



Fisheries Program

Fish Lines

**Cub Scouts Learn
about Asian Carp**

**A Good Deal for
Fish and Wildlife**

**New Home for
Cisco Restoration**

**Annual Sampling for
Undocumented Species**

**Retired Brood Fish
Make a Splash**



U.S. Fish & Wildlife Service Fisheries, Midwest Region

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[Columbia Fish and Wildlife Conservation Office](#)

Our work is diverse and currently involves the fight against invasive fish, monitoring protected streams of the Ozarks, providing fishery technical assistance, or informing the public about our precious big rivers....[Read More](#)

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Archive

[2017](#) [2016](#) [2015](#) [2014](#) [2013](#)
[2012](#) [2011](#) [2010](#) [2009](#)

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Jan 12, 2017
In this Issue



Cub Scouts Learn about Asian Carp

Working as a Biological Science Technician with the Cartersville Fish and Wildlife Office (FWCO) Wilmington...[Read More](#)



Cub Scouts Learn about Asian Carp



A Good Deal for Fish and Wildlife



New Home for Cisco Restoration



Sampling for Undocumented Species



Retired Brood Fish Make a Splash

Fish Tails

"[Fish Tails](#)" refers to articles that are submitted by field staff that do not appear as a feature in the current edition of Fish Lines. These articles provide examples of the diverse work that the Service's Midwest Fisheries Program and partners perform on behalf of our aquatic resources and for the benefit of the American public.

Field Notes

"[Field Notes](#)" is an online searchable database that showcases hundreds of employee-written summaries of field activities and accomplishments of the U.S. Fish and Wildlife Service from across the nation.

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Green Bay Cub Scouts Learn about Asian Carp

BY BRANDON FALISH, CARTERVILLE FWCO, WILMINGTON, IL SUBSTATION



Children having fun learning about internal organs like the swim bladder.
Credit: USFWS

Working as a Biological Science Technician with the Carterville Fish and Wildlife Office (FWCO) Wilmington, Illinois (IL) substation, my main job duties involve sampling the Chicago Area Waterway System and upper Illinois River for adult and juvenile Asian carp to monitor changes in population size relative to location in a river system. Although my main job duties are out in the field, a secondary task (and also a passion of mine) is to educate our youth about the importance of the work that the U.S. Fish and Wildlife Service performs. Getting children interested in learning more about the outdoors or maybe even getting some to pursue a career in fisheries and wildlife management is important.

I recently had the opportunity to collaborate with Marian Shaffer and Trina Soyk, both biologists from the Green Bay FWCO, and Danelle Kornowski, Den leader of Cub Scout troop 4167, to give a presentation for approximately 50 children ranging from 6-12 years old. The goal of the presentation was to inform kids as to what our work entails and also to demonstrate the importance of issues such

as Aquatic Invasive Species and illegal poaching.

This fall the children learned about Asian carp and Sea Lamprey, and what we are doing to prevent the spread of these as well as other invasive species. Furthermore, they had the opportunity to see a Silver Carp specimen and investigate their internal organs. Needless to say, the children were very eager to throw on a pair of gloves and dig in. There were many questions ranging from, "Do you really fish for a living?" to "Why do they have a balloon in their body?" (referring to the air bladder). There were so many questions throughout the presentation that I could not answer them all. They even continued to ask questions as I cleaned up my presentation. Several parents attended and watched curiously from the back of the room. Shortly afterwards, they were quick to grab a copy of the pamphlet and power point slides that I brought along.

My favorite comment of the day was, "I want to be a fish man when I grow up!" That, in a nutshell, is why I love doing what I do. To me, education is the most important element of the future preservation of our ecosystem. They are our future and it is vital that we implement these ideals in them at a young age. If at the end of the day, I can get just one child a little more interested in the conservation and management of fish and wildlife then I feel like I am doing my part.



