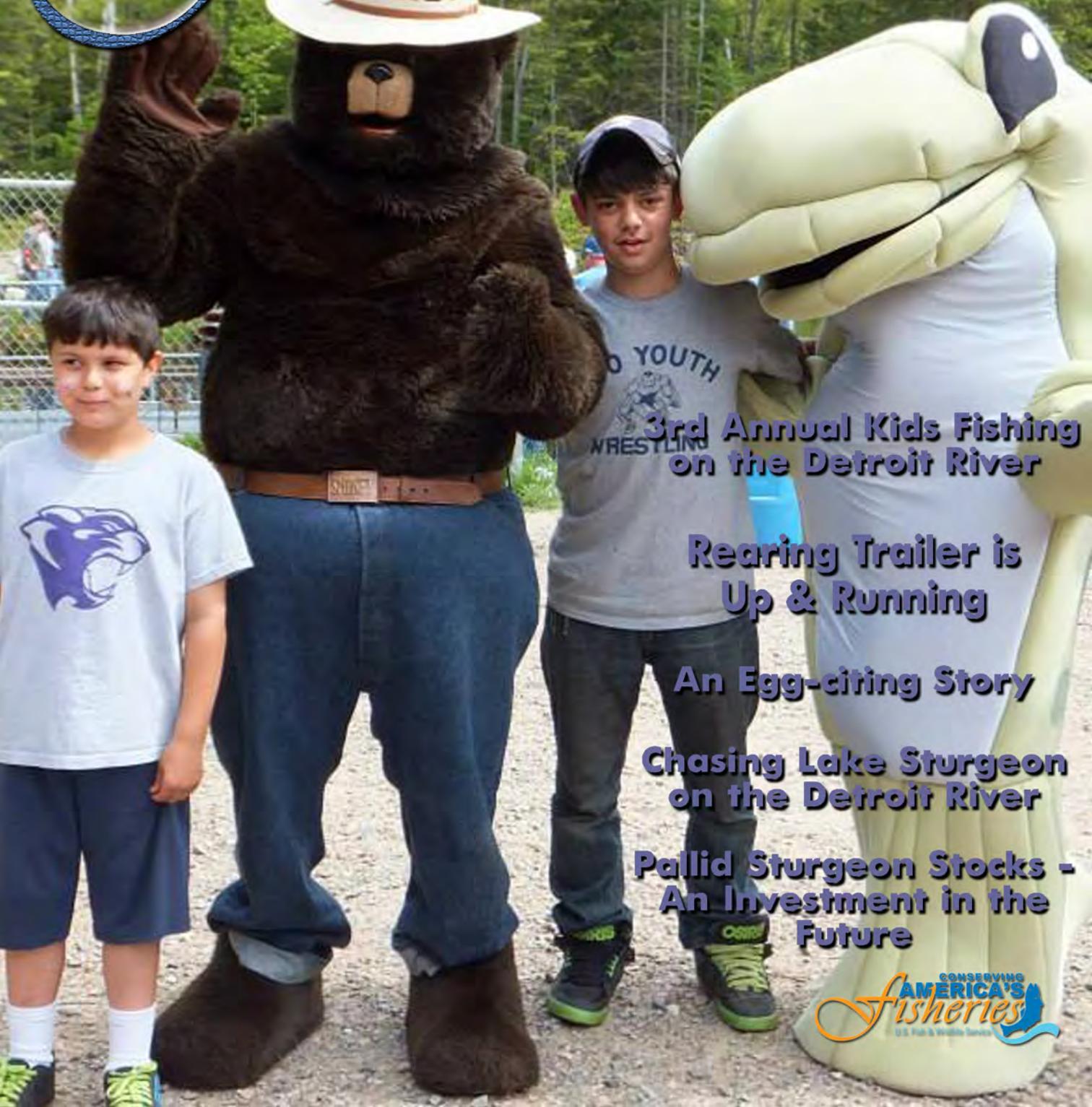




U.S. Fish & Wildlife Service - Midwest Region

Fisheries & Aquatic Resources Program

Fish Lines



3rd Annual Kids Fishing on the Detroit River

Rearing Trailer is Up & Running

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Chasing Lake Sturgeon on the Detroit River

Pallid Sturgeon Stocks - An Investment in the Future





U.S. Fish & Wildlife Service

Fisheries, Midwest Region

Conserving America's Fisheries

3rd Annual Kids Fishing Festival on the Detroit River

BY JUSTIN CHIOTTI, ALPENA FWCO – WATERFORD MI SUBSTATION



A group of participants and volunteers took time out for a photo at the Detroit River Kids Fish Festival. Credit: USFWS

Sea Grant educated children about invasive species in the Great Lakes. This year a trophy was given out to the largest fish captured in both girl and boy divisions. While many fish were captured, a northern pike and white bass took home the trophies.

