Sugarloaf Mountain trailhead, 5 miles north of Marquette along Marquette County Road 550. We will snowshoe from the trailhead to the top of Sugarloaf Mountain. Once at the top, the hike leaders will boil water and provide options for coffee, tea or other hot drinks. If you plan to have a hot drink, please remember to pack an insulated mug. Sunrise for that day is at 7:46 a.m. After the sun rises, we will snowshoe back to the trailhead, following the same route.
- **Feb 23, 6 p.m. EST. Evening Lighted Cross-Country Ski, Blueberry Ridge Pathway:** Many people newer to skiing have never had an opportunity to ski at night, under lights. Now's your chance! Participants will meet at the trailhead at 6 p.m., located roughly 10 miles south of Marquette along M-553. After a brief Meet and Greet, instructors will share tips and tricks on improving your skiing form. Then, we'll head out to ski. We will ski the loop at least one time and up to three times based on participation.
- **March 1, 6 p.m. EST. Evening Snowshoe Hike, Hogsback**

Mountain, Little Presque Isle: Have you always wanted to go snowshoeing at night? Well, here's your chance! Participants will meet at the trailhead about 6 miles north of Marquette along Marquette County Road 550. Participants must have a Recreation Passport or Michigan State Day Pass to park. We will snowshoe 2 to 3 miles, before returning to our vehicles.

• **March 20, 4:30 p.m. EDT. Do-It-Yourself Trail Snacks, Marquette Food Coop:** In this class you can expect to enjoy at least three homemade trail snacks, including some of the instructor's favorite goodies to bring into the woods or out on the water. Expect this to be a hands-on class and to go home with a goodie bag of fresh trail snacks and recipes to use again in the future. **Note:** Unfortunately, we are unable to accommodate food restrictions. Recipes will contain nuts and may also contain other allergens. The class is appropriate for vegetarians. If you have specific questions, please email dnrbow@michigan.gov.

Registration materials are available at Michigan.gov/BOW.

To keep up with the latest on BOW, sign-up for email notifications at Michigan.gov/BOW.

For questions, contact BOW coordinator Michelle Zellar at dnrbow@michigan.gov or 906-293-5131 ext. 4004. ✧

DNR cancels this winter's BOW program in the U.P.

The Michigan Department of Natural Resources recently announced this winter's Becoming an Outdoors Woman weekend program set for February 25-27, 2022 in Marquette County has been canceled because of a surge in Michigan coronavirus cases.

Health experts predict the current surge in coronavirus cases statewide is not anticipated to subside until mid-March. The health and safety of participants, instructors and volunteers is the DNR BOW program's top priority. ✧

Lake Erie Tributary Angler Survey - December Update

December is usually a month of transition on the Lake Erie tributaries. The earlier fall running steelhead leave and are replaced with "traditional" steelhead that spawn during the winter and early spring months. Weather patterns also tend to vary with heavy snow and cold just as likely as days in the 40s. This year anglers were treated to favorable fishing, weather, and stream conditions for most of the month. [Cattaraugus Creek \(PDF\)](#) continues to be the exception with above average flows and murky conditions due to runoff events. Much of the angler effort continued to focus on [Eighteen Mile \(PDF\)](#) and [Chautauqua Creeks \(PDF\)](#). Fishing quality remained high and steady at about 0.5 fish-per-hour and was similar to previous surveys. As is typical, fishing quality varied between streams with the highest catch rates in the western-most tributaries: Chautauqua (0.84 fish/hr) and Canadaway (0.62 fish/hr) creeks. A few coho salmon were reported again in December, most likely transients from Lake Huron. For those anglers hearty enough to brave the elements, January and February usually offer some of the best steelhead fishing of the year. Always remember to be careful when steelhead fishing in the winter – don't go out on stream ice, wear boots with spikes, and use the buddy system. ✧

Save the Date - 2022 Free Fishing Days

Mark your calendars for this year's [free fishing days](#). On these days anyone can fish in New York without [a fishing license](#), so it's the perfect opportunity for you to introduce fishing to a friend or family member.

This year's [free fishing days](#):
February 19-20, June 25-26,
September 24, November 11. ✧

DEC announces progress in Lake Sturgeon Recovery New York's Rebounding Population meets another Recovery Goal

The New York State Department of Environmental Conservation (DEC) announced the release of the 2021 Lake Sturgeon Population Assessment Status Report. The report demonstrates that the lake sturgeon population in the Upper St. Lawrence River has exceeded crucial metrics set forth in the [Lake Sturgeon Recovery Plan](#) for adult spawning and juvenile recruitment.

"Lake sturgeon are rebounding in New York State, and that's great news," said Commissioner Basil Seggos. "This progress is possible because of the work of dedicated staff at DEC, and our strong partnerships with the U.S. Fish and Wildlife Service, U.S. Geological Survey, Saint Regis Mohawk Tribe, New York Power Authority, and Cornell University. Together, we have secured funding, raised and released sturgeon, and used science to track our success, and DEC looks forward to continuing these effective collaborations."

The Lake Sturgeon Recovery Plan, written in 2018, set the following goal for lake sturgeon in New York State: "Establish or maintain sufficient self-sustaining populations of lake sturgeon within six of the seven management units to warrant removal of lake sturgeon from the list of threatened species in New York."

With the addition of the Upper St. Lawrence Management Unit, the lake sturgeon population has now reached the target in four of the seven management units. When the population reaches the target level in two more management units, DEC will seek to remove lake sturgeon from the [threatened species list \(PDF\)](#).

The Upper St. Lawrence Management Unit for lake sturgeon runs from Cape Vincent downstream to the Moses Saunders Dam and includes the Oswegatchie River drainage. Based on sampling of populations in Black Lake, the Oswegatchie River, and the spawning beds near the Iroquois Dam on the St. Lawrence River, DEC documented

healthy reproducing adult lake sturgeon and the presence of several year classes of juveniles throughout the management unit.

Lake sturgeon have been on New York's threatened species list since 1983. DEC began its lake sturgeon restoration program in 1993 by stocking four sites. In 2021, DEC and the U.S. Fish and Wildlife Service stocked 10 locations. More than 275,000 lake sturgeon have been stocked into New York waters since 1993.

Lake sturgeon can live for more than 100 years and grow to seven feet in length, making them the largest freshwater fish in New York. Because of this long lifespan and delayed sexual maturity, lake sturgeon are incredibly vulnerable to overfishing and population depletion. Anglers deserve credit for being good stewards of New York's aquatic resources and helping to keep lake sturgeon populations on the rise.

Partial funding for the lake sturgeon recovery program comes from the State Wildlife Grant Program and the Fish Enhancement, Mitigation and Research Fund, both administered by the U.S. Fish and Wildlife Service.