Biologist pointing out the gills and filter feeding structure on a silver carp.
Credit: USFWS



U.S. Fish & Wildlife Service Fisheries, Midwest Region

Conserving America's Fisheries

A Good Deal for Fish and Wildlife

BY KJETIL HENDERSON, CARTERVILLE FWCO WILMINGTON, IL SUBSTATION

Headwater stream ecosystems are incredibly valuable natural resources. They serve to trap floodwaters, recharge groundwater supplies, remove pollutants, sustain the health of downstream habitat, and provide critical fish and wildlife habitat. One organism representative of this ecosystem, which is frequently considered a bio-indicator, is the freshwater mussel. Mussels are critical indicators of ecosystem health because of their long lives, limited mobility, broad geographic distribution, and filter feeding diet which collects environmental contaminants along with essential nutrients. Freshwater mussels are found worldwide, but the greatest species diversity is found in the Southeastern United States (US) (300 of the 860 recognized species worldwide are found in North America). Unfortunately, two-thirds of these species are threatened or endangered due in large part to the damming of streams and rivers. In an effort to address this problem, the US Fish and Wildlife Service's (USFWS) National Fish Habitat Partnership was created to fund the preservation, restoration, and enhancement of priority lotic habitats.



This spring, extirpated Clubshell Mussels were reintroduced into Indiana's Eel and Tippecanoe Rivers. Credit: Donovan Henry, USFWS

Since the early 20th century dams have been ubiquitous in the US with the US Army Corps of Engineers estimating at least 75,000 persist nationwide. Some dams are used for hydroelectric power, improved navigation, recreation opportunities, as irrigation holding structures, and arguably as flood protection. Increasing pressure to develop more dams will continue, and a legal battle to dam the longest free flowing river in the US, the Yellowstone, is ongoing. As of 1990, there were only 42 river sections over 125 miles without a dam in the continental US.



Backhoe removing last Eel River dam. Credit: Donovan Henry, USFWS

The environmental consequences of dams are numerous. The habitat upstream of a dam changes from a free-flowing river to an artificial slack-water reservoir habitat. The changes in temperature, chemical composition, dissolved oxygen, and physical properties are often not suitable to the organisms that evolved there. Additionally, downstream river sections can become dewatered, the riverbed may become incised and thereby alter the surrounding water table, previously productive backwaters and spawning habitats can become detached, and sedimentation immediately begins filling in above the dam. Fish, and parasitic mussel larvae using them for upstream transport (called glochidia), are blocked from recolonizing upstream reaches by the dam. Low head dams (a design type notorious for creating rotating hydraulic currents frequently not visible from upstream) have led to over 430 people drowning nationwide.

The USFWS National Fish Habitat Partnership has limited resources to potentially do a lot of good. Each habitat project requires much review, and takes a lot of collaborating, funding procedures, public involvement, and documentation. However, projects can be incredibly rewarding; especially ones like the Warsaw Dam removal on Indiana's Tippecanoe River! Donovan Henry (Ohio Fish Habitat Partnership Collaborator) worked with Dr. Jerry Sweeten (Manchester University), and Scott Fetters (USFWS Partners Program Biologist) over several years to complete this project. The Tippecanoe River is home to four state-listed endangered fish, and six federally endangered mussels which now have 104 more river-miles of habitat! In fact, The Nature Conservancy has named the Tippecanoe one of the top ten rivers in the US to preserve due to the ecological diversity and the high proportion of endangered species.



U.S. Fish & Wildlife Service Fisheries, Midwest Region

Conserving America's Fisheries

Genoa National Fish Hatchery Isolation Building: New Home to Cisco Restoration

BY OREY ECKES, GENOA NFH



Staff from Jordan River and Iron River National Fish Hatchery and Alpena Fish and Wildlife Conservation Office collecting Cisco Eggs on Lake Huron. Credit: USFWS

Recently staff from the Jordan River and Iron River National Fish Hatchery (NFH) and Alpena Fish and Wildlife Conservation Office was out on Lake Huron, near the Les Cheneaux Islands collecting cisco eggs for current restoration projects. These fish are an important part of the prey fish community in the Great Lakes and serve an important role in many predator-prey relationships.

In an effort to reestablish and enhance cisco populations the U.S. Fish and Wildlife Service (USFWS) has partnered with multiple agencies to begin to create a broodstock to assist in the reintroduction of lake herring and whitefish in the Great Lakes. Ciscos have experienced a decline in the Great Lakes due to commercial fishing, habitat degradation and an invasion of non-native species such as invasive plankton, alewife, and zebra and quagga mussels. A top priority with for the Service has been to recover native species to provide a better balance in food-web structure and function.

collected from Lake Huron during the month of November and shipped to Genoa NFH for incubation in the current regional isolation facility. Samples from the parents were taken and sent to La Crosse Fish Health Center for disease inspection. Once the eggs arrived on station they were disinfected and incubated at water temperatures between 45-46 degrees Fahrenheit in an insulated recirculating system. They are currently incubating and being monitored for development. As the eggs begin to hatch, an equal representative sample of fry from each pair of parents will be transferred to circular culture tanks for grow out. Once the fish begin actively feeding they will be offered a combination of live brine shrimp and dry commercial diets.