The Rivertown Detroit Kids Fishing Festival gives the youth in the Detroit Metropolitan Area the opportunity to enjoy a pastime many of us take for granted. The list of volunteers and supporters for the event grows each year and it's not hard to understand why after seeing the joyful smile of a child catching a fish for the first time. The Detroit River is designated as an Area of Concern in the Great Lakes, but is undergoing a transformation before our eyes. Funding through the Great Lakes Restoration Initiative is restoring fish and wildlife habitat all along the Detroit River and the children attending the Rivertown Detroit Kids Fishing Festival are reaping the benefits.

This event would not have been possible without funding from the U.S. Fish and Wildlife Service's Youth in the Great Outdoors Connecting People with Nature Funding Initiative. With these funds, event sponsors were able to purchase fishing poles, bait and tackle, tents, and other items which will be used for the long-term sustainability of this event.

Below is a list of the supporters who made this event possible: Rivertown Detroit Association, Michigan Department of Natural Resources, Alpena Fish and Wildlife Conservation Office, Detroit River International Wildlife Refuge, Detroit Riverfront Conservancy, United Methodist Retirement Communities, Absopure Water, Lakeside Fishing Shop, IHOP, Michigan State University Extension, The UPS Store, and META-Web, LLC.

For the third year in a row, fish biologists from the Alpena Fish and Wildlife Conservation Office – Waterford Substation and staff from the Detroit River International Wildlife Refuge participated in the Detroit River Kids Fishing Festival. The Rivertown Detroit Kids Fishing Festival is sponsored by the U.S. Fish and Wildlife Service, Rivertown Detroit Association, and the Michigan Department of Natural Resources. The event is designed to introduce children and adults in the Detroit Metropolitan Area to fishing and to promote aquatic stewardship. Over the past three years nearly 1,200 children have participated in the event.

The fishing festival takes place at Milliken State Park and Harbor along the Detroit RiverWalk. This year the event was held on Saturday, June 9th, overlapping with the Michigan Department of Natural Resources "Free Fishing Weekend". Over 450 children and families were present. Children were taught "fishing basics" by instructors in the Michigan State Parks Explorers Program. Staff from the United States Coast Guard was on hand to teach children about boating safety and Michigan



Fish biologist Eric Stadig from the Alpena FWCO rigging up another pole during the Detroit River Kids Fish Festival. Credit: USFWS



Ontonagon River Lake Sturgeon Rearing Trailer is Up, Running, and Raising Sturgeon

BY ANNA VARIAN, ASHLAND FWCO

Over the past couple of months the Ashland Fish and Wildlife Conservation Office (FWCO) has been working with the Genoa National Fish Hatchery (NFH), Michigan Department of Natural Resources (DNR), Ottawa National Forest, and the Upper Peninsula Power Company to set-up a lake sturgeon rearing trailer on the Ontonagon River in Michigan. The Ontonagon River is a tributary to Lake Superior and historically contained a lake sturgeon population; however, habitat destruction and overfishing caused the population to go extinct. In an effort to re-establish a lake sturgeon population stocking with hatchery reared lake sturgeon occurred from 1998-2004, and a streamside rearing facility operated by Michigan DNR and Michigan Tech University (MTU) operated in 2007 and 2008.

In partnership with Michigan DNR, the Ashland FWCO began plans to install a lake sturgeon rearing trailer in 2011 and early this spring a sturgeon rearing trailer constructed by staff at the Genoa NFH was put in place next to the West Branch Ontonagon River near Bergland, Michigan. In May biologists from Genoa NFH and Ashland FWCO installed the pump and piping system, water was run through the trailer and final preparations were made. With water flowing all that was needed were sturgeon eggs.



