



Lake Trout survival release study in Lakes Superior and Huron

A critical component of fisheries management is understanding what happens to fish when they are caught and released. Most recently the Michigan DNR has been looking specifically at what happens to lake trout after they are caught through a mortality assessment survey.

To ensure accurate data is being collected on fish being lost from angling, mortality estimates must include both fish harvested and fish that are released and then die as a result of fishing. The DNR's Fisheries Division gathers this data through its creel clerk program. Creel clerks, stationed at Great Lakes ports throughout Michigan, measure lake trout that have been caught and released. The data are used in fish population models used to estimate harvest quotas for recreational and commercial fisheries.

"Underestimating mortality of angler-released fish will result in

unreliable harvest quotas that are not protective of this important sport species," said DNR fisheries research biologist Shawn Sitar. "Therefore, reliable estimates of the mortality of released fish are critical to the DNR's management of lake trout."

Unfortunately, there was little known about the mortality of angler-released Great Lakes lake trout. A few studies have been done for inland lake trout populations but only one study had been done on the mortality of angler-released Great Lakes lake trout.

"That study, done by Andrew Loftus in 1988, indicated hooking mortality averaged 14.9% with a statistical range from 7.4-25.7%," explained Sitar. "But the study had some serious limitations including: 1) low sample sizes of only 67 fish over a two-year period; 2) no lake trout were captured from waters greater than 150 feet and only eight fish were

caught and released from about 145 feet; and 3) little information on factors affecting hooking mortality for released fish."

A large amount of Great Lakes lake trout are caught at depths greater than 150 feet, particularly in Lake Superior — yet this 1988 study didn't necessarily factor in what barotrauma does to those fish. Barotrauma refers to injuries caused by an increase in water pressure — like being moved through a water column quickly while being reeled in on a hook.

Given the importance of high quality estimates of the mortality of angler-released lake trout from the Great Lakes and the lack of study data on barotrauma, a recent DNR study was conducted to estimate the mortality rate of angler-released lake trout in Michigan waters of lakes Superior and Huron. The study also

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New Canadian Law for U.S. Boaters/Anglers Crossing Canada Border

A new Canadian law has been put in place to ensure that Canada treats U.S. boaters the same way America treats Canadian boaters. The new law states that American boaters who don't anchor their boat or step foot on Canadian soil don't have to report to Canadian Customs, New York Upstate reports.

This legislation stems from an incident back in 2011 when Roy Andersen, then-22 years old, was fishing in the Gananoque Narrows on the Canadian side of the St. Lawrence River when [Canada Border Service](#) agents suddenly surrounded Andersen's boat and seized it.

Apparently, Andersen and his friend didn't report to a Canada port of entry upon entering Canadian waters, and it almost cost them big time.

Canadian officials reportedly told the boater he'd have to immediately pay a \$1,000 fine or he'd be arrested and his boat would be towed to Canada, where he'd have to pay \$25,000 in additional fines. Luckily for Andersen, once lawmakers got involved, his penalties were reduced to just \$1. To review the reporting requirements for boats in the U.S. and Canada, refer to [The Great Lakes Cruising Club](#). ✧

Sportfishing industry supports legislation to conserve Great Lakes fisheries

Bills will support science and management to support the region's fisheries

Alexandria, VA –The sportfishing industry offered its full support for two bills introduced by U.S. Senators Debbie Stabenow (D-Mich.), Gary Peters (D-Mich.) and Sherrod Brown (D-Ohio) to manage and conserve the Great Lakes' fisheries. Recreational fishing in the Great Lakes helps support a \$7 billion economy and 75,000 jobs.

The *Great Lakes Aquatic Connectivity and Infrastructure Program Act* (S. 1332) will improve Great Lakes fisheries and encourage habitat restoration by repairing and replacing aging dams, culverts, and roads. There are thousands of these structures across the Great Lakes Basin that currently inhibit the movement of fish populations. Great Lakes states and tribal governments will be able to recommend grant projects to the U.S. Fish and Wildlife Service to either expand fish access to waterways or prevent the spread of invasive species.

The *Great Lakes Mass Marking Program Act* (S. 1331) will make scientific technology available to track and monitor the health of fisheries in the Great Lakes. It will be used to make decisions to support and rehabilitate sport fish populations in the basin. This program was initiated in the Great Lakes on a limited scale in 2010, and will be fully established in statute under this legislation.

► <https://www.congress.gov/bill/115th-congress/senate-bill/1331>
S.1331 - A bill to establish the Great Lakes Mass Marking Program, and for other purposes.

► <https://www.congress.gov/bill/115th-congress/senate-bill/1332>
S.1332 - A bill to establish the Great Lakes Aquatic Connectivity and Infrastructure Program, and for other purposes. ✧

Illinois' Asian Carp population half what it was a decade ago

Wildlife managers in the state say what they really need is a good carp fish sandwich to clear out the invasive fish from Illinois' rivers. In the upper Illinois River, Asian carp are becoming harder and harder to find. Kevin Irons with the Illinois DNR said that's because the state has paid fishermen to catch as many carp as they can, and it's worked.

"The population today is 50%, or maybe as much as 25% of what it was," Irons said. "A reduction of probably an average 68% what it was." Irons said if people would start eating Asian carp, the demand would lower their numbers even more. Some people do eat it, though. Critics say it's too boney, but Irons says if it's prepared properly, it's as good as most fish. "Carp is a four-letter word, and people get really worked up about eating a carp," Irons said. "But if you like fish, this is as good as a bluegill or a crappie." ✧

New Ohio Chief of the Division of Wildlife

Ohio DNR Director Jim Zehringer announced a change in his leadership team appointing Mike Miller to the position of Chief of the Division of Wildlife. Miller replaces Ray Petering whom the Director thanked for his efforts.

Miller has served Ohioans as an employee of ODNR for more than 28 years. A vast majority of his career at ODNR, nearly 20 years, has been spent as a commissioned Wildlife Officer and Supervisor working with Ohio's hunters, trappers and anglers in the field. In addition, Miller has experience working in wildlife management and fisheries programs.

Prior to taking on his most recent role as ODNR's Boating Law Administrator, he served as the chief of the ODNR Division of Watercraft.

Miller and his wife Paula reside in Knox County where they have spent ten years as foster parents caring for nine children. They have three children of their own Jonathan, Ping and Jaz. ✧



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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.

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Black Asian carp caught near Peoria renews concerns of invasive species

The Illinois DNR is monitoring the recent discovery of black carp near Peoria, approximately 100 miles upstream from where the species has been found before.

Black carp, one of four species of Asian carp, has a low population in Illinois compared with the massive number of the invasive silver and bighead carp. A few black carp have been found near Grafton, but IL DNR Fish Chief Dan Stephenson said the recent finding was in a new area. "This is the first time we found one upstream," Stephenson said. "One was found south of Peoria, and it was by a commercial fisherman who turned it in."

Fifty-seven black carp have been found in the state since the IDNR began tracking the species. The state utilizes commercial fishermen to help track the black carp population and movement. IDNR will pay \$100 per

"We're in our third year of that verified black carp caught in Illinois. [program], and generally it's directed to the commercial fishermen because black carp don't bite on hook and line, so the odds of sports fishermen actually catching one are very rare," Stephenson said.

Stephenson said he received several messages from residents claiming to have caught black carp and wanting to cash in on the bounty, but they turned out to be one of the other species of carp or a different native fish. The public can learn what the black carp looks like by going to the IDNR website.

"The black carp looks the most like the grass carp, but it is a darker black color," Stephenson said. "There's some difference in the mouth parts, too, and some other differences." Unlike the silver and bighead Asian carp, which feed on

plankton, the black carp eats mussels and snails.

"In Illinois, we have a lot of different endangered and threatened species of mussels," Stephenson said. "So, we fear if their numbers build up like some of the other species, they can do real damage to our mussel beds in the various river systems."

Stephenson said the main management tactic right now is tracking and monitoring the black carp. The state is ramping up efforts to keep all species of Asian carp away from reaching Lake Michigan by building a new electric fence in addition to three existing fences. He also said another main way of managing the entire Asian carp population problem is by finding uses for the fish and creating markets in areas like the pet food industry and liquid fertilizer. ✧

It's time to stop zebra mussels

You may have been hearing a lot about Aquatic Invasive Species and the devastation they cause to our lakes through infestation of Eurasian Watermilfoil, Spiny Waterflea, Starry Stonewort and Zebra Mussels, just to name a few. It is important to understand that any action suggested by governmental agencies to contain and stop the transmission from infested lakes to clean lakes has been less than effective. Infectious diseases may be quarantined in people, but there is nothing to stop the spread of disease (aquatic invasive species) in our beloved lakes.

