



Fisheries & Aquatic Resources Program

Fish Lines

Fish Passage in the Ozark Highlands of Missouri

Sinkholes

Fish Lines

Fisheries & Aquatic Resources Program - Midwest Region

The Mission of the U.S. Fish & Wildlife Service: working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

The vision of the Service's Fisheries Program is working with partners to restore and maintain fish and other aquatic resources at self-sustaining levels and to support Federal mitigation programs for the benefit of the American public. Implementing this vision will help the Fisheries Program do more for aquatic resources and the people who value and depend on them through enhanced partnerships, scientific integrity, and a balanced approach to conservation.

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<http://www.fws.gov/midwest/Fisheries/library/fishlines.htm>

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**-USFWS/Colby Wrasse
Brett Witte, Heather Calkins and Hilary Meyer
remove shovelnose sturgeon from a gill net as
part of standard sampling for the Pallid Sturgeon
Population Assessment Project.**

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Fish Passage in the Ozark Highlands of Missouri

BY HEATHER CALKINS, COLUMBIA FWCO AND RICK HANSEN, COLUMBIA FIELD OFFICE

In 1994, recovery team members from the Missouri Department of Conservation (MDC) and the Fish and Wildlife Service's Ecological Services Program realized that low water crossings were a major threat to recovery of the Niangua



-Missouri DOC/NicoleStevenson

Threatened Niangua Darter

dammer. Low water crossings were varied in length and height and had different sized culverts to allow for passage of water. Unfortunately, in most cases the culverts prevented the movement of aquatic organisms including the Niangua darter. The bottom of some culverts were over eight feet higher than the downstream bottom elevation of the stream, preventing fish from making their way upstream through these perched culverts. The recovery team worked with both county and state highway departments to design a better crossing (piered structures) that would provide a safer bridge for the public and would also allow for aquatic organism passage. Unfortunately, these piered structures were expensive and could not be built without financial assistance.

The Little Niangua River is the most important stream for the Niangua darter. It was decided that replacements of these low water crossings would be a priority. Fourteen bridges are located on the Little Niangua River within the range of the Niangua darter. Four are piered and not an impediment to aquatic organisms.

In 2004, the Columbia Fish and Wildlife Conservation Office (FWCO) and the MDC teamed up through the National Fish Passage Program (NFPP) to replace five low-water crossings in the Little Niangua River

watershed. Other partners that have made the replacements possible include the Dallas and Hickory County Commissions, Federal Emergency Management Agency (FEMA) and Missouri Conservation Heritage Foundation (MCHF). An additional four crossings have been replaced using Little Niangua River Region Missouri Department of Transportation stream mitigation funds. To date, nine low water crossings have been replaced and the final crossing in this watershed was funded this year through NFPP.

The Griffith Road crossing is the last, but not the least of the barriers, and once completed, more than 50 miles of contiguous stream habitat will be reconnected. MDC scientist Dr. Doug Novinger has been studying changes in Niangua darter populations in response to these projects. They've found Niangua darters upstream of most of the replaced crossings and an increase in overall species diversity. In mid-May, I had the opportunity to join Doug and personnel from the MDC crew to snorkel the Griffith Road site. Several Niangua darters were spotted below the structure, but none above. Hopefully by the next time this site is sampled, once the crossing has been replaced, we will find Niangua darters utilizing the



-USFWS/HeatherCalkins

Griffith Road is the final crossing to be replaced in the Little Niangua River watershed, to provide uninhibited passage to the threatened Niangua darter.

newly available upstream habitat. I really appreciate Doug's willingness to allow our assistance and learn more about how the Little Niangua River watershed has responded to the crossing replacements that received some funding through the National Fish Passage Program.

For further info about the Columbia FWCO: <http://www.fws.gov/midwest/columbiafisheries/>

Sinkholes

BY HEATHER RAWLINGS, ALPENA FWCO

Sinkholes are a unique geological feature to northeast Michigan. Many of the lakes in the local area are actually sinkholes that have a layer of clay at the bottom, which acts as a plug to hold water. Several of these lakes have been known to periodically drain when the plug gives way every few years. Some sinkholes are perpetually dry and

The site selected for the field trip is part of the Mackinaw State Forest and is simply called the “Sinkhole Area.” On May 31st 50 children, two teachers and four parents were treated to a hike around Shoepac Lake (an actively forming sinkhole lake) and around the three dry sinkholes right next to the lake. Formation of the sinkholes was explained to the group, and the children were asked to observe their surroundings by noting types of trees and common vegetation, wildflowers, and the wildlife that were brave enough to make an appearance.