U.S. Fish and Wildlife Service New York Field Supervisor, David Stilwell said, "The U.S. Fish and Wildlife Service's New York Field Office and Genoa National Fish Hatchery remain committed to the recovery of lake sturgeon in New York. This joint recovery effort is a model for partnership in achieving shared species recovery and restoration goals, results from years of work by dedicated staff from all partners. We are proud to be a partner in this important conservation effort."

U.S. Geological Survey Scientist, Dawn Dittman said, "Meeting the population recovery criteria is an important and exciting milestone for lake sturgeon restoration in Lake Ontario and the St. Lawrence River. As part of the recovery team, the

USGS provides unbiased and consistent technical support through field assessments and high-quality fish and environmental data."

New York Power Authority Director of Environmental Operations, Jeff Gerlach said, "NYPA is excited by the success of the ongoing Lake Sturgeon Recovery Plan and looks forward to continuing our partnership with the resource agencies and stakeholders on establishing a healthy, sustainable population of Lake Sturgeon in New York."

Director of the Cornell University Biological Field Station, Lars Gosta Rudstam said, "Lake sturgeon is now part of the Oneida Lake ecosystem. These iconic fishes are reproducing in the lake and growing to impressive sizes. Last year, we were able to tag one 26 year old fish that weighed almost 160 pounds. This a wonderful development."

Saint Regis Mohawk Tribe Environment Division Program Manager, Jessica L. Jock said, "Teiokién:taron, lake sturgeon, is a revered and culturally important fish species in Mohawk and Haudenosaunee waters. We are grateful for our positive working relationship with the New York State DEC, Mohawk Council of Akwesasne, and other federal and academic partners to ensure this vibrant species continues to flourish for future generations in Akwesasne and New York State waters."

The [2021 Lake Sturgeon Population Assessment \(PDF\)](#) is available on DEC's website. For more information about lake sturgeon in New York, see [DEC's Lake Sturgeon Recovery Plan](#) ✧

A chuckle

"I notice that people who claim everything is 'predestined,' still look before they cross the road!"

NRC Proposal

Continued from page 1

below the 53 year average of 4,648 adults.

Are we just going to stand by and watch our Steelhead populations decline to a point of no return? It's not farfetched to consider the outcome of 10 more years of decline. The consequences could ultimately exceed the ability of the population to recover. There is a ***COST TO NO ACTION!*** Steelhead catch rates are declining statewide as well. Right now this state has a Steelhead catching issue. The proposed rule changes will probably not boost the overall population size, but a declining Steelhead population will not promote productive fishing. This proposal is a good start to a long overdue conversation. Catch Rates, Harvest, and Angler Satisfaction are

currently out of balance. We can't afford to wait for things to get any worse! Now is the time to have a serious discussion regarding harvest limits. What should our annual harvest look like based upon today's current steelhead population trend? We need to bring the Harvest and Catch Rates back to the middle and rebalance Angler Satisfaction.

Big Manistee River

The close proximity of the Little Manistee River to the Big Manistee River also raises parallel questions. Is there a similar population trend occurring in the Big Manistee River? What about the rest of the Lake Michigan Basin? Is this trend occurring throughout the Great Lakes Region? We believe it is! How can we continue the "Business as Usual" model? To say there isn't a biological reason to consider a regulation change

is a dangerous claim. Just because you have an inherent lack of data doesn't excuse you from responding to the problem. Changing the regs is a short term fix that will allow more time for data collection. Fully understanding the complexities surrounding the Steelhead population decline will take time. How long will "the data collection" take, 5-10 years? Can we justify waiting that long without taking action? Is it worth risking this popular fishery? Just a little food for thought.

Email NRC

We encourage everyone to [email your own letter](#) to the NRC. This is an important issue and if you enjoy fishing for steelhead you should be paying attention. Acting now may avert losing something that is more than 100 years in the making. Here is the **email for the NRC**, please send comments before November 10th. ✧

DNR sets up shop at Indy Boat, Sport and Travel Show, **Feb. 18-20, 23-27**

The DNR will have a strong presence at the Indianapolis Boat, Sport and Travel Show, **February 18-20 and 23-27**, at the Indiana State Fairgrounds. The DNR's main location is in Tackle Town, in the Blue Ribbon Pavilion. The booth is a convenient one-stop shopping opportunity for licenses, state park passes, lake-use permits, and Outdoor Indiana magazine. DNR biologists and State Parks interpretive naturalists will be on hand throughout the show to share program information and resources, as well as answer your fish and wildlife and parks questions.

State Park Inns will have a separate information booth in the Travel and Tourism area of the show. The Live Birds of Prey from Hardy Lake's Dwight Chamberlain Raptor Center will be presented February 19, from 10:30 a.m. to 4 p.m. A "Snakes Alive, Snake Buffet" from O'Bannon Woods State Park will be offered February 26, from 10 a.m. to 4 p.m. Members of the Indiana Conservation

Winter special: 2 nts for 1 at State Park Inns

It's not too late to take advantage of this offer, and winter is a great time to visit the beauty of the parks and enjoy savings at the inns. From lodge rooms to cabins, inns offer accommodations located in the most beautiful places in Indiana. Turkey Run, Abe Martin Lodge, and Potawatomi Inn offer cabins as well as lodge rooms.

Stay two nights for the price of one, Sunday–Thursday only, **through February 24, 2022**. Call/reserve at 1.877.LODGES1; <https://www.in.gov/dnr/state-parks/inns> ✧

Free Fishing Days - Presidents' Day Weekend

February 19-20 are [free fishing days](#) in New York, so it's the perfect time to introduce someone new to ice fishing. Visit DEC's [Ice Fishing webpages](#) for places to go, regulations, and more. ✧

Officers K-9 team will be available February 26, from 10 a.m. to 2 p.m. The public will have an opportunity to

Coast Guard rescues 18 from Lake Erie ice

The Coast Guard said it helped rescue 18 people from an ice floe that broke away from land near Catawba Island on Lake Erie in Ohio. The Coast Guard rescued 11 of the people, while a "Good Samaritan" who had an airboat rescued the remaining seven.

None of the people rescued required medical attention.

Rescue efforts began around 1 p.m., when a helicopter from Air Station Detroit noticed the people with ATVs trapped on an ice floe and looking for a route back to land. The helicopter lowered a rescue swimmer and began hoisting operations while an airboat from Station Marblehead was brought in for assistance.

The helicopter hoisted seven people from the ice floe, four were rescued by the airboat and the seven were rescued by the civilian with the airboat. ✧

interact with the officers and their K-9 partners. All times of the events listed are subject to change. ✧

2022 Sturgeon Spearing Water Clarity Report

Water clarity is the strongest predictor of lake sturgeon harvest success on the Winnebago System (Figure 1; Line Graph). Several factors play a role in what the water clarity looks like leading up to the sturgeon spearing season; however, the main factor is ice conditions.