Early detection of zebra mussels is imperative for treating any infected area of water. Private property owners with or without boat launching capabilities are encouraged to install a simple device called Zebra Mussel Early Warning System or ZMEWS for short. It hangs from a dock with a chain or rope. Veligers (baby zebra mussels) attach themselves to a simple PVC pipe and periodic checks

can reveal early infections so treatment can be started. While you can't see veligers, once they attach to a ZMEWS the surface of the pipe will feel rough, like fine sand paper. Zebra mussels prefer the inside of the pipe. Contacting the DNR to determine a course of action is the next step in identifying if the roughness is caused by zebra mussels.

The ZMEWS is simply a 4 inch or larger high pressure PVC pipe strung with a rope or chain that hangs from a dock. The pipe should be placed about one foot from the bottom of the lake and be checked monthly. Build one and hang from your dock — it's simple to do and can be an effective tool for early detection. You can also contact your lake association for more information on installing one on your dock.

Baby zebra mussels are called veligers. They are only 100 micrometers long (0.1mm) in diameter with a tiny shell and a curved sheet of skin covered with tiny hairs that beat in the water helping

them swim and draw algae in for them to eat. Veliger larvae can be transported in the "residual water" remaining inside boat compartments when trailered boats are moved between waterways or even in stowing bait. Zebra mussels will attach to any hard service including vegetation and surfaces on recreational boats, trailers, docks and lifts eventually encrusting boat motors and hulls. Zebra mussels greatly reduce lakefront property values, and their sharp shells cut swimmer's feet.

Infested lakes will eventually become so short of zooplankton that fish will die off. Weeds will grow faster due to deeper-penetrating sunshine. Since zebra mussels only eat the good algae dangerous algae blooms will become a risk.

Take a stand. It is time to stop the spread of all aquatic invasive species. We deserve the pristine lakes we have come to enjoy and love. So do our future generations. ✧

No Silver or Bigheads found as sampling continues in CAWS

(Originally sent out as a special report June 30)

No silver or bighead Asian carp have been seen or caught since the capture of an adult male [silver carp 9 miles from Lake Michigan](#) on June 22 below the O'Brien Lock and Dam. The capture triggered the Asian Carp Regional Coordinating Committee's [Contingency Response Plan](#). An intensive monitoring operation in the Chicago Area Waterway System was immediately triggered.

As part of the coordinated contingency response, crews from the USFWS, USACE, Illinois DNR, and contracted commercial fishers conducted a monitoring operation that lasted two weeks.

Four electrofishing crews, three contracted commercial fishers, and a specially outfitted netting boat were deployed daily below the Dam, in Lake Calumet, and in an area from the Dam to Calumet Harbor. The operation, which covered a 13-mile section of the area with intensive monitoring, continued through July 7.

The silver carp captured June 22 has been sent to Southern Illinois U. for analysis to determine the fish's age and origin. More information will be shared as it becomes available. ✧

Over 70,000 lbs of Asian carp removed from Illinois River

Over the past three weeks, contracted commercial fishermen have caught and removed over 70,000 lbs. of Asian carp from the Illinois River. These commercials used a series of hoop nets in the Starved Rock and Marseilles Pools in response to a possible black carp expansion.

While no black carp were caught, timing and potential spawning conditions led to an impressive catch and removal of 70,239 lbs. of Asian carp. For more information about the fight against Asian carp: www.asiancarp.us. ✧

Bipartisan group of senators introduce the Modern Fish Act

On July 10, 2017 the recreational fishing and boating community praised the Senate introduction of the Modern Fish Act by Senators Roger Wicker (R-Miss.), Bill Nelson (D-Fla.), Roy Blunt (R-Mo.), Brian Schatz (D-Hawaii), John Kennedy (R-La.) and Joe Manchin (D-W.Va.). The "[Modernizing Recreational Fisheries Management Act of 2017](#)" (Modern Fish Act) would improve public access to America's federal waters, promote conservation of our natural marine resources and spur economic growth. A companion bill, [H.R. 2023](#), was introduced in the U.S. House of Representatives on April 6, by Congressmen Garret Graves (R-La.), Gene Green (D-Texas), Daniel Webster (R-Fla.) and Rob Wittman (R-Va.).

For years, the recreational fishing community has been hindered by antiquated policies that restrict access to public waters, hurt the U.S. economy and detract from conservation goals. The Modern Fish Act addresses many of the challenges faced by recreational anglers, including allowing alternative management tools for recreational fishing, reexamining fisheries allocations, smartly rebuilding fish stocks and improving recreational data collection. The bill aims to benefit fishing access and conservation by incorporating modern management approaches, science and technology to guide decision-making.

"The Modern Fish Act will achieve many goals, the most important of which is getting more Americans outdoors and enjoying our wonderful natural treasures," said Mike Nussman, president of the American Sportfishing Association. This bipartisan legislation includes key provisions that will adapt federal management to manage recreational fishing in a way that better achieves conservation and public access goals. Recreational fishing provides many economic, social and conservation benefits to the nation. ✧

Alternate Pathway Surveillance in Illinois - Law Enforcement

On May 22, 2017, a fish broker in Northern Illinois pled guilty in court to one count of unlawful importation, transportation and sale of grass carp, and paid \$9,582.97 in restitution to the IDNR. The fish broker illegally imported grass carp from Arkansas into Illinois and stocked them in 27 different bodies of water without the proper permits. The investigation revealed the broker falsified applications for the permits and also imported and stocked VHS susceptible species in Illinois without VHS import permits. The Illinois Attorney General's Office prosecuted the case.

The Invasive Species Unit (ISU) identified 3 businesses selling aquatic life without the required aquatic life dealer's licenses. Inspections of the facilities did not locate any Asian carp being sold, but one of the locations had live tanks for selling tilapia and largemouth bass. The ISU is assisting the businesses with obtaining their licenses.

The ISU received a complaint of a Chicago food market selling live grass carp, and after checking records from the store it was determined the company delivering the fish had the required non-resident aquatic life dealer's license and restricted species transportation permit to sell grass carp. ✧

Minnesota parks and rec areas offer new benefits for veterans

Active military personnel in any branch or unit of the Armed Forces and veterans with a service-related disability are now eligible to receive a free year-round vehicle permit, providing unlimited access to all 75 Minnesota state parks and recreation areas. To see all of the licenses, permits and passes that are available to military personnel and veterans, and the form of identification that an individual needs to show, visit www.mndnr.gov. ✧

Michigan releases draft plan to improve Lake Erie water quality

LANSING – State leaders, on June 13, shared Michigan’s draft Action Plan for Lake Erie—an approach for improving water quality and helping to prevent algal blooms, making it safer for people and aquatic life.

The plan aims to reduce the amount of phosphorus entering Lake Erie to help prevent persistent, intense algal blooms in the western part of Lake Erie, including those that are unsafe for people, and address low dissolved oxygen in the central basin.

Michigan’s plan sets the roadmap for how the state will do its part to reduce the amount of phosphorus entering Lake Erie by 40% by 2025. According to Michigan Dept. of Ag. Director Jamie Clover Adams, Michigan’s plan outlines current efforts and articulates actions the state will take to improve Lake Erie.

“Although state agencies and other stakeholders are conducting more and better research on the Western Lake Erie Basin and improving best practices for

agriculture and wastewater treatment, our Domestic Action Plan lays out additional key strategies for wetland restoration, invasive species research, tightened permit requirements for sewage treatment facilities, and customized farm operations,” said Clover Adams.

Algae are natural components of marine and freshwater systems, and not all algae are harmful, but too much algae, like in Lake Erie’s western basin, is an indication of an imbalance in the ecosystem. There are many reasons why the Western Basin is susceptible to algal blooms.

“From invasive species to rainfall run-off to increasing temperatures, there are many challenges we are working to understand,” said C. Heidi Grether, director of the Michigan Department of Environmental Quality. “Fortunately, with strong support from Gov. Snyder and actions such as declaring Lake Erie an impaired water, Michigan is poised to find solutions.”