We noticed the effects of a wildfire that had occurred 40 years ago, found badger burrows, and snacked on the groups’ perpetual favorite, wintergreen leaves and berries. The group was able to climb to the bottom of one of the sinkholes and note the change of temperature as they descended. The other two sinkholes had viewing platforms. Once the children completed their hike around Shoepac Lake, they were able to fish with complimentary rods, reels and bait donated by Natureology. Two bluegill were caught, much to the delight of the students.

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Students and their teacher, Jeff Jones, pose at a sinkhole overlook during their hike around three dry sinkholes.

some fill and empty with water seasonally. Cavities in the layer of limestone found beneath the glacial till that makes up northeast Michigan’s surface soils occasionally collapse as water dissolves the limestone, creating sinkholes, or the smaller version locally known as “swallow” holes.

Alpena Fish and Wildlife Conservation Office (FWCO) and the Natural Resources Conservation Service (NRCS) teamed up to organize and lead a field trip to sinkholes near Onaway, Michigan, for Wilson Elementary School’s fifth grade classes (Alpena Public Schools). Alpena FWCO staff members included Anjanette Bowen, Joseph Gerbyshak and Heather Rawlings. Maureen Stine from NRCS assisted in the trip and was able to provide items from her outdoor recreation planning business, Natureology.

The Alpena FWCO has been working with this specific group of children since they were in 2nd grade. We have been in their classroom once a month while school is in session to teach a science lesson that fits with their curriculum. This trip was part of the Alpena FWCO’s “Connecting Children with Nature Program”, and our intent is to repeatedly expose a select group of children to the natural world and assist with teaching their science curriculum to make it “fun” as well as educational.

At the end of the 2012 school year (as the children move on to junior high), we will compare testing and behavioral scores with children that were not exposed to our tutelage, to see if there are any differences. This was our last contact with this group of children, and we wanted to make it memorable.

For further info about the Alpena FWCO: <http://www.fws.gov/midwest/alpena/index.htm>

From Russia with Yess

BY SCOTT YESS, LA CROSSE FWCO

It was an honor to represent the Fish and Wildlife Service this spring at the Great Rivers International Scientific and Industrial Forum in Nizhny Novgorod, Russia. After landing in Moscow and a short day tour of this historic city, we took the bullet train to Nizhny Novgorod. The setting for this big rivers Forum was on the banks of the Volga River. The Volga is the largest river in Europe and like many of our great rivers has had significant alterations due to the construction of hydro dams and transporting commerce.



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Scott Yess (left) and Dale Bruns (right) were members of the United States delegation at the recent Great Rivers Scientific and Industrial Forum in Russia.

The Great Rivers International Scientific and Industrial Forum was attended by over 2,600 scientists and professionals in the water resource field. From the opening ceremony, which was a fantastic mix of traditional song and dance accompanied by presentations from the dignitaries attending the Forum, it was extremely informative and entertaining.

For further info about the La Crosse FWCO: <http://www.fws.gov/midwest/lacrossefisheries/>

Mussel Cage Program Partnership

BY NATHAN ECKERT, GENOA NFH

As we move from June into July, the mussel culture program at Genoa National Fish Hatchery (NFH) has placed its' final few mussel cages in the Mississippi River for this season. Even though there were some bumps along the way, we had a successful

For my contribution to this Forum I was asked to prepare a poster describing the

Upper Missisippi River Conservation Committee. In addition, during a fisheries break out session, I gave a presentation on the Lake Sturgeon Restoration Project in the Red River basin. To my surprise, the questions I received from the audience were not centered on lake sturgeon but their focus was on our regulations. Currently Russia has very few regulations and there is a push to implement a license fee and harvest limits. Of course, there are vocal supporters on both sides of this issue.