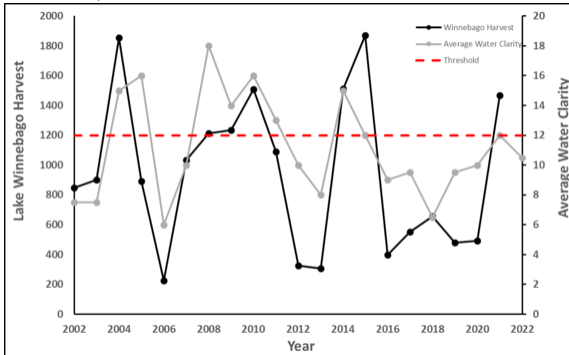


Figure 1. Lake Winnebago average water clarity (grey series; right y-axis) and total annual spear harvest (black series; left y-axis) from 2002-2022 (x-axis). Red dashed lined represents 12-foot clarity threshold.

Shifting ice, snow-covered ice, how early the lake freezes over, and thawing and refreezing events will likely determine whether spearkers hang their decoy 2 feet or 12 feet below the surface. Generally, water clarity conditions tend to be favorable in years of early ice, weak winds and enough snow cover to limit light penetration and phytoplankton growth.

The average water clarity was 10.71 feet at sites deeper than the 12-foot threshold (Table 1). Strong winds prior to freeze-up and patches of open water that held strong into January likely played a role in the decreased average clarity this season. Water appears to be a bit clearer in the northern portion of the lake with fairly uniform visibility across the entire Winnebago system. If stable weather patterns continue leading up to the sturgeon spearing season, spearkers could see improved water clarity resulting in a potentially longer Lake Winnebago season again this year.

History has shown that in years when water clarity is 12 feet or greater, harvest caps tend to be met before the entire 16-day season. Last year was anything but predictable and even though the lake-wide average water clarity was 12 feet, the season continued for the full 16 days. The last time water clarity was that good was in 2015, which is also the last time harvest caps were met before the end of the season.

During the week of Jan. 24, 2022, the DNR conducted pre-season water clarity readings. To collect readings, a tool called a secchi disk is dropped through a 10-inch ice hole to capture two depth measurements – one when the disk disappears on the way down and another when the disk reappears on the way up. Then, the measurements are averaged to achieve the most accurate reading.

In total, 14 depth readings over the 6 geographic regions of Lake Winnebago were gathered in January. Reading locations were dictated by access and safety of travel conditions (Figure 2; Map).



Figure 2. Map of Lake Winnebago with sampling locations denoted by the yellow stars. Numbers next to individual stars correspond to sampling locations and data in the table below.

Site #	Access	Clarity (ft)	Depth (ft)	Miles off shore
1	Cemetery Rd.		8	11
2	Fond du Lac BP station		9	9
3	Pipe	11	14.5	1
4	Pipe	12.5	15	2
5	Quinney	11	16.5	1
6	Quinney	11	18	2
7	Stockbridge	10	18.5	1
8	Stockbridge	9.5	18.5	2
9	Lake Park	13.5	16.5	1
10	Lake Park	13.5	17.5	2
11	Paynes Point	9.5	16	1
12	Paynes Point	11	18.5	2
13	Merritt St	9.5	15	1
14	Merritt st	11	17	2
	Average	10.71428571		

Table 1. Secchi disk clarity readings from Lake Winnebago. Each row corresponds to the clarity (feet) at the reported lake depth and specified distance off an access point. The bold value at the bottom of the clarity column denotes the average Lake Winnebago water clarity.

Water clarity readings were not conducted on the Upriver Lakes as water clarity has less of an impact on Upriver Lakes harvest numbers. Preliminary reports from fisherman and spearkers out scouting on the Upriver Lakes indicate favorable water clarity in several areas again this season. ✧

Studies reveal large-scale migration patterns of walleye in Lake Huron

Fish migration in large freshwater lacustrine systems such as the Laurentian Great Lakes is not well understood. The walleye (*Sander vitreus*) is an economically and ecologically important native fish species throughout the Great Lakes. In Lake Huron walleyes have recently undergone a population expansion as a result of recovery of the primary stock, stemming from changing food web dynamics.

During 2011 and 2012, we used acoustic telemetry to document the timing and spatial scale of walleye migration in Lake Huron and Saginaw Bay. Spawning walleye (n5199) collected from a tributary of Saginaw Bay were implanted with acoustic tags and their migrations documented using acoustic receivers (n5140) deployed throughout U.S. nearshore waters of Lake Huron.

Three migration pathways were described using multistate mark-recapture models. Models were evaluated using the Akaike Information Criterion. Fish sex did not influence migratory behavior but did affect migration rate and walleyes were detected on all acoustic receiver lines. Most (95%) tagged fish migrated downstream from the riverine tagging and release location to Saginaw Bay, and 37% of these fish emigrated from Saginaw Bay into Lake Huron. Remarkably, 8% of walleyes that emigrated from Saginaw Bay were detected at the acoustic receiver line located farthest from the release location more than 350 km away. Most (64%) walleye returned to the Saginaw River in 2012, presumably for spawning.

This project was funded by the Great Lakes Fishery Commission by way of Great Lakes Restoration Initiative appropriations, Canada Research Chairs Program (SC), and the Natural Sciences and Engineering Research Council of Canada (SC).

Introduction

Migration is a common phenomenon in terrestrial and aquatic organisms

and involves directed movements among habitats that are comparatively large relative to movements within the home range of the organism [1, 2]. In aquatic systems, migration is an important component of the life history of many fish species.

Migratory behavior is often linked to obtaining transitory resources such as food, shelter, or mates [1, 2, 3]. Fish migrations include both diadromous (between marine and freshwater) and potadromous (entirely in freshwater) modalities across a broad range of spatial and temporal scales. Despite freshwater ecosystems being among the most threatened and intensively managed systems, potadromous migrations of fish in these systems are relatively unstudied [4].

Walleye (*Sander vitreus*) is a popular sportfish and commercially valuable fish species common to freshwater systems throughout much of the eastern United States and Canada. Known migratory components of walleye life history in the Great Lakes include seasonal migrations to shallow rocky habitats, such as offshore reef complexes or rivers and post-spawning migrations to summer feeding habitats. Historically, walleye was an apex predator that inhabited near-shore waters in Lake Huron and Saginaw Bay. By the Walleye Migration in Lake Huron PLOS ONE | DOI:10.1371/journal.pone.0114833 December 15, 2014 2 / 19 mid-1900s, walleye populations in Lake Huron and Saginaw Bay declined drastically because of overfishing, predation, habitat degradation, and food-web changes resulting from establishment of invasive species.