Recently, Michigan joined Ohio and Ontario in the signing of the [Western Lake Erie Basin Collaborative Agreement](#) and the Lake Erie Basin was included as a priority action area in [Michigan’s Water Strategy](#). Keith Creagh, Michigan DNR director, encouraged cooperative action across local, state and national governments to benefit Lake Erie. “Lake Erie is one of Michigan’s defining natural resources,” Creagh said. “If we want to ensure the lake continues to be a source of drinking water and a great place for recreation for the region and the state, it is imperative that we work together to provide solutions.”

Michigan’s Domestic Action Plan is one of several from surrounding states, Ontario, and both federal governments. The final version, along with plans from other Lake Erie Basin states, will be integrated into the U.S. EPA’s comprehensive plan, scheduled for release in 2018. ✧

Invasive Asian carp update in KY

According to the Kentucky Department of Fish and Wildlife Resources, invasive fish have reproductively established populations from the Cannelton Pool of the Ohio River to the Mississippi River. The fish are found in most of Kentucky’s tributaries of the two large rivers and in two of our most prominent reservoirs: Kentucky and Barkley lakes. Three species of carps (bighead, silver and grass) are reproducing at alarming rates and threaten Kentucky’s aquatic ecology. The fish are outcompeting native fishes for forage, becoming overpopulated, and because of their propensity to jump, silver carp can be harmful to recreational boaters. These species have the ability to produce more than one million eggs per large adult each year, and where conditions are suitable for reproduction, their numbers cannot be controlled by agency efforts alone.

Since 2015, three processors

have been established, and their facilities have led to the harvest of more than 1.2 million lbs. of Asian carp in 2015; more than 800,000 pounds from Kentucky and Barkley lakes. These processors are putting a big dent into this large population and are taking a fish that is unwanted in our waterways and putting them to use by processing them into food to ship overseas.

In March, Two Rivers Fisheries in Wickliffe announced it was expanding. The plant doubled production in the past year, processing more than four million Asian carp to ship the fillets overseas and to use in fertilizers. The operation in Wickliffe has gotten so big that it’s opening a new branch. By expanding, the facility will present the opportunity to get more of the carp out of our waters.

It is amazing to think that these three processing facilities can process more than 17 million lbs. of fish.

Without these processing plants and commercial fishermen who are going out strictly fishing for Asian carp—for incentives and because they want them out of our waters, too—we would have a real catastrophe on our hands, especially considering the rate at which these reproduce.

Not only are these processing plants taking an undesirable fish and using them in a positive way by shipping them overseas and using them as fertilizers, restaurants in the state are starting to put the fish on their menus. In some of the finest dining establishments in Louisville, the Asian carp is popping up on menus and getting good reviews.

It will probably be a good while before all of these fish are removed from our state’s waterways, if ever, but we are glad that a big dent is being put on these fish and that people are doing all they can—to get them out of our waterways, but to make a profit on them as well. ✧

Apply by Aug. 18 for Camp Ripley archery hunts

Hunters can apply for the regular archery deer hunts at Camp Ripley near Little Falls, MN. The application deadline is **August 18**.

Hunters may pick from only one of two hunting seasons: **October 19-20** (Thur.-Fri., code 668) or **October 28-29** (Sat.-Sun., code 669). A total of 4,000 permits, with 2,000 per two-day hunt, will be made available. Successful applicants must buy a valid archery license at least two days before their hunt to participate. The bag limit for this year's hunt is one, and bonus permits may be used to take antlerless deer. Additional rules and instructions for this year's hunt are available at mndnr.gov/hunting/deer.

Hunters may choose from four options to apply for the Camp Ripley archery hunts:

- In person at any one of 1,500 license agents located throughout Minnesota.
- By telephone at 888-665-4236.
- Online at mndnr.gov/buylicense.
- DNR License Center, 500 Lafayette Road, St. Paul.

The application fee for the hunt is \$12 per applicant. Additional transaction fees and convenience fees are applied depending on how the application is made.

To apply, resident hunters 21 and older must provide a valid state driver's license or public safety identification number. Nonresident hunters must apply using a valid driver's license number, public safety identification number, or DNR number from a recent Minnesota hunting or fishing license. Preference will only be given if the same ID is used from previous Camp Ripley applications.

All applicants must be at least 10 years old prior to the hunt. In addition, anyone at least 12 years old and born after December 31, 1979, must have a firearms safety certificate or other evidence of successfully completing a hunter safety course in order to purchase an archery license

Atlantic salmon catch information needed

The Michigan DNR has been stocking Atlantic salmon in Lake Huron and the St. Marys River. Fins on these fish may be missing, which indicates they are hatchery-reared fish. The unique fin clips allow the DNR to identify their stocking year and location. The DNR is asking anglers to report ALL (clipped or unclipped) Atlantic salmon catches to help the DNR better manage this species.

The DNR has requested that we help them with their Atlantic salmon monitoring on the Ontario side of Lake Huron. Please include clear photos of both sides of the fish. Information can be sent to: Northern Lake Huron Management Unit Tim Cwalinski — 989-732-3541 — cwalinski@michigan.gov. Dorsal Fin (D) Adipose Fin (AD) Caudal Fin Anal Fin (AN) Right Pelvic Fin (RV) Right Pectoral Fin (RP). Fish that have the adipose fin clipped usually have a coded wire tag in the nose.

If the fish is kept, submit the head and harvest information to the DNR via one of its Coded Wire Tag drop sites. Include the following info: Date Caught, Nearest Port/River: depending on whether caught in lake or river, Length (in): Clip Type: (Adipose, LP, RP, LV, RV, not known, or No clip) — most should have a clip of some kind, Mode: Shore or Boat. ✧

if successful in the lottery.

Hunters may apply as individuals or as a group of up to four people. Group members may only apply for the same two-day season. The first group applicant must specify "Create New Group" when asked, and will receive a group number. Subsequent group applicants must specify they want to "Join an Existing Group" and must use the same group number supplied to the first group applicant.

The archery hunt at Camp Ripley is an annual event. The DNR coordinates the hunt in collaboration with Central Lakes College Natural Resources Dept., and the Dept. of Military Affairs, which manages the 53,000-acre military reservation. ✧

Minnesota Hunt/Fish Licenses to increase in 2018

Anglers and deer hunters will pay more for their licenses beginning in 2018. Effective July 1 of this year price includes increases for motorized recreation fees and state park permits.

The DNR had been lobbying for fee increases as the Game and Fish Fund saw a consistently decreasing balance. The DNR spends dollars from hunting and fishing license sales to manage, maintain and improve abundant and healthy fish and wildlife populations and the habitats that support them. But those costs have risen since the last license fee increase in 2013. Without a modest increase for some fees in 2017, the DNR maintained that the primary fund that finances game and fish activities and management was projected to dip below zero by July 1, 2019.

DNR officials said that without the fee increases, they would have had to cut staff, surveys and other programs that benefit hunting and fishing in the state. The fee increases set to take effect next year should alleviate all or most of the cuts that would have occurred without the additional funding.

A few of the license increases that will go into effect March 1, 2018, include:

- *Resident angling, from \$22 to \$25
- *Resident combination angling, from \$35 to \$40
- *Resident deer (ML, Archery, Firearm), from \$30 to \$34
- *Resident bonus deer, from \$15 to \$17

The outdoor recreation fee increases went into effect on July 1 of this year and include:

- *State park annual vehicle permit, from \$25 to \$35
- *State park daily vehicle permit, from \$5 to \$7
- *Snowmobile registration (3 year), from \$75 to \$105
- *ATV registration (3 year), from \$45 to \$60

A complete list of the fee increases is available [here](#). ✧

Beginning fly fishing clinics at Ohio's Castalia Hatchery

Findlay, OH – Anglers interested in learning the art of fly fishing are encouraged to enter a lottery for beginning fly-fishing clinics at the Castalia State Fish Hatchery. Submissions for the lottery must be postmarked by **August 13**.

In addition to fly-fishing instruction by DNR staff and volunteers, attendees will be able to test their newly acquired skills by fishing for rainbow trout found in Cold Creek. Anglers may also encounter an occasional brown trout. There are 100 slots available for the popular program. Sessions will be held on Fridays from September 1 through October 6, with the exception of September 8.