Another aspect of the conference, which I was excited to attend, was the United Nations Educational, Scientific and Cultural Organization (UNESCO) breakout session which focused on inputs of Biosphere Reserves and Local Population. In the Volga River basin, there are 11 UNESCO Biosphere Reserves. Managers from each of the reserves were in attendance and presented a brief update on the status and accomplishments for their station. It was extremely interesting to see how much was being done with limited funds. Unfortunately, we did not have time to visit any of the reserves; however, on the last evening in Nizhny Novgorod, we were treated to a wonderful boat tour of the Volga River.

I would also like to state how fantastic Peter Ward was as our interpreter. Peter works for our International Affairs Office and he speaks fluent Russian. Having lived in Moscow, he also knows the culture and history of this interesting country. We also had the pleasure of travelling with Dr. Dale Bruns from Wilkes University in Pennsylvania. Dale is an expert on frac sand mining. It was a pleasure to have met and travelled with both Peter and Dale.

Partnerships are essential for effective fisheries conservation. Many agencies, organizations, and private individuals are involved in fisheries conservation and management, but no one can do it alone. Together, these stakeholders combine efforts and expertise to tackle challenges facing fisheries conservation. The success of these partnerships will depend on strong, two-way communications and accountability.

Over 90 cages were placed at four locations ranging from Fairport, Iowa, up to the St. Croix River. This represents a propagation effort for nine species, three of which are federally endangered (Higgins' eye, snuff-box and sheepnose). As the program grows, we hope to add new species and improve results with our normal propagation list. With low water levels and high temperatures for most of the summer, we anticipate having good results when these cages are examined in the fall.

This effort would not be possible without the help of our partners and volunteers. Over 20 local volunteers from Friends groups assisted with the construction of mussel cages last winter, and personnel from the Minnesota Department of Natural Resources (DNR), Iowa DNR, Illinois DNR, National Park Service, U.S. Army Corps of Engineers and the Fish and Wildlife Service's Rock Island Field Office assisted with the placement of cages at various points this spring. It was truly a group effort! Hopefully, favorable conditions will persist and we will have many sub-adult mussels to stock into the waters of the Upper Mississippi River system.

For further info about the Genoa NFH: <http://www.fws.gov/midwest/genoa/>



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Agency personnel help place mussel cages on the St. Croix River. Partners from the Minnesota, Iowa and Illinois Departments of Natural Resources, National Park Service, U.S. Army Corps of Engineers and Rock Island Field Office assisted with the placement of cages at various sites this spring.

Going GREEN

BY RANDY OBERMILLER, PENDILLS CREEK NFH

For several years, Pendills Creek National Fish Hatchery (NFH) has had "Green" initiatives established in an effort to reduce energy costs and lessen the amount of waste going into local landfills. Those programs included collection and recycling of used motor oil and recycling fluorescent lamps. We have a special container designed to store used motor oil which is then sent to a recycling facility. The hatchery also buys refined and recycled oil to use in its hatchery vehicles. A fluorescent lamp recycling program is also in place. A recycling box is furnished by a bulb recycling company.

With funding from the American Recovery & Reinvestment Act, Pendills Creek NFH recently installed energy efficient T-8 lights in the office, tank and break rooms in its main facility building. These lights have increased energy efficiency and achieved energy savings at the hatchery.

Existing incandescent ceiling lights in the hatchery's raceway building will soon be replaced with dimmable energy saving high quality compact fluorescent CFL bulbs. In addition, an office recycling program includes collection and recycling of the following materials: computer paper, mixed paper, cardboard,

telephone books, catalogs, aluminum cans, glass and plastic bottles, batteries, light bulbs and ink jet toner cartridges. The program is user-friendly as recycling bins have been placed throughout the facility. These materials are then taken to a local community recycling drop off location and are diverted from the landfill to be recycled and processed into new products.

Signs have also been placed throughout the facility reminding individuals when leaving a room, to turn off lights when not in use to save energy.

Recycling at the Pendills Creek NFH has become more and more a part of everyday life. It reduces waste and saves raw materials from going into our local landfills. With minimal effort, recycling is a quick and easy way to make a big difference in the environment and save our natural resources.

Pendills Creek NFH, founded in 1951, is located in Michigan's Upper Peninsula near Brimley, Michigan, on Lake Superior. The facility rears yearling lake trout to be released as part of the Great Lakes Lake Trout Rehabilitation Program. The hatchery produces one million lake trout that are released into Lake Michigan each spring.