Eggs
were



Insulated egg incubation system and Cisco eggs. Credit: USFWS



As the eggs are developing and final construction is wrapping up on the new isolation building, maintenance mechanics Zach Kumlin and Jeff Lockington are adding back up life supports systems and constructing automatic feeding systems for brine shrimp. The automatic feeders will allow biologists to set a timer that will dispense feed into the tanks throughout the day. This is essential because these fish grow better when they are offered small amounts of food spread across intervals during the day and will also support fish health by reducing human interaction in return minimizing stress and maximizing growth.

These fish will remain in the isolation facility until clearing three separate disease inspections by the La Crosse Fish Health Center. If the ciscos clear disease inspection after approximately 18 months, they will be transferred to Jordan River NFH in Michigan. These fish will then be used as captive broodstock in the national fish hatchery system. Future reintroductions of native prey species into the Great Lakes will strengthen food web dynamics and increase availability of food for apex predator fish such as lake trout.

Zach Kumlin designs an auto-mated system
for feeding brine shrimp at Genoa NFH.
Credit: USFWS

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U.S. Fish & Wildlife Service Fisheries, Midwest Region

Conserving America's Fisheries

Annual Sampling for Undocumented Fish and Benthic Invertebrate Species in Lakes Erie and Huron

BY ANJANETTE BOWEN AND ANDREW BRIGGS, ALPENA FWCO

The Alpena Fish and Wildlife Conservation Office completed a suite of annual surveys targeted at the early detection of non-native undocumented fish and select benthic invertebrate species at priority locations on Lakes Erie and Huron. No new undocumented species have been discovered to date following adult and juvenile fish sampling at three Lake Erie locations and one Lake Huron location; larval fish sampling at two Lake Erie locations and benthos/amphipod sampling at one pilot Lake Erie location. Larval fish analysis and benthos/amphipod analysis are currently in process and results are not yet available.

Adult and juvenile fish were sampled at Maumee Bay, Sandusky Bay, and the Detroit River on Lake Erie and at the lower St. Marys River on Lake Huron. A total of 45 units of effort were conducted at each sampling location using a combination of paired fyke nets, nighttime electrofishing, and either minnow trap arrays or benthic trawling. Over 19,294 adult and juvenile fish were observed - where 6,830 fish from 37 species were collected at Maumee Bay, 4,116 fish from 32 species were collected at Sandusky Bay, 2,918 fish from 43 species were collected at the Detroit River, and 5,430 fish from 47 species were collected at the lower St. Marys River on Lake Huron.



Fisheries technician Jessica Loughner scrapes organisms and organic matter off of a Hester-Dendy trap that was set in Maumee Bay, Lake Erie. Credit: Andrew Briggs, USFWS



Fisheries technician Matthew McLean pulls in a bottom trawl during a survey in Sandusky Bay, Lake Erie near Cedar Point. Credit: Anjanette Bowen, USFWS

Larval fish were sampled at Maumee and Sandusky Bays on Lake Erie. A total of 30 units of effort were conducted in each bay using bongo nets and light traps. Twenty-two bongo net tows and eight light trap sets were conducted at Maumee Bay, and 24 bongo net tows and six light trap sets were conducted at Sandusky Bay. These samples are currently being taxonomically identified by the US Geological Survey, Great Lakes Science Center in Ann Arbor, Michigan. Results documenting fish species present in the samples should be available in the New Year 2017. Sandusky Bay samples were screened for the presence of Grass Carp larvae; no larvae were discovered.

A pilot study to sample benthos and amphipods was conducted at Maumee Bay in 2016. Five Hester-Dendy colonization samplers were deployed from August 2016 to October 2016, and 21 amphipod trap lifts were also conducted. Taxonomic identification of these samples will begin in January 2017.

Information from these surveys will be compiled into annual reports on early detection and monitoring of non-native species in



An invasive round goby caught during a bottom trawl survey.

Lake Erie and Lake Huron and will be available on the Alpena
Fish and Wildlife Conservation Office [website](#).