Instruction will be from 8 a.m. until noon, or 1 p.m. to 5 p.m. on **Sept. 1, Sept. 15, Sept. 22, Sept. 29 and Oct. 6**.

To apply, applicants must submit a postcard listing their name, address, customer ID number and phone number. The applicant may bring one guest. Only one postcard per applicant is allowed and no duplicates may be submitted. Postcards should be sent to: ODNR Division of Wildlife District Two, 952 Lima Avenue, Findlay, Ohio 45840, Attention: Beginner Fly Fishing Clinics.

Successful applicants will receive an assigned session date and time. Permits are not transferable. ✧

Guide to Freshwater Fishing in New York

Anglers should be excited to learn that DEC has updated this popular guide/map that provides in depth fishing, boating and local information for 158 streams and rivers and 320 lakes, ponds and reservoirs from Montauk to Buffalo. Waters included in the publication were selected by DEC staff as the best fishing locations in New York. [Contact DEC](#) for a free copy. ✧

Outdoor skills workshop for women Sept. 29 to Oct. 1

Women are invited to participate in a variety of outdoor activities during a fall workshop at Deep Portage Learning Center in Hackensack, MN from Friday, **September 29**, to Sunday, **October 1**, through the Becoming an Outdoors Woman program of the Minnesota DNR.

Classes include firearms training and shooting, archery, bow hunting, mushrooming, birding, pine baskets, Dutch oven cooking, orienteering, rock climbing, how to dress in the outdoors, walking sticks and beekeeping. The workshop is meant for women ages 18 and up but girls ages 14 to 17 are welcome to attend with parents or guardians. More than 70 women are expected to attend.

“Women join us who’ve never tried these activities and want to learn, and we also have participants who are considered advanced in these skills,” said Linda Bylander, outreach program coordinator. “We all share camaraderie with each other and the event lets us get away from daily stresses and enjoy the outdoors.”

The BOW program focuses on teaching outdoor skills usually associated with hunting, fishing and other outdoor pursuits.

The \$195 registration fee includes lodging, meals, three outdoor skills classes, evening programs and a campfire. A scholarship is available for women military veterans, Gold Star mothers and wives, in cooperation with the Minnesota Dept. of Veterans Affairs, Women Veteran Outreach. To register, or for more information, visit mndnr.gov/bow ✧

Facilities open at the Cape Vincent Station

Water levels on Lake Ontario and the St. Lawrence River have receded sufficiently to open the dock areas for fishing access and overnight dockage at the Cape Vincent Fisheries Station. The picnic area is open. The public aquarium will remain closed for the 2017 season to enable repairs. ✧

Whirling disease now infects entire Oldman River basin, & Waterton Lakes NP

A deadly fish disease that has already spread through Banff National Park has now infected a wide swath of territory to the south, including Waterton Lakes National Park. The Canadian Food Inspection Agency (CFIA) declared the entire Oldman River watershed infected, including all streams, creeks, lakes and rivers feeding into the river. This comes after the CFIA declared the entire [Bow River watershed](#) infected with whirling disease in February. The declaration expands the impacted area southward, all the way to the Canada-U.S. border.

Despite the declaration, Alberta Environment and Parks said there are currently no plans to change fishing regulations in the Oldman River basin. The CFIA said the rest of Alberta remains a "buffer zone" for the disease, meaning all provincial aquaculture facilities and Class A fish farms will have to test fish for whirling disease.

Those wanting to stock fish from the affected area would also have to implement "approved biosecurity protocols" in order to obtain a permit from the CFIA. The disease predominantly affects trout and whitefish and can cause them to swim in a whirling pattern and die prematurely. Infected fish can also exhibit skeletal deformities and their tails can turn a darker color, even black.

The presence of whirling disease in Alberta was first detected in the upper Bow River in September 2016. The disease is not harmful to humans and the CFIA said there are no health concerns for people using the infected bodies of water or eating infected fish. There are no known treatment options for whirling disease and officials are focusing their efforts on preventing it from spreading. ✧

Invasive red swamp crayfish found in two locations in Michigan

The Michigan DNR has confirmed the presence of invasive red swamp crayfish (*Procambarus clarkii*) in Sunset Lake in Vicksburg, south of Kalamazoo, and in a retention pond off Haggerty Road in Novi.

Reports of the crayfish at Sunset Lake came to the DNR from two separate landowners July 13. DNR staff verified the reports during a survey of the area July 14, finding several crayfish in the grass in a local park and in shallow areas on the lake's west side.

A citizen reported possible red swamp crayfish in the Novi retention pond July 17 after a child captured one in a dip net. DNR staff responded that afternoon and removed 111 specimens from the pond.

These two reports represent the first live detections of red swamp crayfish in Michigan. In 2015, discovery of a pile of dead red swamp crayfish at Kollen Park in Holland led to an intensive trapping effort by the DNR in Lake Macatawa and portions of the Grand River. No live crayfish were found at that time.

What are red swamp crayfish?

Red swamp crayfish, also known as Louisiana crayfish, are deep red in color with bright red, raised spots covering the body and claws. They have a black, wedge-shaped stripe on the top of the abdomen. Between 2 and 5 inches in length, these crayfish resemble miniature lobsters. They are native to the Mississippi River drainage and the Gulf Coast and are the popular "crawfish" or "crawdads" used in southern cooking.



Why are they a concern?

Red swamp crayfish are a serious concern because of their ability to damage earthen structures and the threats they pose to the environment.

"Eradicating red swamp crayfish is very difficult," said Nick Popoff, aquatic species and regulatory affairs manager for the DNR. "They dig deep burrows near lakes and rivers and can spread quickly over land." Popoff said that such burrows, which can be more than 3 feet deep, can cause damage (through bank destabilization) to infrastructure such as dams, levees, irrigation systems and personal property. In Wisconsin, the only solution for one instance of a red swamp crayfish invasion was an extreme measure to pave over a pond.

Red swamp crayfish are considered invasive in Michigan because they compete aggressively with native crayfish species for food and habitat. They feed on plants, insects, snails, juvenile fish and other crayfish, disrupting the food chain for many aquatic species.

Red swamp crayfish can survive drought conditions and are known to migrate as much as approximately 2 miles over land in search of habitat. They are very fertile, with females laying up to 600 eggs at a time and reproducing up to two times in a year.

How did red swamp crayfish get here?

Sources of the two infestations are not known, but according to Popoff, live crayfish may have been brought from southern states for use as bait or for human consumption. Red swamp crayfish also are sold in some states as personal or classroom aquarium pets, and release of those pets is one way invasive species are spread.

"Red swamp crayfish are a prohibited species in Michigan, which means it is unlawful to possess, introduce, import, sell or offer them for sale as a live organism, except in special circumstances, including providing specimens to the DNR for identification," said Popoff.

What is being done?

Department staff will continue survey and removal efforts on Sunset Lake and its tributaries to determine the size and extent of the infestation. Staff will be out during the daytime

and evening hours setting nets and crayfish traps and using electrofishing equipment to capture and remove the crayfish. Connecting water bodies including Austin, Barton and Howard lakes will be surveyed in the coming weeks. Survey and removal efforts are ongoing at the Novi location.

How can people help?

"These two cases show the importance of citizen involvement in the fight against invasive species," said Popoff. "Alert citizens noticed something unusual and reported it to the DNR, allowing us to initiate a quick response to each situation."

Residents and visitors to the Sunset Lake area are asked to try to capture any red swamp crayfish they find and place them in a container in the freezer, then report the location of the find to the DNR at 269-685-6851, or email: herbsts1@michigan.gov.

Sightings of red swamp crayfish in the Novi area or elsewhere in Michigan should be photographed and reported with the date and location of the find to herbsts1@michigan.gov.

For more info about [red swamp crayfish](#) and other invasive species of concern in Michigan: www.michigan.gov/invasivespecies.Red_swamp_crayfish+-+Brome_McCreary%2C+USGS.jpg

✧

Bodine State Fish Hatchery closed for repairs

Bodine State Fish Hatchery in Mishawaka is closed to visitors for about a month, for repairs. The repairs will not interrupt the rearing of steelhead trout and coho salmon. In fact, the work will ensure Bodine can meet its stocking assignments. The repairs are Phase II of a project started last September. Workers will replace aging valve assemblies, which control water flow to fish production ponds. Phase I was an emergency measure to replace valve assemblies that had already failed. ✧

New killer disease permanently disables half of victims

WASHINGTON – The Centers for Disease Control is warning of the emergence of a far deadlier tick-related virus than Lyme Disease—one that kills 10 percent of those infected and permanently disables the other 50 percent. It's called POW for short, or Powassan, and it, like Lyme, is carried by deer. Recent cases have been noted in the Northeast U.S. and the Great Lakes states.