For further info about the Pendills Creek NFH/Sullivan Creek NFH: <http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/pendills.pdf>

Dr. Charlie Collins Fisheries Faculty Fellow - His First County Fair

BY KAY HIVELEY, FRIENDS OF THE NEOSHO NFH

Dr. Charlie Collins II attended his first county fair last week. He helped to staff the fish hatchery booth at the Newton County Fair where he experienced the sounds, smells and friendliness that marks most country fairs.



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As part of the Faculty Scholarship Program at the Neosho National Fish Hatchery, Dr. Charlie Collins experienced his first county fair.

Collins is spending three weeks at the Neosho National Fish Hatchery (NFH) as part of a summer Faculty Scholarship Program. Actually, he's a pioneer in this experiment, which this year is a pilot program. Depending on the outcome, it may be extended for several years. The program is designed to send young minority college faculty to Fish and Wildlife Service sites to learn about the skill sets needed to perform

the various jobs there. This first year, five young college teachers, like Dr. Collins from Kentucky State University, are taking part.

Collins was born and raised in Washington D. C. and, as a child; he became interested in improving the world. "I read everything I could find about renewable resources," he said. Collins is excited about the program he is in. He sees endless possibilities for teachers to learn about fish and wildlife conservation and the kind of training it takes to work in the Fish and Wildlife Service. The teachers can then pass the information along to their students.

Collins and the other faculty participants in the program are learning that the Fish and Wildlife Service needs people who are biologists, mechanics, secretaries, maintenance people, plumbers, education specialists and dozens of other professions.

While in Neosho, Missouri, he has participated in most of the jobs there. He has loaded fish in trucks, stocked rainbow trout at Lake Taneycomo, done yard work, helped with tours and is working on a brochure for the hatchery.

Once he completes his tour at the Neosho NFH, he will spend three weeks at a La Crosse Fish Health Center located in La Crosse, Wisconsin. When the six weeks are over, the entire five participants of the faculty scholarship program will present papers on their work experiences.

Part of the work Dr. Collins experienced at the Neosho NFH was helping with educational outreach. As part of that job, Collins enjoyed his first county fair. He was wishing his six-year-old son could be there to see the animals, the people, the entertainment and all the activities at the fair.

The Neosho NFH is one of six facilities chosen to participate in this pilot program. Dr. Mamie Parker, now retired from her leadership role with the Fish and Wildlife Service in Washington DC, is the brainchild behind this new program.

All in all, you can bet Dr. Collins will have plenty to tell his son about a small county fair, and he will have some unusual memories of Neosho, including the greased pig contest!

For further info about the Neosho NFH: <http://www.fws.gov/midwest/neosho/>

Stocking of Walleye and Yellow Perch

BY JORGE BUENING, GENOA NFH

During the month of June, Genoa National Fish Hatchery (NFH) stocked their first pond cultured walleye and yellow perch fish from the 2012 year class. These stockings are known as Phase 1



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As the culture pond is drained, Phase 1 (About one inch in length) yellow perch come into the pond kettle where they are harvested, and later stocked out.

stockings and are implemented to meet specific management objectives. These objectives generally focus more on the number of fish being stocked into an area instead of the size of the fish being stocked.

Advantages of phase 1 stockings are that the fish are smaller and easier to transport. They are also less expensive to produce, due to less labor and food resources being devoted to them during a shorter stay on station. More fish are also available for stocking do to a shortened time for mortality from predation and competition.

This year our Phase 1 stockings included sending almost 70,000 walleye to the Lac Courte Oreilles Tribe and 2,500 to the U.S. Geological Survey lab in Lacrosse, Wisconsin. Nearly 40,000 yellow perch were split between Green Island and Middle Sabula Lake of the Mississippi River. We also restocked our ponds for further grow out for our fall harvest.

Phase 1 stockings are a valuable tool for fish population managers and fish culturists. It provides us our first chance to see how the fish are developing and surviving in their pond culture units, and we can make changes accordingly. Hopefully our fish are adapting well to their new homes and we look forward to a busy fish-filled summer.

The Fisheries Program maintains and implements a comprehensive set of tools and activities to conserve and manage self-sustaining populations of native fish and other aquatic resources. These tools and activities are linked to management and recovery plans that help achieve restoration and recovery goals, provide recreational benefits, and address Federal trust responsibilities. Sound science, effective partnerships, and careful planning and evaluation are integral to conservation and management efforts.