Credit: USFWS

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U.S. Fish & Wildlife Service Fisheries, Midwest Region

Conserving America's Fisheries

Retired Brood Fish Make a Splash in the Northland

BY CAREY EDWARDS, IRON RIVER NFH



The fish are sometimes a little disorientated after their journey and take a moment to adjust to their new environment before swimming out to deeper water. Credit: USFWS

Iron River National Fish Hatchery (NFH) produces 1.2 million lake trout and coaster brook trout for restoration purposes in the upper Great Lakes. Several thousand adult and juvenile brood fish are held on station to produce eggs to achieve this goal. Adult brood fish are "retired" as their efficiency at producing eggs declines, egg/fish requests decline or space is needed for new brood fish. The hatchery staff makes every effort to place these fish in the local fishery. This year was exceptional in that an entire strain of brood fish was retired. Due to the success of the lake trout restoration program in Lake Huron, fish requests were significantly reduced, making the Seneca Lake strain of lake trout no longer needed at Iron River NFH.

Working with the Wisconsin, Minnesota and Michigan Departments of Natural Resources, Iron River NFH was able to stock over 2,000 lake trout in nine inland lakes across the Northland. Most fish averaged between 7 and 12 pounds. Area fish managers were very appreciative of the opportunities these fish provide local anglers. Heartwarming and hilarious fishing stories are often shared while unloading trucks at the lakes. One tale retold was of a fisherman in a canoe that hooked a lake trout so

big that it pulled him across the lake.

Another story of a first time angler landing a lunker lake trout in northern Michigan which inspired her to become hooked on fishing for life. Yet another story reminisces of about a children's fishing event with dozens of children lined up along the shore trying to land a big one.

It was a little bit sad to say goodbye to a group of fish that we have taken care of for up to six years, but it's really a three-fold success story...rearing space has been opened up for new opportunities at Iron River NFH, lake trout restoration is nearing completion in Lake Huron, and quality fishing opportunities abound in the Northland.



Hatchery biologists off load lake trout at Patterson Lake in northern Wisconsin. A crew of technicians and biologists from Wisconsin DNR came to assist with unloading over 2,000 lbs of fish. Credit: USFWS



The Hard Work: Fish are carried in nets down to the lake and released. Credit: USFWS



U.S. Fish & Wildlife Service Fisheries, Midwest Region

Conserving America's Fisheries

Columbia Fish and Wildlife Conservation Office It's What We Do

BY COLUMBIA FWCO STAFF



Columbia Fish and Wildlife Conservation Office's Magna Carpa in action. Credit: USFWS

The Columbia Fish and Wildlife Conservation Office (FWCO) serves Region 3 as a partner in fisheries management with State and Federal Agencies. Our work is diverse and currently involves the fight against invasive fish, monitoring protected streams of the Ozarks, providing fishery technical assistance, or informing the public about our precious big rivers.



Columbia FWCO biologists and technicians augment science lessons at local schools. Credit: USFWS

Invasive Asian Carp

The Columbia FWCO has been a leader in the development of new and innovative trawling gears designed to target invasive carp species at all life stages. These new gears have been instrumental in assessing the risk of young silver carp that may eventually challenge the electrical barrier that now protects Lake Michigan. Additional gear development promises to promote large-scale removal efforts of the fish occurring at high densities as they continue their spread throughout the Midwest.

The first trawl gear, and the one with the longest development history, is the Paupier Trawl. The Paupier is modeled after a butterfly-style shrimp skimmer commonly used in coastal waters of Louisiana. Columbia's flagship vessel (Magna Carpa) is like these skimmers, but has the addition of electricity that delivers 80 amps of electricity in front of two 5-foot deep by 12-foot wide nets on each side of the boat. These large nets, high amperage electricity, and a fast moving boat (4 mph) enable us to sample

large areas quickly and collect fish not detectable by standard sampling techniques. This gear has enabled biologists to increase capture efficiency of all sizes of silver carp in backwaters, large rivers, tributaries, and reservoirs at rates not observed in any other traditional sampling gears.