Two day old lake sturgeon eggs Credit: Anna Varian



Lake sturgeon fry. Credit: USFWS

On May 29th, hopeful, biologists from Michigan DNR, US Fish and Wildlife Service, Michigan Technological University, and Fond du Lac Band of Lake Superior Chippewa met on the banks of the Sturgeon River in search of spawning sturgeon. The crew was hoping to encounter sturgeon in the range of four to six feet long in the fast water downstream of Prickett Dam. After several hours of observation and numerous lake sturgeon sightings, biologists found an area of the river where the violent thrashing and splashing of several tightly grouped lake sturgeons indicated the fish were actively spawning. As crews on shore prepared equipment to collect eggs and milt and record biological data, others carefully waded into the rapids working together to corral and dip net the spawning sturgeon which ranged in weight from 25 to over 80 pounds. Our goal was to collect eggs from females and milt from males for transport to the sturgeon rearing trailer. After successfully collecting eggs and milt on the river bank, the crew headed for the rearing trailer.

The lake sturgeon rearing trailer on the Ontonagon River is currently home to several thousand lake sturgeon fry and the staff at the Ashland FWCO are proud parents.



An Egg-citing Story!

BY CAREY EDWARDS, IRON RIVER NFH



Eyed eggs are delivered to three area schools in late fall, where they are incubated, hatched and reared until May. Credit: USFWS

For the past eleven years, raising trout and salmon in the classroom has become more common place in the Northwood's of Wisconsin. This is thanks to the program started at the Superior Middle School and since spread to Northwestern, and Ashland Middle schools.

What better way would there be to teach students about the life history of trout and salmon than to have them raise fish in the classroom? All it takes is a 30 gallon aquarium, chiller unit and trout or salmon eggs. The equipment can be quite costly, but with the help of two local sportsmen's groups donating the funds for chiller and aquarium, the schools were up and running.

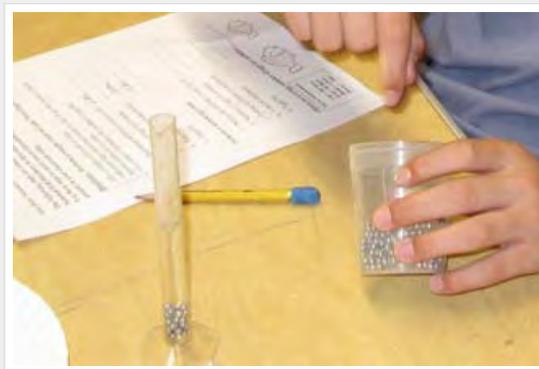
The last ingredient for the program is eggs and Iron River National Fish Hatchery agreed to provide lake trout eggs for the program with the stipulation that the fish would be humanely euthanized at the projects end. (This is due to stringent regulations and permitting in the transportation of fish due to disease concerns.)

Nearly 900 students spread out in four schools, welcomed 500 eggs into the aquarium mid-October. They monitored water temperature daily and made sure the conditions were perfect for the developing fish. Excitement abounded when the eggs hatched, followed by surprise and disappointment that the newly hatched fry sought shelter in the gravel.

After over 30 days of waiting, the eager students began feeding the fish as they swam-up. Some aquariums have better success than others with anywhere from 12 to 200 fish surviving the duration of the project.

As part of the program, the hatchery agreed to come to the classroom and further the learning process with a presentation and hands-on lab to all three schools.

Fish Biologist, Carey Edwards brought the hatchery to life with a power point presentation and students were able to simulate egg enumeration in the same manner that occurs at the hatchery. This involved displacing water with "eggs" (BB's), recording data and calculating the number of eggs per milliliter. Students were also presented with additional math problems that mimic day-to-day calculations occurring at the fish hatchery. This helped to drive home how important and frequently math is used in everyday life.



As part of the presentation, students are able to simulate egg enumeration in the same manner that occurs at the hatchery. Credit: USFWS

This program is very rewarding for all involved. The school, sportsmen's club and hatchery are looking forward to this fall, when the next group of students gets to learn about the life history of lake trout.



Chasing Lake Sturgeon in the Detroit River

BY MARGARET HUTTON, ALPENA FWCO - WATERFORD MI SUBSTATION



Fish biologist Eric Stadig and James Boase from the Alpena FWCO show a lake sturgeon captured from the Detroit River during the spawning season. Credit: USFWS

There are 26 different sturgeon species worldwide. We are fortunate enough to have one of these species call the Great Lakes home. The distribution of lake sturgeon extends throughout the Great Lakes, into the Mississippi River basin, along with Lake Champlain and the St. Lawrence Seaway. Lake sturgeon are the largest fish species within the Great Lakes, growing up to seven-feet in length and living to more than 100 years of age.