For further info about the Genoa NFH: <http://www.fws.gov/midwest/genoa/>

Fish Health Survey on Pendills Lake

BY ANJANETTE BOWEN, ALPENA FWCO

On May 14-15, biologist Anjanette Bowen of the Alpena Fish and Wildlife Conservation Office (FWCO) assisted Cory Pusach from the La Crosse Fish Health Center (FHC) with the collection of fish from Pendills Lake in Chippewa County, Michigan. Samples were taken from fish to determine if disease or pathogens are present in the lake, which is a back-up water supply for the Pendills Creek National Fish Hatchery. The hatchery raises lake trout for stocking in the upper Great Lakes, and fish health sampling is important to keep the hatchery disease and pathogen free.

Fyke nets were used to sample fish from the lake. A Lake Superior State University student assisted

with netting during part of the survey. Six species of fish were collected - brown bullhead, golden shiner, northern pike, pumpkinseed sunfish, rock bass and yellow perch. The total catch was recorded and lengths were measured on a representative sample from each species.

Kidney and spleen samples were collected from a number of brown bullheads, pumpkinseed sunfish, rock bass and yellow perch to detect bacterial and viral pathogens. The samples will be processed at the La Crosse FHC in Onalaska, Wisconsin. Laboratory results on the pathology of the samples will be available at a later date.

For further info about the Alpena FWCO: <http://www.fws.gov/midwest/alpena/index.htm>

2012 Distribution Season a Success

BY CAREY EDWARDS, IRON RIVER NFH

Growing and stocking lake trout sounds simple and mindless in theory. How hard could it be, really? Isn't it just a matter of throwing them some food, loading them into a truck and hosing them off at the nearest boat landing? Not hardly. It is a vastly complicated process that starts years in advance before the fish are even hatched. It doesn't just happen at the



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Prior to stocking, lake trout are sent through a mass marking trailer where a fin is removed and a coded-wire tag implanted.

local Department of Natural Resources or Fish and Wildlife Service Office; it encompasses a plethora of state, federal and tribal agencies as well as conservation clubs and other organizations such as the Great Lakes Fishery Commission.

Managing interjurisdictional fisheries can be tricky. The 2000 Consent Decree was negotiated between the State of Michigan and five Chippewa and Ottawa tribes, to set forth standards in managing the fishery in 1836 Treaty waters of Lakes Superior, Michigan and Huron with the Fish and Wildlife Service being the United States representative, for implementation of the Decree. Groups work together to evaluate the fisheries, assess the status of fish stocks, establish harvest limits, stock fish and control parasitic sea lamprey which is all part of rehabilitating lake trout in the Great Lakes.

From a hatchery standpoint, decisions are made years in advance on how many brood fish are needed to meet future goals for egg production and how often gametes (eggs and milt) are to be collected from the wild to keep hatchery stocks genetically sound. Decisions are also made as to what strain of lake trout will be raised and where it will be stocked; and often times, studies are conducted with multiple strains of lake trout at a given site to determine what strain of lake trout survives best.

These studies will be even more helpful due to the implementation of the mass marking program which began in 2010. This program is a coordinated effort between all jurisdictions to mark (tag or clip) all trout and salmon stocked into the Great Lakes to evaluate whether a fish caught in an assessment or by an angler is a native or hatchery fish. Information gathered from tagged fish could influence decisions on the strain of lake trout and how many are being stocked from each hatchery.

Putting aside all the planning and technology that takes place at each hatchery to make and grow a



-USFWS

Staff transfer lake trout for the Pendill's Creek National Fish Hatchery distribution truck to the offshore stocking vessel *M/V Spencer F. Baird*.

healthy lake trout to stocking size, whether it leaves as a shore stocked fall fingerling or as a yearling, or is stocked off of the offshore stocking vessel *M/V Spencer F. Baird* as part of the main distribution season, the planning and collaborative processes that takes place is commendable. Nearly a dozen Fish and Wildlife Service, Coast Guard and state Department of Natural Resource offices work together in what is nearly a three month operation to stock fish on reefs in Lakes Michigan and Huron. The ending result is this: Approximately 4.4 million lake trout were stocked in 2012, and we are in the process of making it happen all over again for next year.