The virus can cause inflammation of the brain, leading to death in 10 percent of cases and permanent disability in 50 percent of cases.

Signs and symptoms of infection can include fever, headache, vomiting, weakness, confusion, seizures, and memory loss, according to the CDC. Long-term neurological problems may occur. There is no specific treatment, but people with severe POW virus illnesses often need to be hospitalized to receive respiratory support, intravenous fluids, or medications to reduce swelling in the brain.

But despite the scary headlines, odds of contracting the illness are extremely low. In fact, only 1 in 53.57 million people nationwide contracted the virus last year.



“About 15% of patients who are infected and have symptoms are not going to survive,” said Dr. Jennifer Lyons, chief of the Division of Neurological Infections and Inflammatory Diseases at Brigham and Women’s Hospital in Boston and an assistant professor of neurology at Harvard Medical School. “Of the survivors, at least 50 percent will

have long-term neurological damage that is not going to resolve.”

You can reduce your risk of being infected with POW virus by using tick repellents, wearing long sleeves and pants, avoiding bushy and wooded areas, and doing thorough tick checks after spending time outdoors.

Although most infected people will never show symptoms, those who do become sick usually do so a few days to about a week after the tick bite, she said. The most common symptoms will be fever and headache. “You basically feel nonspecific flu-like stuff,” Lyons said, including “muscle aches and pains; maybe you have a little rash on your skin, but almost certainly, you’ll have a fever and the headache.”

The unlucky few who develop a more serious illness will do so “very quickly over the next couple of days,” she said. “You start to develop difficulties with maintaining your consciousness and your cognition. ... You may develop seizures. You may develop inability to breathe on your own.”

Just as there are no vaccines to prevent infection, there are also no treatments for Powassan. “There are some experimental therapies we try when somebody comes in and they get here early enough and we get the therapy started early enough, but we have no idea if any of that works,” Lyons said.

Standard treatment includes intravenous fluids, though antiviral medications, systemic corticosteroids and other drugs have been tried in some patients. Scientists also believe Powassan is on the rise based on studies that have identified an increasing number of infections in deer. “It does seem that there are more and more deer that they’re

finding that have been infected with this virus,” Lyons said. “We should expect it to increase in human disease incidence over the next few years.”

The Powassan virus was first discovered in Ontario, Canada, in 1958. “A kid came down with an unspecified encephalitis,” or brain inflammation, Lyons explained. When the never-seen-before virus was identified, the scientists called it Powassan after the town where the child lived.

Only a couple of cases were seen each year from the 1950s to the early 2000s, when reports of cases in Canada and the U.S. started to rise. A paper suggested that the virus might have been found in far eastern Russia as well. Dr. Daniel Pastula, an assistant professor of neurology, medicine (infectious diseases) and epidemiology at Univ. of Colorado Denver and Colorado School of Public Health, explains that of the three ticks that can carry Powassan – *Ixodes cookei*, *Ixodes marxi* and *Ixodes scapularis* – the third “likes to bite humans” the most. ✧

FWS distributes \$1.1 billion to state wildlife agencies

Benefits conservation, outdoor recreation and the economy in all 50 states

The keystone of annual funding for state agencies was put into place on March 6, 2016 with the distribution of \$1.1 billion generated by the Pittman-Robertson Wildlife Restoration and Dingell-Johnson Sport Fish Restoration acts. The funding, which supports critical state conservation and recreation projects throughout the nation, derives from excise taxes paid by the hunting, boating and angling industries on firearms, bows and ammunition (Pittman-Robertson), and sportfishing tackle, some boat engines and small engine fuel (Dingell-Johnson). [Distributes \\$1.1 Billion to Wildlife Agencies. http://wsfrprograms.fws.gov/](http://wsfrprograms.fws.gov/). ✧

Lake Trout survival release study

Continued from page 1

examined the key environmental and fishing factors that influence survival of angler-released fish.

"In this study, Fisheries Division staff estimated the mortality of angler-released lake trout using tagged fish in lakes Superior and Huron then comparing the differences in tag return rates between large trap net-caught (control group) and angler-caught and released lake trout (treatment group)," Sitar said.

To determine what other factors could influence angler-released lake trout mortality; barotrauma, surface water temperature the fish is released in, capture depth, hook location, play time, handling time, and fishing method were all measured.

From 2010 to 2013 the following numbers of fish were tagged and released in southern Lake Superior: 2,300 trap net-caught lake trout and 1,800 angler-caught lake trout. In west-central Lake Huron, 1,670 trap net-caught and 930 angler-caught lake trout were tagged and released. Tag recapture data were then tallied between 2010 and 2016. Tag return rates were much lower for angler-tagged than large trap net-tagged fish in both lakes Superior and Huron.

"Our analysis of the collected tag information indicated surface water temperature at time of release was the major factor affecting tag return rates of treatment fish," Sitar shared. "Generally, it was found that angler tag returns declined with increasing surface water temperature at the time of release."

In Lake Superior results from tag-return data analysis indicated mortality of angler-released fish averaged 43% when the surface water temperature at release exceeded about 50 degrees Fahrenheit and was 15% when surface water temperatures were below 50 degrees Fahrenheit.

In Lake Huron, mortality of angler-released lake trout was 53% for surface temperature below 50 Fahrenheit and averaged 61% above 50 Fahrenheit, though these estimates have higher uncertainty because of lower numbers of angler-caught fish tagged and returned in Lake Huron.

Based on these findings, the DNR will look at alternative fisheries management regulations that limit the mortality from the angler-release of Great Lakes lake trout. Additionally, communications are being shared with anglers to ask them to consider the surface water temperatures when considering whether to release lake trout. To read the [full lake trout mortality study it is available online!](#)

✧

Fishing in Illinois is HOT!

We have just had ANOTHER state-record breaking catch, making seven recorder breakers in 2017! The newest state record is 21 lbs. 7.2 oz. hybrid striped bass, caught in Lake Bloomington. This fish surpassed the previous record holder by over a pound! Other state-record fish included: Lake Whitefish (7 lbs. 8 oz.); Burbot (9 lbs. 4.8 oz.); Hybrid Crappie (4 lbs. 8.8 oz.), and Brown Bullhead (3 lbs. 4.8 oz.). Congratulations to Ken Maggiore (who caught the burbot and lake whitefish during the same fishing trip to Lake Michigan), Ryan Povolish (hybrid crappie), Dan Norris (brown bullhead) and Robert Vericella (hybrid striped bass). State records [here](https://www.ifishillinois.org/). ✧

Crossbow legislation sent to Governor's desk

The Illinois House passed Senate Bill 1467 and sent it to the desk of Governor Rauner for his signature. SB 1467 would allow hunters to use a crossbow during Illinois' official bowhunting season. Previously, individuals were only able to use a crossbow for the taking of game if they had a physical disability that prevented them from being able to draw a traditional bow. This legislation seeks to improve hunter retention in the Land of Lincoln as well as allow for a wider range of hunters to go afield during archery season and enjoy Illinois' rich hunting tradition. ✧

ILL 2017 – 2022 Strategic Plan

The Illinois Division of Fisheries recently completed the 2017 – 2022 Strategic and Implementation plans. These overarching plans give guidance to the Division's annual work plans, as well as direct the Federal Sportfish Restoration grant requests. By law, the mission of the Division of Fisheries is to conserve and enhance the state fisheries and aquatic life resources. [Read the plan to accomplish this mission here: https://www.ifishillinois.org/](https://www.ifishillinois.org/) ✧

Boating Safety Classes

Throughout the year, many people operate motor-driven watercraft on the Illinois waters and many operate for the first time. We encourage individuals – both novice and experienced – to take the course. No person under 10 years of age can operate a motorboat, Age 10 and up to 12 years can operate only under guardian control. Persons between 12 and 18 may not operate a motorboat with over 10 HP without a valid Boating Safety Certificate. There are two ways to take the course: Online (click [here](#) or [here](#) for more info) or [List of education courses by county](#). ✧