Following collapse of walleye populations in Lake Huron and Saginaw Bay, the fish community became dominated by invasive rainbow smelt and alewife. Beginning in the 1960s, Pacific salmonids were extensively stocked to control alewife and to provide

recreational fishing opportunities. Between 1999 and 2004, alewife populations declined as predatory demand by salmonids increased owing to improved natural recruitment and from bottom-up effects from lower food web changes resulting in decreased zooplankton abundance.

As the pelagic planktivore niche declined, so did abundance of planktivores. When abundant, alewives can limit reproductive success of other species including walleye. Concomitant with declines in alewife abundance, the Lake Huron walleye population increased by roughly 300%, thereby meeting recovery targets and leading to cessation of stocking in 2006. Walleye emigrate from Saginaw Bay and were thought to be the largest source stock contributing to local fisheries in Lake Huron and possibly western Lake Erie.

With recovery of the Saginaw Bay population, implications for lakewide management of the food web in Lake Huron were greater than any time since walleye collapsed in the mid-1940s. To achieve our objectives, we characterized spatial and temporal patterns in migratory behavior of male and female walleyes from Saginaw Bay by describing migratory pathways and the proportion of fish that migrated among multiple acoustic telemetry receiver lines in U.S. waters of Lake Huron. Walleye were tracked during one year (from April 2011 to April 2012), to enable us to characterize migration to and from spawning habitats. Knowledge of walleye migrations would increase understanding about how potadromous fish use large lakes and tributaries over large spatial (entire lake) and temporal scales.

For the full article:

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0114833> ✧

Asian Carp Monitoring and Response Workgroup (MRWG)

Monthly Activities

2021 October Summary

Bottom Line: A set of safety protocols developed during the COVID pandemic to ensure safe operations and were carried over into the 2021 field season. A large number of small (<6") Grass Carp and Silver Carp have been collected in the Peoria Reach. **NO LIVE BIGHEAD CARP, BLACK CARP, GRASS CARP, or SILVER CARP were found or observed in any new locations immediately downstream or upstream of the Electric Dispersal Barrier.**

Overall Summary

Pool specific results through October 2021 from all effort within the Upper Illinois Waterway. The same time period in 2019 and 2020 for comparison. Additional effort may not be reported due to data processing and true effort and catch could be higher. Check 2021 interim summary, published at the end of the year, for complete results

Lockport Pool

	2019	2020	2021
Yards of Net Fished	50,200	42,800	81,000
Miles of Net Fished	28.5	24.3	46.0
Hoop Net Nights	163.8	156.2	164.4
Mini Fyke Net Nights	22.2	20.8	22.9
Electrofishing Runs	69	77	98
Electrofishing Time (hrs)	17.3	19.3	24.55
Dozer Trawl Runs	0	0	96
Dozer Trawl (hrs)	0.0	0.0	8.05
Total Invasive Carp (IC)	0	0	0

Brandon Road Pool

	2019	2020	2021
Yards of Net Fished	44,600	47,400	87,200
Miles of Net Fished	25.3	26.9	49.5
Hoop Net Nights	156.9	160.4	162.4
Mini Fyke Net Nights	33.1	20.6	22.6
Electrofishing Runs	61	68	84
Electrofishing Time (hrs)	15.3	17.0	21.0
Dozer Trawl Runs	0.0	0.0	92
Dozer Trawl (hrs)	0	0	7.63
Total Invasive Carp (IC)	0	0	0

Dresden Island Pool (Including Rock Run Rookery)

	2019	2020	2021
Yards of Net Fished	146,850	101,200	181,100
Miles of Net Fished	83.4	57.5	102.9
Hoop Net Nights	96.2	162.4	162.5
Mini Fyke Net Nights	66.2	68.1	121.9
Pound net night	0	0	3
Electrofishing Runs	73	87	344
Electrofishing Time (hrs)	18.3	21.8	30.3
Dozer Trawl Runs	0	0	143.0
Dozer Trawl (hrs)	0.0	0.0	11.9
Bighead Carp	42	22	33
Grass Carp	8	3	5

Silver Carp	263	140	138
Total IC	313	165	176
Invasive Carp from Rock Run Rookery L.	46	21	28
IC upstream I-55 (not in RR)	8	2	6
IC downstream I-55	259	142	142
Tons of IC Harvested	2.6	1.2	1.3

Marseilles Pool

	2019	2020	2021
Yards of Net Fished	189,810	185,470	170,750
Miles of Nets Fished	107.8	105.4	97.0
Pound Net nights	26	0	0
Hoop Net nights	153.6	157.9	168
Mini Fyke Net Nights	65.1	68.2	69.0
Electrofishing Runs	93	93	93
Electrofishing Time (hrs)	23.3	23.3	23.3
Bighead Carp	973	1,342	1,973
Grass Carp	43	31	45
Silver Carp	35,339	31,366	20,217
Total Invasive Carp	36,355	32,739	22,235
Tons of IC Harvested	201.9	174.7	135.6

Starved Rock Pool

	2019	2020	2021
Yards of Net Fished	332,495	218,980	235,650
Miles of Nets Fished	188.9	124.4	133.9
Pound Net nights	0	0	0
Hoop Net nights	158.1	168.7	168.0
Mini Fyke Net Nights	61.7	68.6	72.0
Electrofishing Runs	106	105	96
Electrofishing Time (hrs)	26.5	26.3	24.0
Dozer Trawl Runs			22
Dozer Trawl (hrs)			1.83
Bighead Carp	2,077	2,158	701
Grass Carp	2,595	795	682
Silver Carp	138,596	88,904	95,422
Total Invasive Carp	143,268	91,857	96,805
Tons of IC Harvested	468.8	267.3	266.4

Contracted Fishing Below the Electric Dispersal Barrier

- Contracted fishing took place in Lockport, Brandon Road, Dresden Island, and Marseilles Pools of the Illinois River Waterway in October
- Contracted fishers set and pulled 91,600 yards of gill/trammel net
- 4,809 fish representing 19 species were captured during contracted commercial netting
- **39 Bighead Carp, 9 Grass Carp, and 3,620 Silver Carp were removed**
- **106,373 pounds of Bighead, Grass and Silver Carp were removed**

Below is a summary of all Illinois DNR contracted fishing activities through October 2021. For comparison purposes, data from the same time period in 2019 and 2020 are included.