For further info about the Iron River NFH: <http://www.fws.gov/midwest/ironriver/>

Spring Search for Invasive Eurasian Ruffe in Northeast Michigan

BY ANJANETTE BOWEN, ALPENA FWCO

Spring efforts were conducted to detect the presence of Eurasian ruffe (ruffe) in northeastern Michigan. The ruffe is a small invasive fish native to Eurasia that is related to yellow perch and walleye. Ruffe only reach sizes of five to six inches and are not of value as a sport species; however, due to their small size, they may compete with juvenile perch and other valuable bottom dwelling species for food and habitat.

Ruffe were first found in the northeastern Michigan area in 1995, at the mouth of the Thunder Bay River in Alpena. They produced a large year class in 1999, and then their numbers declined abruptly. Ruffe have not been captured from the area since 2003. Spring surveillance for ruffe has been ongoing in the Thunder Bay River since their disappearance; however, anecdotal sightings of ruffe in the Trout River (Rogers City) and the Cheboygan River in recent years have spurred the need for increased spring surveillance in these areas.

This spring, staff from the Alpena Fish and Wildlife Conservation Office (FWCO), with assistance from volunteers, conducted sampling in an effort to detect spawning-phase ruffe that may be present in rivers and near shore areas of northeast Michigan.

For further info about the Alpena FWCO: <http://www.fws.gov/midwest/alpena/index.htm>

Rapid Response

BY NICHOLAS BLOOMFIELD, LA CROSSE FWCO

The Asian Carp Regional Coordinating Committee's (ACRCC) Monitoring and Rapid Response Work Group (MRRWG) initiated a rapid response at Lake Calumet, Illinois (IL) on July 11th. This action was taken in response to three consecutive water sampling events that returned positive results for silver carp DNA (24%, 7%, and 12% of all samples collected on May 22nd, June 11th, and June 25th, respectively).

The ACRCC's 2012 Monitoring and Rapid Response Plan calls for a Level 1 response in this scenario, including the use of intensive electrofishing and deployment of various commercial gears in a concerted effort to capture live Asian carps. Similar

For further info about the La Crosse FWCO: <http://www.fws.gov/midwest/lacrossefisheries/>

Aquatic Invasive Species

Aquatic invasive species are one of the most significant threats to fish and wildlife and their habitats. Local and regional economies are severely affected with control costs exceeding \$123 billion annually. The Fisheries Program has focused its efforts on preventing introductions of new aquatic invasive species, detecting and monitoring new and established invasives, controlling established invasives, providing coordination and technical assistance to organizations that respond to invasive species problems, and developing comprehensive, integrated plans to fight aquatic invasive species.

Boat electrofishing and backpack electrofishing were used to sample downstream areas of the Thunder Bay River, Trout River (Rogers City), and Cheboygan River. Near shore areas of Rogers City, including the Swan River mouth, Calcite port and Rogers City marina, were also sampled. No ruffe were captured following a total of 270 minutes of effort. We will continue to sample for ruffe at these locations during our fall trawling surveys. The fall trawling survey is an annual effort that targets ruffe in near shore areas and river mouths across United States waters of Lake Huron and the St. Mary's River.

Early detection and increased public awareness about invasive species may aid in slowing or preventing their spread to new areas. For more information about ruffe, please visit the Aquatic Nuisance Species (ANS) Task Force website at <http://anstaskforce.gov>.

actions prompted earlier this year by positive results for silver carp DNA yielded no Asian carps.

Our response took place July 11-13. Over 900 hours of response effort yielded more than 30 species and 6,300 fish, but no Asian carps were observed or captured. This effort was well organized by the Illinois DNR and a great job was done by all who participated. The amount of effort put forth was evident by the many boats and floats scattered throughout the lake. Big thanks go out to Aaron and Matt for making up a great crew and not complaining once about the extra effort required during the days of intense heat.

Butterflies Abound!

BY CAREY EDWARDS, IRON RIVER NFH

It seems like the new buzzword these days is pollinator and rightly so. They are an integral part of the world's life cycle. Efforts to cultivate areas where pollinators can reproduce, feed and grow are in effect across the country. At the Iron River National Fish Hatchery (NFH), where it is commonplace to find 1.65 million fish feeding and growing, a fourth pollinator garden is growing.