The history of the Great Lakes is riddled with stories of lake sturgeon. Once, so abundant, lake sturgeon were considered to be a nuisance fish species damaging commercial fishing gear due to their large size. Fisherman began to harvest them for their meat and eggs, which are used for caviar. Overfishing, along with pollution and habitat loss have all contributed to the decline of the population which is estimated to be at less than 1% of their original numbers.

Fisheries biologists working out of the Waterford Substation of the Alpena Fish and Wildlife Conservation Office are in the process of obtaining data to better estimate the population of lake sturgeon in the Detroit River. These U.S. Fish and Wildlife Service (FWS) biologists have finished their spring lake sturgeon monitoring for the 2013 field season, catching almost 40 lake sturgeon in the Detroit River.

In 2008, USFWS fisheries biologists and project partners constructed an artificial spawning reef within the Detroit River near Fighting Island to increase the amount of habitat for native species, such as lake sturgeon, to spawn. Many of the lake sturgeon were captured near this reef in the Detroit River. The largest lake sturgeon caught this year was five-feet nine-inches and weighed in at just over 100 pounds.

The Service has been monitoring lake sturgeon in the Detroit River since 2003. With the information collected this year and previous years, it is estimated that 5,000 individual lake sturgeon utilize the Detroit River during the spawning season. While being an important historical figure in the Great Lakes past, lake sturgeon are also considered an indicator species, with specific parameters for their survival within a river system.

Clean water, an abundant food source, and special spawning habitat, such as a rocky bottom and fast flowing water, are just a few of the necessities for lake sturgeon. The USFWS, along with many partners, is currently in the process of creating more lake sturgeon spawning habitat in the St. Clair-Detroit River System in an effort to increase the size of this population.

To learn more about how we are conserving Lake sturgeon, visit <http://www.fws.gov/midwest/sturgeon/>



Pallid Sturgeon Stocks – An Investment in the Future

BY COLBY WRASSE, COLUMBIA FWCO



Adam McDaniel from the Columbia FWCO with a potential broodstock Pallid Sturgeon captured from the lower Missouri River. Credit: Colby Wrasse

Recovery of the Federally Endangered Pallid Sturgeon is a multifaceted endeavor involving the collaboration of numerous federal and state agencies. Artificial propagation and stocking has been an important component of recovery efforts, with more than 135,000 Pallid Sturgeon stocked in the lower Missouri River since 1992. This accomplishment has required the combined efforts of two fish hatcheries (Neosho National Fish Hatchery and Blind Pony State Fish Hatchery), three fisheries offices (Columbia Fish and Wildlife Conservation Office (FWCO), Missouri Department of Conservation, and Nebraska Games and Parks), United States Geological Survey (USGS) – Columbia Environmental Research Center, geneticist Dr. Heist of Southern Illinois University, and many others.

Columbia FWCO contributes to the cause largely through our broodstock collection efforts. Since 2007, we have fished the lower Missouri River with trotlines and gill nets, capturing large, “wild” Pallid Sturgeon to utilize in the propagation effort - but catching these fish can be challenging. A potential

broodstock Pallid Sturgeon needs to be 1) an adult (usually greater than 30-inches in length), 2) a “wild” fish –not a previously stocked fish, and 3) reproductively ready (Pallid Sturgeon may spawn only once every 3-5 years). The combination of these three factors rule out many of the Pallid Sturgeon we capture. For example, during the 2013 season Columbia FWCO collected 65 Pallid Sturgeon; however, only 3 met the criteria necessary for potential use as broodstock fish.

Catching the fish is only the first step in the process. After a potential broodstock fish is captured, we then coordinate with the hatcheries for transportation of the fish – this could involve up to a five hour truck ride for the fish. We also send a genetic sample of the fish to Dr. Heist, who determines if the fish is 1) a pure Pallid Sturgeon (not a Pallid X Shovelnose Sturgeon hybrid), 2) a truly “wild” pallid sturgeon – not of hatchery origin, and 3) which management unit the fish genetically assigns to (a complicated story for another day). Biologists from USGS will also examine the Pallid Sturgeon with ultrasound and endoscope to determine the sex of the fish and its reproductive readiness. If a Pallid Sturgeon is genetically determined to be a good candidate for propagation and it is reproductively ready, then the hatchery biologists will work their magic and attempt to spawn the fish. The baby pallid sturgeon produced from artificial propagation typically spend about a year in the comfort of the hatchery before being tagged and stocked into various locations in the lower Missouri River.