	2019	2020	2021
# of Days Fished	139	95	109
# of Net Crew Days	609	509	582
Yards of Net Fished	763,955	595,850	755,700
Miles of Nets Fished	434.1	338.6	429.4
# of Pound Net Nights	28	0	3
# of Hoop Net Nights	0.0	0	0.0
# of Bighead Carp	3,087	3,522	2,706
# of Grass Carp	2,623	803	719
# of Silver Carp	173,325	119,862	115,329
# of Carp	179,035	124,187	118,754
Tons of IC Harvested	699.1	443.2	403.2
AC/1000 yds of gill net	233.8	208.4	132.1

Seasonal Intensive Monitoring

The Fall Seasonal Intensive Monitoring (SIM) event took place during the weeks of October 4th and October 11th. Contracted fishers, IDNR, INHS, USACE, and USFWS collaboratively sampled the North Shore Channel, North and South Branches of the Chicago River, Chicago River, Chicago Sanitary and Ship Canal, Cal-Sag Channel, Little Calumet River, Calumet River, and Lake Calumet within the Chicago Area Waterway (Fig 1).

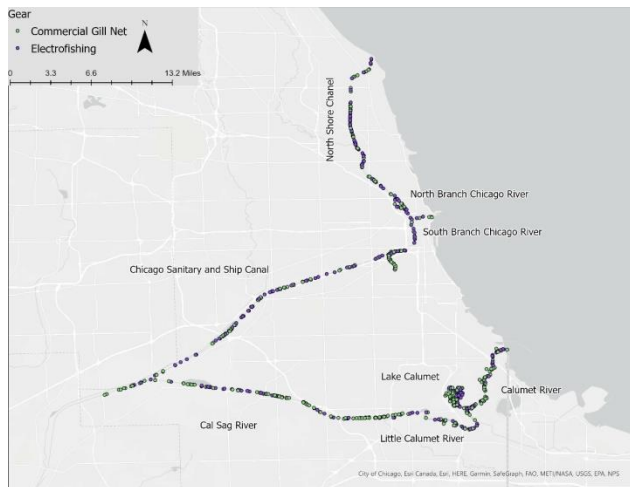


Fig 1. Sample locations throughout the Chicago Area Waterway during the Fall 2021 Seasonal Intensive Monitoring.

Overall:

- 764 samples were collected with gill nets and electrofishing
- A total of 13,031 fish representing 44 species and 4 hybrid groups were cumulatively collected with all gear types during the two week event
- **No Bighead Carp or Silver Carp were observed or collected during the event**
 - One Grass Carp was captured in the Cal Sag River (41.6777 -87.79615)

Paired netting and electrofishing:

- Contract fishers and agency biologist completed 70 paired sets
 - 309 minutes of electrofishing and pulling 14,000 yards of gill net were executed
- Crews collected 212 fish representing 8 species

Commercial Netting:

- Contract fishers along with assisting IDNR biologists set 43 miles of gill net (382 sets)
- Crews collected 447 fish representing 10 species and 1 hybrid group

Electrofishing:

- USACE and USFWS completed 78 hours of distributed across 312 transects
- Crews collected 12,584 fish representing 41 species and 3 hybrid groups

Unified Fishing Method (UFM) – Dresden Island Pool

During the week of October 18th, 2021, a Unified Fishing Method event was completed in Dresden Island Pool. IDNR, INHS, USFWS, and contracted fishing crews sampled the entire navigation pool from Brandon Road Lock and Dam tail waters to the approach channel downstream of the Dresden Island Lock and Dam. Sampling area also included Rock Run Rookery Lake and the downstream end of the Kankakee River. Crews used fish driving methods (e.g., electrofishing, revving motors), in conjunction with commercial netting to capture and remove Invasive Carp. Below is a summary of effort and catch during the UFM.

Commercial Netting:

- Contracted commercial fishers set 25 miles of gill/trammel net
- Crews collected 497 individual fish representing 15 species
- **One Silver Carp was collected upstream of I-55 (41.47431, -88.14646; excluding Rock Run Rookery)**
- **15 Bighead Carp, 2 Grass Carp, and 51 Silver Carp were collected below I-55**
- **No Bighead Carp or Grass Carp but 1 Silver Carp was collected in Rock Run Rookery**

Electrofishing:

- IDNR, INHS, and USFWS completed 6.5 hours of electrofishing while driving gill/trammel nets
- Crews collected 464 individual fish representing 21 species
- **0 Bighead Carp, 0 Grass Carp and 5 Silver Carp were netted during electrofishing**

Otoliths and fin clips of all captured Bighead Carp and all but one captured Silver Carp were collected by USFWS to assist the modeling workgroup and the Whitney Genetics Lab. Size structure was typical of individuals captured in Dresden Island previously (Fig 2).

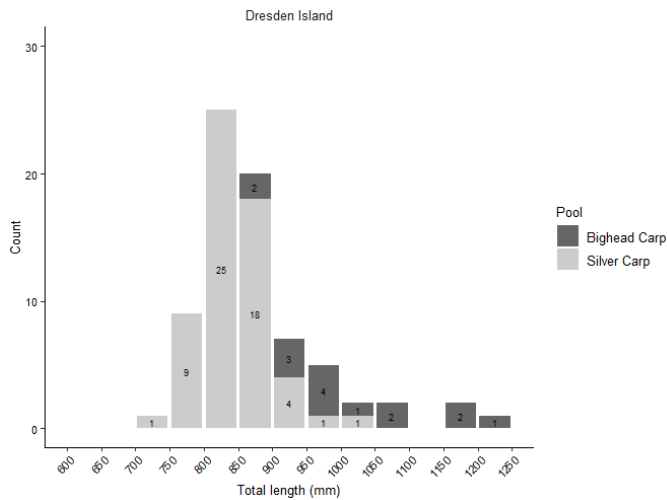


Figure 2. Length distribution across 50 mm length bins of Silver Carp and Bighead Carp captured during the Dresden UFM. (Data provided by USFWS)

Multiple Agency Monitoring

- Lockport, Brandon, Dresden, Marseilles, Starved Rock, and Peoria pools of the Illinois River Waterway were monitored by the IDNR, INHS, and USACE.
- All assigned samples were collaboratively collected within each pool by each gear type during each period (Table 1).
- 7,587 Bighead Carp, Grass Carp, and Silver Carp were detected (Table 2)
 - 6,697 small (≤ 6 inches)
 - 880 large (> 6 inches)
- Furthest upriver large Bighead Carp, Grass Carp, or Silver Carp were detected was in Rock Run Rookery
 - River mile 282 (41.46715, -88.16922)
- Furthest upriver small Bighead Carp, Grass Carp, or Silver Carp were detected was in Peoria Pool
 - River mile 210 (41.2924, -89.3435)
- Quantitative assessment of relative abundance trends, condition, and size structure since 2019 will occur

Table 1. Number of samples collected by gear type and pool during the second monitoring period.