Court overturns patent-infringement ruling against Garmin

A federal appeals court overturned a ruling that said Garmin infringed on Navico's patents, allowing Garmin to once again sell any and all of its sonar products in the United States. Garmin said the Court of Appeals for the Federal Circuit reversed a December 2015 finding by the International Trade Commission that Garmin had infringed Navico patents related to down scan sonar. Specifically, the Federal Circuit ruled in a [17-page decision](#) that two of Navico's patents were invalid and that Garmin's DownVü sonar does not infringe a third Navico patent. [...more](#) ✧

Help Indiana monitor wild turkey production

The DNR is asking for help to monitor summer production of wild turkeys. Volunteers will use a web-based survey to record wild turkey sightings during July and August to help provide information about annual turkey reproduction. The surveys provide estimates about production by hens and the survival of young turkeys through the summer brood-rearing period. Summer brood survival is generally the primary factor influencing wild turkey population trends. Participants will be asked to report: Hens and poults seen, county observed, and adult hens without young. The survey, and additional information, is at wildlife.IN.gov/8641.htm. ✧

NY Anglers Needed

DEC will be conducting an intensive survey of anglers who fished New York waters in 2017. This survey will be conducted primarily on-line and participants with valid e-mail addresses will be selected at random from our database. If you have not already provided your e-mail address when you purchased your license and want to be considered for the survey, [e-mail DEC](#) your name, fishing license ID # and e-mail address. ✧

August 11, Lake Michigan Day!

Save the date for our 4th Lake Michigan Day, **August 11**, at the Wisconsin Maritime Museum in Manitowoc. An exciting program is planned and we'll honor the 2017 Lake Michigan Champions after lunch. A boat tour on the Skyline Princess will take up to 50 passengers on an educational cruise following the program. You can register for the tour at the registration table when you check in. To register for Lake Michigan Day, go to <http://www.lakemichiganstakeholders.org/lake-michigan-day-registration/lake-michigan-day-registration>. ✧

2% of counties have more than 1/2 nation's homicides

A new report from the Crime Prevention Research Center (CPRC) revealed just how concentrated murders are in the U.S. Citing county level data from 2014, researchers determined that a small fraction of all counties are responsible for a majority of the murders in the U.S.

According to the report, just 2% of all of the counties in the country account for 51% of the nation's murders. The top 5% of counties account for 68% of all murders. Further, 69% of all counties experienced one murder or less in 2014. It is correct to expect that counties with large population centers are going to necessarily account for more murders. However, as the report details, the most dangerous counties account for an outsized proportion of murders given their population. The report noted, "The worst 1% of counties have 19% of the population and 37% of the murders. The worst 5% of counties contain 47% of the population and account for 68% of murders."

CPRC also pointed out that murders are often highly concentrated within a given county. Citing Los Angeles County, which experienced 526 murders in 2014, CPRC showed that there were wide swaths of the county with virtually no murders.

CPRC's data dovetails with other research on the concentration of criminal violence. In recent years, researchers from Yale University have studied the concentration of violence in certain social networks. Yale Ph.D. candidate Michael Sierra-Arévalo explained that Yale University sociologists determined "70 percent of all shootings in Chicago can be located in a social network composed of less than 6 percent of the city's population." Sierra-Arévalo also cited a study from researchers at Harvard and Yale, that

examined violence perpetrated with guns in Boston. This research showed that violence is heavily concentrated even within a given city, determining that "between 1980 and 2009, 89 percent of Boston streets never experienced an episode of gun violence," and that "more than half of all the gun violence during the almost 30-year period occurred in only 5 percent of the city's streets."

Given that criminal violence is highly concentrated, efforts to tackle this discrete problem with ham-handed restrictions on the conduct of the public at large are inappropriate.

Rather than further burden the law-abiding, federal, state, and local officials should target known areas of violence with vigorous enforcement of existing state and federal law

The Centers for Disease Control said for 2014 there were 15,809 homicides in the U.S., and a report from [NeighborhoodScout Crime Analytics](#) listed the top 30 murder cities in the U.S. as East St. Louis, IL; Chester, PA; St. Louis, MO; Baltimore; Petersburg, VA; Flint, MI; Detroit; New Orleans; Camden, NJ; Wilmington, DE; Birmingham, AL; Newark, NJ; Monroe, LA; Portsmouth, VA; Cleveland; Jackson, MS; Riviera Beach, FL; Youngstown, OH; Baton Rouge, LA; Bessemer, AL; Banning, CA; Hartford, CO; Myrtle Beach, SC; Salinas, CA; Goldsboro, NC; Desert Hot Springs, CA; East Chicago, IN; Milwaukee and Washington, D.C.

[The Economist reported just weeks ago](#): "Over the past two years America has become more murderous. After steadily falling for a quarter-century, the national homicide rate jumped by 11% in 2015. Last year, an escalation of gang violence in Chicago increased the number of killings there from 485 to 764. ✧

2017 May Asian Carp monthly summary

CHICAGO – The goal of the summary is to provide up-to-date information on the monitoring and research projects outlined in the 2017 MRP and additional relevant Asian carp developments

Bottom Line: Monitoring occurred in the CAWS and upper Illinois Waterway downstream of the Electric Dispersal Barrier in March. **NO LIVE BIGHEAD CARP OR SILVER CARP were found in any new locations either upstream of, or immediately downstream of the Electric Dispersal Barrier.**

Fixed, Random and Targeted Site Sampling Downstream of the Electric Dispersal Barrier

Electrofishing:

- Crews from IDNR, USACE and USFWS completed 70 electrofishing runs at fixed and random sites (17.5 hours total) in the Lockport, Brandon Road, Dresden Island and Marseilles Pools in May.
- Crews collected 3,183 fish of 49 species and 2 hybrid groups.
- Fifteen Silver Carp were collected in the Marseilles Pool.
- **No Bighead Carp or Silver Carp were reported captured or observed in the Lockport, Brandon Road or Dresden Island Pools.**

Hoop and Mini Fyke Netting:

- Crews from IDNR set and pulled 16 hoop nets (6' diameter) and 16 mini fykes from fixed sites in Lockport, Brandon Road, Dresden Island and Marseilles Pools in May.
- Crews collected 23 fish of 6 species during hoop net sampling and 124 fish of 20 species and 1 hybrid group during fyke sampling.
- **No Bighead Carp or Silver Carp were reported captured or observed in any of the pools.**

Commercial Netting:

- Contracted commercial fishers along with assisting IDNR biologists set 12.3 miles of net at fixed and targeted sites in the Lockport, Brandon Road and Dresden Island Pools (including Rock Run Rookery) in May.
- Crews collected 915 fish of 12 species and 1 hybrid group.
- One Silver Carp was collected upstream of I-55 in Mobil Bay.
- One hundred Bighead Carp and 11 Silver Carp were collected in Rock Run Rookery.
- Twenty-seven Bighead Carp and 56 Silver Carp were collected in the Dresden Island Pool downstream of I-55.
- One Bighead Carp and 145 Silver Carp were collected in the approximate lower 3 miles of the Kankakee River.
- The average weight of Asian carp caught in the Dresden Island Pool (including the Kankakee River) in May was 23.4 lbs. for Bighead Carp and 14.6 lbs. for Silver Carp. Asian carp from the Rock Run Rookery had an average

weight of 35.1 lbs. and 20 lbs., respectively.

No Bighead Carp or Silver Carp were captured or observed in the Lockport or Brandon Road Pools.