Two of the Pallid Sturgeon we captured this year were reproductive males. With the ability to cryopreserve milt, the broodstock fish we collected this year could also be used in future years to increase the number and genetic diversity of Pallid Sturgeon in the lower Missouri River. Much has been learned about Pallid Sturgeon in the two decades since artificial propagation first began. Advancements in broodstock collection techniques, genetic analysis, spawning techniques and hatchery rearing have allowed us to continually improve on the propagation and stocking process, which remains an important component of recovery. We still have a long way to go to recover Pallid Sturgeon, but many dedicated professionals continue working together towards that common goal.



Friends and Partners Promote Youth Fishing at Pendills Creek NFH

BY JULIE TIMMER, PENDILLS CREEK NFH

Approximately 300 children participated in the 5th Annual Children's Fishing Event held at Pendills Creek National Fish Hatchery (NFH) near Brimley, Michigan. The event featured free family fun in the form of fishing! It was a great day for all the families who attended. Many were ecstatic to catch their first fish, and others were happy to have had the opportunity to fish.

Smokey the Bear and Lucy the Lake Trout stopped by to visit, and were welcomed with many smiling faces. A free hot dog lunch and prizes via raffle were provided, directly from the efforts of The Friends of Pendills Creek Hatchery via donations from local vendors.

The Friends of Pendills Creek Hatchery, whose mission in part, is to promote connecting children with nature and to educate the public about the hatchery programs, once again, did a super job putting on this event. Many thanks to all!



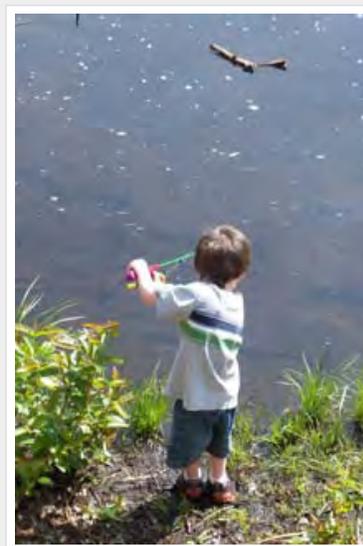
It wasn't ALL about fishing...These kids took some time out from fishing to enjoy the visit from Smokey and Lucy Lake Trout. Credit: USFWS



Over 300 people enjoyed a beautiful day at Pendills Creek NFH in Michigan's Upper Peninsula. Credit: USFWS



A memory in the making. Credit: USFWS



And this...is what it is all about! Credit: USFWS



Fish Tails

Articles submitted by field staff that do not appear as a feature within Fish Lines. These articles provide examples of the diverse work that is performed on behalf of aquatic resources.

Earth Tracks

BY CAREY EDWARDS, IRON RIVER NFH

For the past eleven years, the Lake Superior Zoo in Duluth, Minnesota has hosted an Earth Tracks Day. The goal is to inspire students to be more environmentally conscientious and put thought into ways of not leaving their "tracks" on the Earth. More than 1,200 students from area elementary and middle schools visited the zoo on in late May to take part in this "green" event.

Making its fifth appearance was the Iron River National Fish Hatchery (NFH). Carey Edwards, fish biologist from Iron River NFH, set up a booth with fish replicas and an interactive display that students could quiz themselves on fish anatomy.

Many local businesses, organizations and government agencies were also in attendance. These groups were encouraged to set up hands-on displays where children could learn about the environment that surrounds them and explore ways of decreasing their impact on Earth.

This fun event is one of several collaborations the Iron River NFH has with the Lake Superior Zoo and we hope to continue this partnership in the future.

Chatting with the Locals

BY REBECCA NEELEY, LUDINGTON BIOLOGICAL STATION

When people ask me what I do for a living I am always excited to tell them I work outdoors on the rivers. I am not stuck behind a desk, but I am outside enjoying all the splendors nature has to offer. During the summer months the Sea Lamprey Control Program (SLCP) travels throughout the Great Lakes states defending fish from the dreaded invasive sea lamprey. Working on the rivers definitely has its perks, but one major challenge is determining how I can access the river to complete my job? Waterfront property is extremely desirable and is being inhabited rapidly, which means less public access to the river systems. This is certainly understandable and I don't blame those who purchase the property; who wouldn't want to live on the river?