Gear	Lockport	Brandon	Dresden	Marseilles	Starved	Peoria
Electrofishing	45	36	72	93	105	135
Large Hoop	42	42	42	42	42	42
Small Hoop	42	42	42	42	42	42
Fyke Net	0	0	15	15	15	30
Minnow Fyke	24	24	72	72	72	72

Table 2. Bighead, Grass, and Silver Carp captured within the Illinois River Waterway in 2021 by pool and gear type.

Pool	Gear	Small AC (<6")			Large AC (>6")		
		SVCP	BHCP	GSCP	SVCP	BHCP	GSCP
Lockport	Electrofishing	0	0	0	0	0	0
Lockport	Minnow Fyke	0	0	0	0	0	0
Lockport	Fyke net	—	—	—	—	—	—
Lockport	Hoop net	0	0	0	0	0	0
Brandon	Electrofishing	0	0	0	0	0	0
Brandon	Minnow Fyke	0	0	0	0	0	0
Brandon	Fyke net	—	—	—	—	—	—
Brandon	Hoop net	0	0	0	0	0	0
Dresden	Electrofishing	0	0	0	2	0	0
Dresden	Minnow Fyke	0	0	0	0	0	0
Dresden	Fyke net	0	0	0	0	0	0
Dresden	Hoop net	0	0	0	0	0	0
Marseilles	Electrofishing	0	0	0	24	0	1
Marseilles	Minnow Fyke	0	0	0	0	0	0
Marseilles	Fyke net	0	0	0	0	0	0
Marseilles	Hoop net	0	0	0	0	0	0
Starved Rock	Electrofishing	0	0	0	421	0	12
Starved Rock	Minnow Fyke	0	0	0	0	0	0
Starved Rock	Fyke net	—	—	—	—	—	—
Starved Rock	Hoop net	0	0	0	4	1	8
Peoria	Electrofishing	559	0	51	382	0	21
Peoria	Minnow Fyke	6017	0	70	1	0	0

Peoria	Fyke net	0	0	0	2	3	2
Peoria	Hoop net	0	0	0	1	0	5
Total		6576	0	121	837	4	49

USACE

Traditional Monitoring – During the month of October, USACE biologists conducted twenty 15-minute electrofishing runs downstream of the barrier. Six sites were in Lockport Pool and eleven sites were in Brandon Road Pool. Within the Lockport Pool, 300 individuals were captured across 11 species. The five most abundant species captured were gizzard shad over 6 inches (42.3%), emerald shiner (29.3%), gizzard shad under 6 inches (20.0%), bluntnose minnow (4.0%), and threadfin shad (1.00%). Within the Brandon Road Pool, 203 individuals were captured across 20 species. The five most abundant species found were smallmouth bass (38.4%), emerald shiner (22.2%), gizzard shad over 6 inches (13.3%), common carp (4.93%), and gizzard shad under 6 inches (4.43%). No invasive carp were captured or observed during the month of October.

Enhanced Contract Fishing

In September 2019, the Enhanced Contract Fishing Program was initiated in the Peoria Pool. The program offers Illinois-licensed commercial fishermen \$.10 per pound for invasive carp caught in the Peoria Pool and sold to fish processors or other buyers for at least \$.07 per pound. To date, 30 fishermen have entered into contracts to catch invasive carp from this pool. From inception through the remainder of calendar year 2019, 518,132 pounds of invasive carp were caught in the Peoria Pool, throughout the year 2020 a total of 2,882,725 pound were caught, and to date in 2021 an additional 2,687,228 pounds have been caught for a total of 6,088,085 pounds. Of these total catches, 6.30% are Bighead, 73.62% are Silver and 20.08% are Grass carp. **No Black carp have been reported.**

Table 3. Table of Enhanced Contract Fishing – Peoria Pool from inception, Sept '19-Oct '21. By receipt date, not catch date

YEAR	Total Lbs.**	Bighead	Silver	Grass
2019	518,132	24,813	310,297	183,022
2020	2,882,725	176,195	1,978,501	728,029
2021 (Jan-Oct)	2,687,228	169,296	1,978,407	539,525
TOTALS	6,088,085	370,304	4,267,205	1,450,576

** No Black carp reported

Monitoring of Invasive carp Reproductive Productivity

INHS completed ichthyoplankton sampling for 2021 during the week of October 4. Sampling was conducted at 7 main channel sites located from the Brandon Road to LaGrange navigation pools. A minimum of four larval fish samples were collected at each site. Additional samples were collected in Illinois River tributaries to evaluate the potential for invasive carp spawning in these rivers. Illinois Waterway water levels were low and stable during early October, and temperatures

declined below the level thought to be conducive to invasive carp spawning by the middle of the month. Samples collected in October were not found to contain any invasive carp eggs or larvae.

Zooplankton as Dynamic Assessment Targets for Invasive carp Removal

INHS completed zooplankton sampling for 2021 during the month of September. Activities conducted during October included processing of zooplankton and water chemistry samples. The collected data will be combined with historical and recent data on Illinois Waterway zooplankton communities to inform management agencies of the ecosystem responses to invasive carp removals and develop dynamic targets for diminishing the ecological impacts of invasive carps.

Monitoring Bigheaded Carp Movement and Density in the Illinois River

SIU conducted mobile hydroacoustic sampling throughout Starved Rock, Peoria, LaGrange, and Alton pools as part of long-term fall standardized sampling. Physical capture data were collected in Starved Rock, Marseilles, and Dresden Island pools to inform hydroacoustic data analysis. Acoustic telemetry tags (~40 transmitters) were also implanted into bigheaded carp in Alton Pool.

Hydroacoustic Fish Surveys at the Electric Fish Dispersal Barrier System, Romeoville, IL

The USFWS conducted one mobile hydroacoustic fish survey this month at the Electric Dispersal Barrier System (EDBS) on October 18, 2021. The survey was conducted to monitor for the presence and distribution of fishes greater than 12" (30.5 cm) total length in the vicinity of the EDDBS to aide in assessing the risk of large fish—and potentially Bighead or Silver Carp—passing through the EDDBS during barrier operational changes and/or maintenance. However, it is important to note that hydroacoustic technology does not distinguish or identify fish species, and therefore fish detected should not be assumed to be a particular species. Hydroacoustic surveys consisted of three replicate passes along an upstream and downstream transect with paired, side-facing 200-kHz transducers. Each replicate covered the area between Hanson Material Services Corporation (HMSC) docking slip, approximately 1.3 km below the Romeo Road Bridge, to the upstream side of the Demonstration Barrier (0.6 km above Romeo Road Bridge). For reporting purposes, Romeo Road Bridge is treated as the dividing line between the areas referred to as “within the EDDBS” and “downstream of the EDDBS”. Results are reported as a sum of all fish tracks detected across replicate surveys; therefore, some may represent the same fish.