Barrier Defense Asian Carp Removal Project

Barrier Defense specifically takes place in the Marseilles and Starved Rock Pools. Below is a summary of all IDNR Barrier Defense activities through May 2017, which includes the Unified Fishing Method in HMS W Pit, along with same time period in 2015 and 2016 for comparison:

Quick Summary	2015	2016	2017
Number of Days Fished	20	42	42
Number of Net Crew Days	100	240	252
Yards of Net Fished	143,320	249,570	199,180
Miles of Nets Fished	81.4	141.8	113.2
# of Pound Net nights	24	67	64
# of Hoop Net nights	70	769	487
# of Bighead Carp	3,997	5,050	1,399
# of Silver Carp	43,673	60,425	65,299
# of Grass Carp	442	395	590
# of Asian Carp (AC)	48,112	65,870	67,288
AC/1000 yds. of gill net	304	241	280
Tons of Bighead and Silver Carp Harvested	174	237	227

Understanding Surrogate Fish Movement with Barriers

Tagging results for May 2017

Fish Tagged:

Lockport Pool

· Common Carp – 3

Brandon Road Pool

· Common Carp – 3

Dresden Island Pool/Rock Run Rookery

· Bigmouth Buffalo – 9

· Black Buffalo – 1

· Common Carp – 20

· Common Carp x Goldfish hybrid – 1

· Smallmouth Buffalo – 30

Total – 68 fish tagged

Recaptures:

Brandon Road Pool

· Common Carp – 1

Dresden Island Pool/Rock Run Rookery

· Bigmouth Buffalo – 3

· Black Buffalo – 2

Barrier Defense Using Novel Gear

Diel Sampling

The USFWS - Columbia Office sampled Hanson Material Services East and West Pits of Marseilles Pool with the electrified paupier (May 23–26, 2017) to determine an optimal time period for mass removal of Asian carp in backwaters of the Illinois River. From evening to early morning, randomized sampling was standardized at 5 minute transects. Although results are preliminary, a graphical representation of average bighead and silver carp catch suggests a linear increase until approximately 11PM, after which catch declines (Fig. 1). Moving forward, diel sampling will occur in summer and fall to assess seasonal effects.

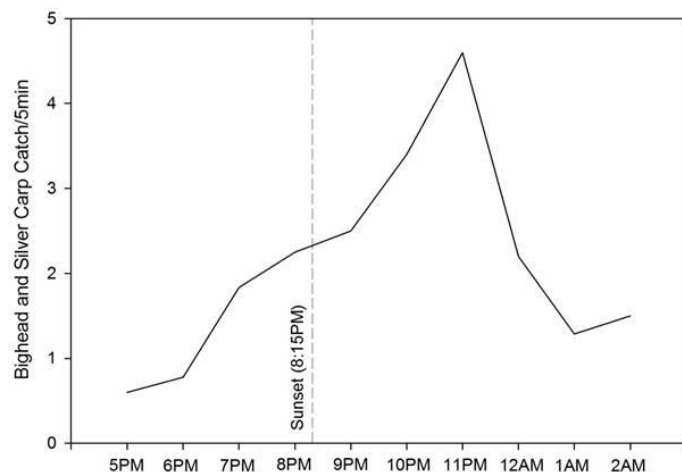


Fig 1. Hourly average Bighead and Silver carp catch per 5 minutes using the electrified paupier from 5PM to 2AM in Hanson Material Services East and West Pits, May 23 - 26, 2017. The vertical dashed line represents sunset (8:15PM).

Telemetry Monitoring

USACE biologists completed a full system download of receivers within the CAWS from the Cal-Sag Channel to the Dresden Island Lock and Dam on 22-24 May. These receivers were analyzed for the period of mid-March to late-May. There were no detections indicating Electric Dispersal Barrier passage in either direction and no tagged bighead or silver carp detected within the Lockport or Brandon Road Pools. The furthest upstream detection of bighead or silver carp within the Dresden Island Pool occurred at the navigation marker island just upstream of Rock Run Rookery. The greatest number of unique transmitter detections occurred at the connecting channel to Rock Run Rookery (n=36). The top three receivers with the highest detection rates in Dresden Island were located at Harborside Marina (76.5%), Rock Run Rookery connecting channel (10.4%), and 1.5 miles into the Kankakee River (5.5%).

Barrier Maintenance & Fish Suppression

The Electric Dispersal Barriers were successfully operated with minimal loss to power in water in the month of May and did not require fish suppression or clearing actions.

There was 1 severe weather event which required the barriers to be operated on generator power resulting in 2 minor power outages at the Barrier IIB arrays. Barrier IIA maintained power to the water continuously while Barrier IIB was transferred to and from emergency generator power. Each power transfer from utility to generator or generator to utility results in a momentary loss of power to the water (< 30 sec) at that specific array. Barrier IIA experienced one minor power outage as power was transferred from one pulse generating equipment to another during quarterly maintenance by the manufacturer. This power outage was less than 30 seconds in duration and Barrier IIB was fully operational during the outage. The narrow, high field array of Barrier IIA, wide and narrow arrays of Barrier IIB and the demonstration barrier are currently operational. The wide array of Barrier IIA is offline.

Larval Fish Monitoring

INHS conducted ichthyoplankton sampling at 12 main channel and backwater sites located in the Brandon Road, Dresden Island, Marseilles, Starved Rock, Peoria, and LaGrange Pools during every week in May. Four larval fish samples were collected at each site, and zooplankton and water chemistry samples were also collected. Additional samples were collected in Illinois River tributaries to evaluate the potential for Asian carp spawning in these rivers. Water temperatures during the first two weeks of May were consistently below 18° C, but rose above this threshold during the week of May 15. Large-diameter eggs were collected during this week at Havana and Lily Lake in the LaGrange Pool. Water temperatures fell by 2 -3° C the following week, and no suspected Asian carp eggs were observed at this time and through the end of May. Ichthyoplankton sampling will continue on a weekly basis through the end of June, and will occur biweekly from July to October. Processing of samples and identification of larval fish and eggs is ongoing. Results, particularly regarding occurrences of Asian carp eggs or larvae, will be reported once available.

Monitoring Fish Abundance and Spatial Distribution in Lockport, Brandon Road, and Dresden Island Pools and the Associated Lock and Dam Structures

A mobile split-beam acoustic survey was conducted in the Lockport Pool of the Illinois Waterway the last week of May 2017 to determine fish density within the study reach. Preliminary results will be communicated when available.

Monitoring Fish Abundance, Behavior, Identification, and Fish-Barge Interactions at the Electric Dispersal Barrier, Chicago Sanitary and Ship Canal, Illinois

Mobile hydroacoustic fish surveys were performed at the Electric Dispersal Barrier during the fourth week of May 2017. Preliminary results follow:

Purpose: The USFWS conducts hydroacoustic fish density surveys on a bi-weekly basis to estimate the number, sizes, and location of fish immediately downstream of the Electric Dispersal Barrier System (EDBS). These surveys provide “real time” information to fisheries managers and EDBS operations managers to facilitate fish management decisions and EDBS maintenance operations. Hydroacoustic surveys occur within the area downstream of the Romeville, IL Electric Dispersal Barrier System (EDBS). The area of analysis extends from immediately downstream of Barrier IIA to a point approximately 300 m downstream of the EDBS. The acoustic beam produced by the side looking transducer sampled the water column across the entire canal.

Preliminary Results 5-24-2017 Density of large (>6”) and small (< 6”) fish near the EDBS was very low during this week’s survey (Table 1). The largest estimated fish size was 438 mm. Water temperature was 16.1°C.

Distribution and Movement of Juvenile Asian carp

Sampling to monitor for juvenile Asian carp (TL <160mm) was conducted for the Marseilles, Starved Rock, and Peoria reaches during May 2017. Boat electrofishing was conducted in Marseilles pool (5/1/2017 to 5/12/2017) at 32 locations (8 hours fishing time) throughout the reach. Additionally, mini-fyke nets were used for 6 net nights total. This effort resulted in 1340 fish captured representing 39 species. Only adult silver carp (n= 66) were captured, all above 400mm in total length (TL).

Boat electrofishing and mini-fyke nets were used in Starved Rock pool for 28 locations (7 hours fishing time) and 6 net-nights/locations, respectively. This effort resulted in 1524 fish caught representing 40 species. Silver carp 200mm to 300mm TL (n=1) and 300mm to 400mm TL (n=4) were captured, but none were observed less than 200mm. Additionally, Silver carp (n=411 fish) and Bighead carp (n=1 fish) 400mm TL or greater were captured.

Both electrofishing and mini-fyke nets were also used in Peoria pool (5/30/2017 to 6/1/2017). Electrofishing was conducted for 3.75 hrs. at 15 locations and mini-fyke nets were set out at 12 locations/net nights. One young of year silver carp at 116mm TL was captured in Henry, IL at Sawmill Lake using boat electrofishing. Silver carp 200mm to 300mm TL (n=4) and 300mm to 400mm TL (n=15) were captured as well as fish greater than 400mm TL (n=91).