The second trawling gear is reminiscent of the push trawl gear used across the world, but the Columbia FWCO version (dubbed the "Dozer Trawl") is electrified. This gear uses a 3-foot deep by 7-foot wide single framed trawl protruding from the front of a jet or shallow drive 16-foot boat. The net rises up and down much like the front blade on a bull dozer, allowing for varying fishing depths in the extremely shallow habitat favored by juvenile carp. The electrical array on this boat is mounted forward of the net mouth, and moves independently of the frame. In early testing, this gear worked remarkably well in our mission to detect the leading edge of the northern invasion of age-0 carp. Its utility is supplementary to the Paupier because it can be used in more hazardous flowing water conditions, far up the tributaries, amongst vegetation, or in very shallow backwaters. Like the Paupier, when sampling large bodies of water, it is important to use gears that are fast (4 mph) and catch all sizes of fish, not just those that can be viewed below the surface. An existing electrofishing boat can be modified to incorporate this gear for around \$500, enabling it to be easily incorporated into an agency's fleet.

Continued



U.S. Fish & Wildlife Service

Fisheries, Midwest Region

Conserving America's Fisheries

Columbia Fish and Wildlife Conservation Office It's What We Do

BY COLUMBIA FWCO STAFF

Continued

Also in development for Asian Carp removal is a purse seine. Purse seines are normally used in oceanic systems with large open areas deep and free of debris targeting schooling fish that do not jump over the net... Thus our challenge! Our Danish purse seine had to be modified to overcome these challenges and shows promise as it has been retrofitted to employ lighter webbing, an escapement bag for jumping fish to retreat, and a better boat deployment mechanism. A hybrid lampara seine is a secondary encirclement gear that will be employed this year and promises to offer a quick deployment and retrieval method to target schools of silver carp in small areas.

These suites of gears have the potential to help shape the way we manage, assess, and control silver carp in the future. Our crews will be working with other State and Federal agencies to compare these methods to standard gears and develop protocols that will enable others to readily employ these gears. We will also be assisting partners with the use of these gears to help control large populations that have inundated inland oxbow lakes at our refuges. We hope to provide needed solutions to mass removal of carp swimming downstream of the Great Lakes.

Forest Service Stream Surveys

We have a strong partnership with the U.S. Forest Service which has developed over many years. In the past, we conducted mussel and fish surveys in Mark Twain Forest Service Natural Areas that have detected rare fish species and the largest population of the slipper shell mussel in the State of Missouri. Last year we performed a dam replacement fish survey for "Lost Lake" which is a lake created by a rail-car trestle used to transport iron ore taken from the Ozarks over 100 years ago. The Forest Service's progressive action will protect a small community downstream of the lake and set the groundwork for a complete dam removal project to reconnect this watershed from the days of old.

Federal Lands

Our office has a long-standing partnership with Iowa Army Ammunition Plant, which is the largest uranium depleted ammunition depot in the Midwest. The facility has several lakes for which we annually provide fish management services and partner with Genoa National Fish Hatchery (NFH) to provide fish stocking. Our work this year also provided their area manager with the S.S. Milligan boat, a surplus property transfer. The S.S. Milligan was fondly named after the first Columbia FWCO Project Leader (Jim Milligan) who is now retired, but established our office in the early 90's. The relationship built between IAAP and our office started with Mr. Milligan who used this boat to provide fisheries assistance to the depot as one of the USFWS trust responsibilities many years ago. Maintaining collaborative partnerships takes building relationships and working towards a common goal. We are proud to continue the work that Mr. Milligan initiated.

In partnership through the Sikes Act, which establishes trust collaboration between the Department of Defense and USFWS, we initiated our own new partnership with Whiteman Airforce Base (WAFB). WAFB is a Stealth Aircraft Fighter base and spearheads missions everyday around the world from this facility. Columbia FWCO biologists providing Whiteman's new area manager with fisheries technical advice on several of their lakes used for recreational fishing led to a new collaboration with Genoa NFH where WAFB received fish for stocking their newly renovated lake. The lake is a center focus for base employees for picnics and leisure. Whiteman staff also used our technical assessment to procure a new fountain at the lake which will promote better fishing for the base community.

Public Outreach

Every spring our biologists provide an opportunity to experience a boat tour on the Missouri to a group of conservation enthusiasts called "Master Naturalists". We have worked in partnership with the Big Muddy Refuge for many years to provide this service that helps educate a unique group of people involved in a two-year venture to expand their knowledge about the outdoors and receive a coveted certificate by Missouri Department of Conservation as a Master Naturalist. Naturalist candidates get to view jumping carp exhibition in our tributaries along with a prologue on the history of their invasion and threat to the ecosystem. A two mile float down the Missouri River also provides an opportunity for our seasoned biologists to give a history of the work being done on the Missouri River towards recovery efforts for the pallid sturgeon.