You may be asking yourself, how is the best way to learn about local landowners and irrigators? The answer is chatting with the locals. There is a wealth of information you can glean from talking with locals. In order to keep our partnerships with landowners organized and make our program as efficient as possible, we developed and maintain a landowner database. This database contains the information of more than 1,350 land and business owners as well as irrigators in Michigan, Indiana, Ohio, Pennsylvania, and New York. So how did we build this database you may ask? The SLCP has been working in the Great Lakes since the mid 1950's. Since then, relationships have been built between landowners and SLCP employees. Without the cooperation of land and business owners our program effectiveness would greatly suffer.

One month prior to each lampricide treatment, a letter and pre-paid postcard are sent to each person or business that owns property along the stream scheduled for treatment. The letter provides a brief description of the SLCP and explains that we are treating the river to kill larval sea lampreys before they migrate to the Great Lakes and feed on native fishes, when we plan to conduct the treatment, , and the type of data we will collect prior to, during, and after the treatment. The pre-paid post card sent with the letter allows the landowner to either grant or deny access to their property and to express their concerns or comments on our program. After the post cards are returned, land owner information is entered into the database and SLCP employees use the information to organize and schedule the logistics of sea lamprey treatments.

Working one-on-one with landowners is one of the reasons I love my job. Getting to meet new people, hear their stories and form new partnerships is very rewarding. So, when you get the chance to travel to a new area and need to find the best place to access a river, chat with a local and have fun exploring!

The Sea Lamprey Control Program continues to work closely with partners to control populations of sea lampreys in tributaries of the Great Lakes to protect the fishery and related economic activities in the basin (an estimated annual benefit of more than \$7 billion/year to the region). The Service delivers a program of integrated sea lamprey control in U.S. waters of the Great Lakes in partnership with the Great Lakes Fishery Commission.



U.S. Fish & Wildlife Service

Fisheries, Midwest Region

Conserving America's Fisheries

Midwest Region Fisheries Divisions

National Fish Hatcheries

The Region's National Fish Hatcheries (NFH) focus on native species recovery and restoration. Primary species include: lake trout, endangered pallid sturgeon, and endangered, threatened, and native mussels. Other major programs include coaster brook trout and lake sturgeon restoration, fulfilling tribal trust responsibilities for native aquatic species, and cost reimbursed rainbow trout production for recreational fishing. Hatcheries also provide technical assistance to other agencies, provide fish and eggs for research, and develop and maintain brood stocks of various species and strains.

Fish and Wildlife Conservation Offices

Fish and Wildlife Conservation Offices (FWCO) conduct assessments of fish populations to guide management decisions, play a key role in targeting and implementing native fish and habitat restoration programs; perform key monitoring and control activities related to aquatic invasive species; survey and evaluate aquatic habitats to identify restoration/rehabilitation opportunities; work with private land owners, states, local governments and watershed organizations to complete aquatic habitat restoration projects under the Service's National Fish Passage Program, National Fish Habitat Partnerships, Partners for Fish and Wildlife and the Great Lakes Coastal Programs; provide coordination and technical assistance toward the management of interjurisdictional fisheries; maintain and operate several key interagency fisheries databases; provide technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and relicensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments and treaty authorities.

Sea Lamprey Biological Stations

The Fish and Wildlife Service is the United States Agent for sea lamprey control, with two Biological Stations assessing and managing sea lamprey populations throughout the Great Lakes. The Great Lakes Fishery Commission administers the Sea Lamprey Management Program, with funding provided through the U.S. Department of State, U.S. Department of the Interior, and Fisheries and Oceans Canada.

Fish Health Center

The Fish Health Center provides specialized fish health evaluation and diagnostic services to federal, state and tribal hatcheries in the region; conducts extensive monitoring and evaluation of wild fish health; examines and certifies the health of captive hatchery stocks; and, performs a wide range of special services helping to coordinate fishery program offices and partner organizations. The Whitney Genetics Lab serves as a leading edge genetics laboratory and conducts environmental DNA (eDNA) sample processing for early detection of invasive species.





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