-USFWS

Biologist Carey Edwards assists 5th grade students from Iron River Elementary School plant perennials in the fourth annual butterfly garden located on the grounds of the Iron River National Fish Hatchery.

The Iron River Elementary School is located in a small town eight miles south of the hatchery. Fifth grade teacher Steve Lahti was contacted about participating once again in the fourth annual gardening event. On May 4th, 22 students arrived by 9:30 a.m. for the first step in the gardening process: creating stepping stones for the garden path.

In an effort to put more ownership into the project, the students not only help plant the garden but they make their own stepping stones. After curing, the stones are placed in a garden adjoining last year's garden, creating a path that allows hatch-

ery visitors to view their hard work up close and personal. Hatchery staff hope that students come back to view the garden and show family and friends the unique stones they made. Stones were decorated with an assortment of stamps, stones and shells.

Once the students smoothed out their concrete mixtures, it was time to plant. Students spent the remainder of the morning weeding the connecting gardens and planting flowers in the new one. After lunch, the students toured the hatchery and decorated their stepping stones. Students enjoyed light refreshments before cleaning up the work area and catching the bus back to school at the end of the day.

With a little bit of elbow grease and a lot of teamwork, a very successful and rewarding project was accomplished. The students were able to learn about gardening and butterflies as well as gaining awareness of fish hatchery processes. Stay tuned for next year's addition to the Iron River NFH's butterfly garden with the new fifth grade class.



-USFWS

Students make one-of-a-kind stepping stones for a unique path through the butterfly garden at the Iron River National Fish Hatchery.

As the population in the United States continues to grow, the potential for adverse impacts on aquatic resources, including habitat will increase. At the same time, demands for responsible, quality recreational fishing experiences will also increase. The Service has a long tradition of providing opportunities for public enjoyment of aquatic resources through recreational fishing, habitat restoration, and education programs and through mitigating impacts of Federal water projects. The Service also recognizes that some aquatic habitats have been irreversibly altered by human activity (i.e. - dam building). To compensate for these significant changes in habitat and lost fishing opportunities, managers often introduce non-native species when native species can no longer survive in the altered habitat.

For further info about the Iron River NFH: <http://www.fws.gov/midwest/ironriver/>

We're Not Just About the Fish at Genoa NFH!

BY ANGELA BARAN, GENOA NFH

In 2011, biologist Jennifer Bailey with the Genoa National Fish Hatchery (NFH) attended archery training at the National Conservation Training Center, becoming certified as not only a course instructor but also as a Basic Archery Instructor Trainer to certify others as archery instructors. Since completing the training, Jen has implemented archery as a component to the Outdoor Classroom and Kid's Fishing Day, and as an instructional event for a local girl scout troop.

On June 22nd, she led a certification course for the staff at the hatchery, local partners and members of youth organizations. By the end of the 8 hour training, all 11 participants passed and are now certified as USA Archery Instructors.

Immediately following the training, Genoa NFH welcomed 43 kids and six staff from the La Crosse YMCA Summer Camp Program for a day at the hatchery. The kids were given a hatchery tour, and then explored the Sense of Wonder Discovery Wetland finding birds, frogs, butterflies and beetles. Afterwards, the kids were presented with a 45 minute introduction to archery. The kids had a blast and by the end of the 2 ½ hrs. about 95% of the kids were hitting the targets, and all of the kids were

newly addicted to archery! This new component of the hatchery's outreach program is continually growing as word spreads throughout the community. Another archery day is scheduled for August with the La Crosse YMCA.



-USFWS

A group of youngsters receive archery instruction, practicing their draw before they pick up the bows!

For further info about the Genoa NFH: <http://www.fws.gov/midwest/genoa/>

An "Eggciting" Story

BY CAREY EDWARDS, IRON RIVER NFH

For the past ten years, raising trout and salmon in the classroom has been common place in the north woods of Wisconsin. The program started at the Superior Middle School and has since spread to Northwestern, Ashland and Bayfield 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 is quite costly, but with the help of two local sportsman's group donating the funds for chiller and aquarium, the schools were up and running.

The last ingredient for the program was the eggs and Iron River National Fish Hatchery agreed to provide lake trout eggs for the program. The students were educated about fish transportation regulations and permitting requirements which are designed to protect against disease transmission. They understood that the newly hatch fish could not be released into the environment due to these rules and would be humanely euthanized at the end of the science project.