Columbia FWCO is also engaged in its' local community and that means the University of Missouri. Mizzou is a centerpiece of Columbia and once a year we get called to provide our big trawl boat for the Homecoming Parade. It is a big event and one we use to show that we are part of our town and here to help restore the resources of big rivers that flow nearby. We are also part of a long-standing effort with a local NGO called "Missouri River Relief" (MMR). MRR is an international organization founded here in Columbia that has dedicated itself to cleaning up trash that impacts our great Rivers. Each year we provide boats, outreach, and staff to help these events create public interest around conservation and clean-up our Missouri River.



U.S. Fish & Wildlife Service

Fisheries, Midwest Region

Conserving America's Fisheries



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.

An Old Friend Reaches Out to Talk Mussel Recovery

BY DOUG ALOISI, GENOA NFH

This past month Ralph Simmons, formerly of the Neosho National Fish Hatchery, and currently with Fish and Wildlife Service's Region 2 or Southwest Region, came to pay the Genoa National Fish Hatchery's mussel staff a visit. He was on a fact finding mission on the how-to of mussel propagation for proposed future Recovery efforts of Endangered Mussels in Texas. Ralph is currently serving as the Acting Project Leader of the Inks Dam National Fish Hatchery while a new project leader search concludes. Then he will head back to the Tishomingo National Fish Hatchery in central Oklahoma, where he serves as the assistant project leader. Mussel biologists Nathan Eckert and Megan Bradley showed Ralph the "Clam Palace", Genoa's freshwater mussel propagation building, also affectionately known as "Where the magic happens". Here they demonstrated an inoculation event, where freshwater mussels are placed on the gills of a specific species of host fish that will accept the larvae, or glochidia of that particular species of mussel. There they will attach and feed off of the body fluids of the fish until such time that they are developed enough to feed on their own. The larvae will then be collected in a variety of ways given the needs of a particular project, or past results of being able to rear that species of mussels in intensive propagation systems. The mussel team gave Ralph much food for thought, and hopefully methods used in the southwest Region of Wisconsin can be applied to systems in the Southwest Region of our country. We wish Ralph the best of success in efforts to move the needle of mussel recovery efforts in Region 2.

Hines Emerald Dragonfly Larvae-Ready for Winter

BY ERIN JOHNSON, GENOA NFH

After a short hot and humid summer Genoa's Hines Emerald Dragonfly larvae are ready for winter! Last winter a small number of larvae were kept in one of the hatchery ponds while the rest were kept in specimen cups in our storage cooler. Larval survival was high enough to determine they would be successful in the pond over winter instead of the in the specimen cups in the cooler. As the weight and growth data was collected, the larvae were separated into two groups based on where the larvae were collected from; Wisconsin and Illinois. The Wisconsin, approximately 141 larvae, group headed back to our partners at the University of South Dakota for further research while the Illinois group, approximately 50 larvae, were kept at Genoa and put back into cages and set out in the pond.

Once back at the University of South Dakota the larvae will be split into two groups. One group will be used for testing the effects of an insecticide known as neonicotinoids, a new class of insecticides which action on certain receptors in the nervous system. Neonicotinoids are much more toxic to invertebrates thus creating an issue for non-target insects. Neonicotinoids can be applied to the soil and taken up by plants affecting potential food sources. The other group will be used for an experiment using artificial crayfish burrows to see how the larvae use them and how they avoid being predated. In their natural environment larvae use crayfish burrows to hibernate but it is unknown exactly how they use them and how they avoid predators. As little is known about the Hines Emerald Dragon flies in their larval state hopefully these experiments will prove to be useful as the recovery process continues.



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.

Whitney Genetics Lab

The Whitney Genetics lab provides environmental DNA (eDNA) surveillance for the early detection of invasive Silver and Bighead carp as part of the Asian Carp Regional Coordinating Committee's plans to detect, monitor, and respond to the threat of invasive carp in the Great Lakes. The lab also provides analysis for determining the ploidy of wild-caught Black and Grass carp, two more invasive carp species.



U.S. Fish & Wildlife Service Fisheries, Midwest Region

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