Preliminary Results:

Oct 18, 2021:

Zero large fish tracks ≥ -28.7 dB (12 inches TL) were detected within the EDBS. Two large fish tracks ≥ -28.7 dB were detected downstream of the EDBS, one approaching the EDBS detected during Replicate Survey #1 and one farther downstream near the HMSC docking slip detected during Replicate Survey #3. These results show lower abundance of large fish targets within and approaching the EDBS than previous barrier scans in August and September

Hydroacoustic Fish Surveys of the upper Illinois Waterway: Dresden Island, Brandon Road, and Lockport Pools

The U.S. Fish and Wildlife Service conducted mobile hydroacoustic fish surveys in Brandon Road and Lockport pools from October 20-21, 2021. These pool surveys were designed to monitor for the abundance of large fishes—potentially Bighead or Silver Carp—with target strength (TS) greater than -28.7 dB (theoretical side-aspect TS of a 12" (30.5 cm) total length fish) within the upper Illinois Waterway. The hydroacoustic survey in Lockport Pool covered the area between the Hanson Material Services Corporation docking slip and Lockport Lock & Dam (6.5 km). The hydroacoustic survey in Brandon Road Pool covered the area between Lockport Lock & Dam and Brandon Road Lock & Dam (7.2 km). A hydroacoustic survey was not conducted by USFWS in Dresden Island Pool this month to avoid duplication of effort (Southern Illinois University completed hydroacoustic survey in October in Dresden). In all pools, surveys were conducted with paired 200-kHz, side-facing transducers and consisted of one continuous transect along each shoreline with the boat following the contour of the main channel edge and the transducers pointed outwards towards the main channel.

Preliminary Results:**Lockport Pool:**

One (1) fish track corresponding to a fish > 12 " was detected in Lockport Pool in 1,312,472 m³ of water on October 20,

Invasive Bigheaded Carp Early Detection Monitoring Surveys in the Upper Illinois Waterway: Lockport, Brandon Road, and Dresden Island Pools, and the Lower Kankakee River

USFWS conducted fisheries surveys to find invasive carp (Bighead Carp, *Hypophthalmichthys nobilis*; Silver Carp, *H. molitrix*; Black Carp, *Mylopharyngodon piceus*; Grass Carp, *Ctenopharyngodon idella*) in novel areas of the upper Illinois Waterway (IWW) below the Romeoville, IL Electric Dispersal Barrier System (EDBS). The Lockport Pool surveys were completed on 29 October 2021 and covered the area between the EDBS and Lockport Lock and Dam; ~ 5 river miles. The Brandon Road Pool surveys were completed on 25 October 2021 and covered the area between Lockport Lock and Dam and Brandon Road Lock and Dam; ~ 4.25 river

miles. Target strength (TS) of the fish track was -26.5 dB, and it was located within the downstream half of the pool (Figure 4A).

Brandon Road Pool:

Four (4) fish tracks corresponding to fish > 12 " were detected in Brandon Road Pool in 756,187 m³ of water on October 21, 2021. Mean TS of fish tracks was -25.6 dB (SE = 1.18). Three of the four fish tracks detected were located towards the downstream end of the pool (Figure 4B).

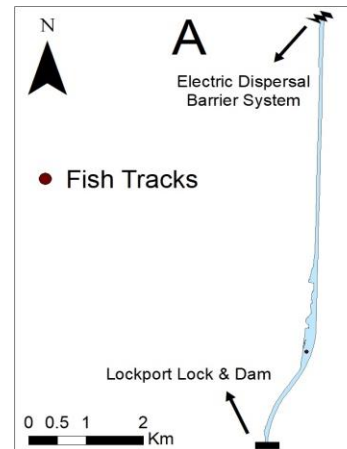
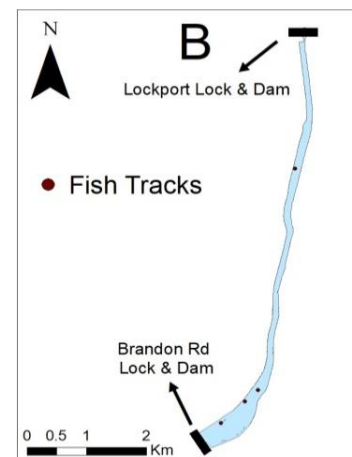


Fig 4: Locations of fish tracks detected from hydroacoustic surveys in Lockport (A) and Brandon Road (B) pools of the Upper Illinois Waterway during October 2021.



miles. EDM did not sample Dresden Island Pool nor the lower Kankakee River in October 2021 because USFWS allocated two three-person electrofishing crews for two weeks of Seasonal Intensive Monitoring and one three-person crew for two weeks of aging structure collection from Dresden Island Unified Method and Marseilles contracted commercial fishing. Where possible, EDM surveys consisted of traditional boat electrofishing, electrified dozer trawling, and mini-fyke net sets in a combination of main-channel border, side-channel, and backwater habitats. Electrofishing was performed in 15-minute sampling periods consisting of repeated passes perpendicular to and toward shore, with two crewmates collecting fishes with a handheld dip net. Dozer trawling was conducted in 5-minute sampling periods consisting of s-shaped passes parallel to shore, and with fishes

collected by a net supported by a rigid frame at the boat's bow. Wisconsin-type mini-fyke nets with 24' leads and 1/8" mesh were staked against the shoreline, stretched perpendicular to shore, and fished overnight.

Highlighted Results:

- No small-bodied (< 153 mm total length; TL) invasive carp were captured by EDM in October 2021.
- No large-bodied (\geq 153 mm TL) invasive carp were captured by EDM in October 2021.

Table 4. Summary of USFWS invasive carp early detection monitoring preliminary results from October 2021.

"Location" is the section of IWW sampled. "Electrofishing effort" reports completed hours of two-person traditional boat electrofishing and n_e is the number of surveys completed. "Dozer effort" reports completed hours of electrified dozer trawling and n_d is the number of surveys completed. "Mini-fyke effort" reports the number of overnight net sets completed and n_n is net nights. "Small carp captured" is the number of invasive carp with total length (TL) < 153 mm captured. "Large carp captured" reports the number of invasive carp with total length \geq 153 mm captured. "Total catch (N)" reports the total number (N) of individual fishes (all species) captured. "Species richness" reports the count of species captured. "Most abundant species" reports the common name of the fish species that was the largest proportion of total fish captured (N) and n_i is the number of individuals of that species captured.