Analysis of feral Grass Carp in the CAWS and Upper Illinois River

No Grass Carp were captured by the FWS in the month of May. Sampling occurred throughout the Dresden Island Pool, with focused effort below the Brandon Road Lock and Dam and at the confluence of the Kankakee River. Sampling also occurred in the Kankakee River upstream to the railroad bridge near the Interstate 55 Bridge.

Assessing movement and behavior of Asian carp at a lock and dam structure to inform control strategies and Assessing Asian carp populations across ecologically significant ecosystems: quantifying abundance, biomass, and size distributions

Repeated sampling in Dresden and Marseilles

The first hydroacoustic surveys of 2017 were conducted throughout the Marseilles and Dresden Island pools in March, with final analyses now complete. Pool-wide Asian carp densities in Dresden Island Pool were relatively low and were similar to densities observed during June 2016 (Fig. 1). Dresden Island density was low among all sites sampled. Densities were similar between the Kankakee River tributary and the main channel, and although Treats Island mean Asian carp density was high, it was not statistically different from other sites. Additionally, no Asian carp were detected in the Mobil Bay backwater. Note that the Rock Run Rookery was not included in these density surveys in Dresden Island Pool. Marseilles pool-wide Asian carp densities were slightly higher than the previous surveys (previous surveys only occurred in October; Fig. 1), with the Sugar Island side-channel and the Hanson Material Services West Pit and East Pit having similar densities. The next surveys to assess Asian carp densities in the Marseilles and Dresden Island pools will occur the first week in June 2017.

Telemetry Array

Stationary receiver downloads were conducted in Starved Rock Pool the week of May 29th. Downloads in other river pools will begin in the middle of June 2017.

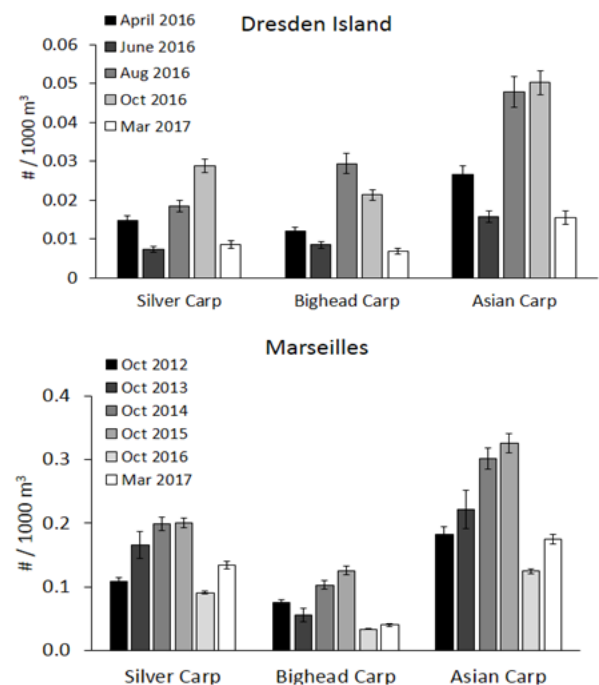


Fig 1. (SE) Silver Carp, Bighead Carp, and Asian carp (Silver and Bighead Carp combined) pool-wide densities throughout the Marseilles and Dresden Island pools in March 2017, with past density estimates provided for comparison. Note differences in y-axis values between pools.

Other Breaking News Items:

(Click on title or URL to read full article)

[Illinois working to make sure lone Asian Carp is only fish above barrier](#)

Illinois researchers and wildlife managers are waiting for the results of an autopsy on the silver carp caught north of the electric barrier designed to keep carp out of Lake Michigan.

[Quebec seizes three illegal Asian carp from Montreal businesses](#)

In an operation dubbed "Barramundi II," Quebec's Ministry of Forests, Fauna and Parks seized three Asian carp, an invasive species of fish prohibited in Quebec, after inspections of nine Montreal businesses. The fish seized were grass carp, a species of Asian carp.

[Canada tweaks law to make boating, fishing easier for Americans](#)

American recreational boaters and anglers can now cross the international border into Canadian waters without registering first with Canadian customs officials, but docking their watercraft or venturing onto Canadian soil still requires customs intervention.

[Quebec seizes three illegal Asian carp from Montreal businesses](#)

Quebec's Ministry of Forests, Fauna and Parks seized three Asian carp, an invasive species of fish prohibited in Quebec, after inspections of nine Montreal businesses Wednesday.

[Record-high Great Lakes water levels offer new problems and benefits for cargo ships](#)

On the Great Lakes and St. Lawrence River, water levels are near record highs. For cargo ships, that brings challenges and opportunities.

[Hoosier justices agree to rule on Lake Michigan beach ownership](#)

The Indiana Supreme Court has agreed to decide who owns the land immediately adjacent to Lake Michigan.

[Study: Warm waters increase lake trout hooking mortality](#)

Many more lake trout released by Lake Superior anglers die when water temperatures are over 50 degrees than originally thought, according to a new fisheries study on Lake Superior and Lake Huron.

[Illinois DNR: No, there aren't sharks in Illinois River](#)

Illinois DNR spokesman Ed Cross said there are no bull sharks swimming in the Illinois River near Morris. Illinois is not alone in having to refute the shark story. Conservation officials in Indiana and Kentucky also had to issue official statements this week that they are shark free as well.

[EPA report indicates that Lake Erie is in 'poor condition'](#)

According to the 2017 State of the Great Lakes report, Lake Erie is in the worst condition of the Great Lakes, as all other lakes were in at least fair condition with unchanging trends or better. Overall, the Great Lakes are considered in fair condition with unchanging

[Lake Michigan's Impending Asian Carp Crisis](#)

On June 23, a live Asian silver carp passed through the fish barrier and was caught by a fisherman in a waterway only 9 miles from Lake Michigan. The three electric fish barriers, located southwest of Chicago, were designed to stop the invasive species from

[Lab set up to study whirling disease as it spreads into different Canadian river systems](#)

British Columbia has opened a whirling disease laboratory in Vegreville to battle whirling disease. The laboratory came at the same time the Canadian Food Inspection Agency declared the Red Deer River watershed as now being affected by the disease which is

[Live Asian carp discovered just nine miles from Lake Michigan](#)

A live Asian carp has been discovered in a Chicago waterway about nine miles from Lake Michigan — well beyond an electric barrier network designed to prevent the invasive fish that have infested the Mississippi River system from reaching the Great Lakes, officials

[Dismissal of Bid Protest Clears Way for New Army Sidearm](#)

The dismissal earlier this month of a bid protest by firearms maker Glock, Inc. — over a \$480 million handgun contract — clears the way for the [Army](#) to begin using its newest version of a sidearm in more than 20 years.

[Field Reports: More sea lampreys found in lower Knife River](#)

Sea lampreys are ascending lower reaches of the Knife River on Minnesota's North Shore, a phenomenon that has been occurring only in the past few years.

[State of the Great Lakes 2017 Highlights Report](#)

The Governments of Canada and the United States recently released the State of the Great Lakes 2017 Highlights Report. Overall, the Great Lakes are assessed as "Fair and Unchanging." While progress to restore and protect the Great Lakes has been made, including the reduction of toxic chemicals, challenges remain with issues such as invasive species and nutrients.

[Invasive species gang up on crayfish](#)

A new study looking into invasive zebra and quagga mussels' relationship with invasive rusty crayfish illustrates how the harm they cause together can be greater than either of them alone.

[Boaters, anglers celebrate surging water levels](#)

In Wisconsin, the waters of the Bay of Green Bay have risen four feet in four years, allowing anglers to reach areas they haven't in over a decade and also benefiting the shipping industry.

[Plastic pollution a growing problem in Great Lakes](#)

Every year, about 40 dump trucks worth of plastic ends up in Lake Huron. It comes in through wastewater treatment plants and run-off; microbeads from personal care products, fibers from synthetic clothing, and trash washed into rivers and streams.

[Lake Michigan to get its first maritime highway](#)

A new shipping route in Lake Michigan could eliminate one million semi-trailer trucks per year from northwest Indiana highways.

[Great Lakes levels rising; Lake Erie up more than 8 inches from last year](#)

A wet spring has meant higher water levels across the Great Lakes — and frighteningly high levels for Lake Ontario.

End.