Location	Electrofishing effort (h; n_e)	Dozer effort (h; n_d)	Mini-fyke effort (n_n)	Small carp captured	Large carp captured	Species richness	Total catch (N)	Most abundant species
Lockport	2.25h; $n_e=9$	0.75h; $n_d=9$	$n_n=0$	0	0	9	466	Gizzard shad, $n_i=231$
Brandon Road	2h; $n_e=8$	0.83h; $n_d=10$	$n_n=0$	0	0	14	1526	Threadfin shad, $n_i=851$
Dresden Island	0h; $n_e=0$	0h; $n_d=0$	$n_n=0$	0	0	0	0	NA
Kankakee	0h; $n_e=0$	0h; $n_d=0$	$n_n=0$	0	0	0	0	NA

Invasive Carp Demographics

In October 2021, the U.S. Fish and Wildlife Service – Columbia Fish and Wildlife Conservation Office continued the fourth year of a fisheries-independent, standardized protocol to collect Invasive carp biological data for purposes of monitoring and population assessment. Data collections include Silver Carp length and sex structure, maturity status, and relative abundance during spring and fall in six pools of the Illinois River: Alton, LaGrange, Peoria, Starved Rock,

Marseilles, and Dresden Island. During the weeks of October 4th, 11th, and 18th, electrified dozer trawl crews deployed to the Alton, LaGrange, Peoria, and Starved Rock pools. A total of 1,079 Silver Carp were captured in in these four pools, and sizes ranged from 68mm-815mm in the pools sampled in October (Table 5). Sex and maturity were evaluated on all Silver Carp captured and lapilli otolith age structures were collected from 48 Silver Carp. Age and growth data are pending laboratory ageing.

Table 5. Sampling effort and preliminary results, October 2021.

Pool	Total Silver Carp Captured	Sample Size (# of 5 min trawls)	Mean CPUE (Silver Carp / 5 min trawl)	Standard Error	Silver Carp Size Range (mm)
Alton	115	20	8.2771	0.872286	102-750
LaGrange	403	24	16.64876	2.707201	68-710
Peoria	388	21	14.20356	2.46789	110-815
Starved Rock	173	22	6.964257	0.932998	130-745

Des Plaines River and Overflow Monitoring

A crew from the Wilmington FWS office sampled the Des Plaines River upstream of the Illinois River confluence October 26-28, 2021. Sampling was conducted between East Romeo Road and IL Route 83. Effort included a total of 15 electrofishing runs (225 minutes electrofishing time) and 2 gill net sets (200 m). A total of 1111 fish were collected, representing 27 species and 3 hybrid groups. No Silver or Bighead carp were captured.

Barrier Operational and Maintenance Status

In the month of October, barrier IIB was off for cooling system upgrades and periodic outages were experienced at the

other barriers, but at no time was there not at least one barrier providing power to the water.

When barriers were operational, they were operating at the following parameters

IIA – Narrow (34 Hz, 2.3 ms, 1800 V = 1.7 V/in) & wide (34 Hz, 2.3 ms, 800 V = ~1.0 V/in) arrays operational

IIB – Not operational, cooling system upgrade

Barrier 1 Demo (ID) – Full water (5 Hz, 4 ms, 400 V = 1.0 V/in) & benthic (5 Hz, 4 ms, 100V) operational

Barrier 1 North (1N) – Operational (34 Hz, 2.3 ms, 1700 V = 2.3 V/in)

October 1 – Barrier 1N experienced an outage between 09:03 and 09:11 and between 11:01 and 11:16. Barriers 1D and 2A were operational during both of these outages.

October 4 – Barrier 1N experienced an outage between 04:53 and 05:32 and a planned outage between 09:45 and 12:22 to conduct equipment testing. Six additional intermittent outages occurred between 18:15 and 22:58. These six outages lasted between one and seven minutes in duration. Barriers 1D and 2A were operational at the time of these outages.

October 5 – Barrier 1N experienced a series of outages between 10:08 and 10:11, between 11:42 and 11:44, between 14:45 and 14:47, between 22:41 and 22:43, and between 22:54 and 23:00. During these outages, barriers 1D and 2A were operational.

October 6 – Barrier 1N experienced a series of outages between 01:56 and 01:58, between 07:35 and 07:37, between 10:37 and 10:45, between 13:59 and 14:04, between 14:08 and 14:14, between 16:30 and 16:34, between 22:21 and 22:23, and between 22:40 and 22:50. During these outages, barriers 1D and 2A were operational.

October 7 – Barrier 1N experienced a series of outages between 06:44 and 06:46 and between 09:52 and 09:54. During these outages, barriers 1D and 2A were operational.

October 8 – Barrier 1N experienced two outages, one between 01:17 and 01:18 and the other between 09:03 and 09:05. During this outage, barriers 1D and 2A were operational.

October 11 – Barrier 1N experienced an outage between 23:18 and 23:20. During this outage barriers 1D and 2A were operational.

October 13 – Barrier 1N had a scheduled shutdown to complete maintenance activities between 07:00 and 14:32. During the outage, barriers 1D and 2A were operational.

October 14 – Barrier 1N experienced an outage between 04:42 and 04:44. During this outage barriers 1N and 2A were operational.

October 19 – Barrier 1N had experienced an outage between 00:38 and 00:47. Additionally, a scheduled shutdown to complete maintenance activities between 09:03 and 14:42. During the outage, barriers, 1D and 2A were operational.

October 21 – Barrier 1N had a scheduled shutdown to complete maintenance activities between 11:24 and 12:07. During the outage, barriers, 1D and 2A were operational.

Alternate Pathway Surveillance in Illinois - Law

Enforcement

ISU interviewed fish farm owners in Alabama and Mississippi and confirmed the approximately the 2600 pounds of channel catfish illegally imported and stocked into Illinois waters by an Indiana fish hauler were not tested for VHS disease. ISU identified the New York wholesale aquatic life dealer who had illegally sold and shipped live Asian swamp eels to an Illinois Chicago food market. ISU attended the Great Lakes Fishery Commission Law Enforcement Committee Fall meeting and gave a presentation summarizing the results of the crayfish outreach / enforcement initiative. ISU also provided a presentation on life/cultural release investigations. ISU assisted Washington State Fish & Wildlife, Department of Fisheries and Oceans Canada, and the United States Fish and Wildlife Service with aquatic invasive species investigations. ✧

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The commercial fishing quota for lake whitefish in southern Green Bay will increase by 57%, according to a final rule approved Wednesday by the Natural Resources Board

[‘Old fish did great’: Study finds some lake trout get older without aging](#)

Research in a set of unique Canadian lakes is backing up a strange consequence of evolutionary theory often predicted but never shown. Given the right circumstances, fish get decades old but they don’t age

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Recently released Ohio Department of Natural Resources yellow perch hatch results indicate more of the same: overall mediocrity, leaning toward the not-so-good side.

[Army Corps puts \\$479M in aid toward construction of new Soo Lock](#)

The U.S. Army Corps of Engineers will put \$479 million over five years toward construction of the long-delayed new Soo Lock as part of the funding it is receiving from the bipartisan infrastructure package

End