Nearly 900 students spread out in four schools, welcomed 500 eggs into each of their aquariums in mid-October. They monitored water temperature



-USFWS

An Ashland Middle School student counts "eggs" into a graduated cylinder.

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

For further info about the Iron River NFH: <http://www.fws.gov/midwest/ironriver/>

Earth Tracks at the Duluth Zoo

BY CAREY EDWARDS, IRON RIVER NFH

For the past ten 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. Over 1,200 students from area elementary and middle schools visited the zoo on May 18 to take part in this green event.

Making its fourth appearance was the Iron River National Fish Hatchery (NFH). Biologist Carey Edwards set up a booth with fish replicas and an interactive display that students could quiz themselves on fish anatomy. Students also received fish tattoos or hatchery pencils for participation in the booth.

Many local businesses, organizations and government agencies were 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.

For further info about the Iron River NFH: <http://www.fws.gov/midwest/ironriver/>

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 continue the learning process with a presentation and hands-on lab to all three classes. 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 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 strike home how important and frequently math is used in everyday life.

This program is very rewarding for all involved. The school, sportsman'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.



-USFWS

Laurie Gucinski of the Iron River National Fish Hatchery answers questions about the coaster brook trout display at the Duluth Zoo.

Historic Event for Fish & People

BY ANN RUNSTROM, LA CROSSE FWCO

After a hiatus of nearly 100 years, and preceded by 20 years of cooperative management efforts between the La Crosse Fish and Wildlife Conservation Office (FWCO), Wisconsin Department of Natural Resources (DNR), and Menominee Tribe (Tribe), lake sturgeon were once again observed spawning at Keshena Falls on April 11th.



-Thom Skelding

Menominee Tribal Chairman Randal Chevalier, along with Wisconsin Department of Natural Resources and Fish and Wildlife Service biologists release a lake sturgeon into the Wolf River near Keshena Falls on the Menominee Indian Reservation.

Keshena Falls is on the Wolf River within the boundaries of the Menominee Indian Reservation. When the Menominee people chose this location for their reservation in 1854, thousands of sturgeon spawned at Keshena Falls as they had done each spring for thousands of years.

In 1892, a dam was constructed nine miles downstream in Shawano, Wisconsin (WI), blocking fish migration to Keshena Falls. The numbers of spawning fish dwindled sharply shortly after. Although the last sturgeon was observed on the reservation in 1959, lake sturgeon spawning at Keshena Falls had ceased many years prior.

La Crosse FWCO has been working with the Menominee Tribe and the Wisconsin DNR to restore a spawning lake sturgeon population to this reach of the Wolf River since 1992. Beginning in 1994, small numbers of adult and sub-adult lake sturgeon were reintroduced annually by capturing them downstream and transferring them to various sites on the river

upstream of the dams. These efforts failed to result in observed spawning activity or any evidence of reproductive success.

In 2011, the Tribe entered into a Memorandum of Understanding with the DNR to transfer 100 fish each year to this reach of the Wolf River for the next ten years. Over 70 fish were transferred in the fall of 2011, and another 30 were reintroduced just prior to the spawning season in the spring of 2012.

Voila! Lake sturgeon spawned at Keshena Falls on April 11th, 2012. This was a much welcomed event by the Menominee people who have a tradition of holding a large celebration and dance upon the spring arrival of these ancient fish. In anticipation of potential spawning activity at Keshena Falls in 2012 (as well as the vulnerability of the fish to illicit take at this time) the Tribe posted 24-hour guards to protect any lake sturgeon here from attempts to harvest or harm the fish. Tribal members kept this round-the-clock vigil along the banks of the river for ten days to ensure the safety of any lake sturgeon present at the historic spawning site.

Although it was a small number of fish and their activity lasted less than a day, it was a momentous occasion for the Menominee people and the lake sturgeon. Word spread quickly throughout the community and hundreds of people came to watch the fish as they spawned.

It is difficult for me to accurately describe the magnitude of this event or the overall importance of lake sturgeon in the cultural history of the Menominee people. From a career standpoint, I am certain to recall this as the most significant event and effort that I have been a part of. It has been a humbling, rewarding and tremendous honor to partake in the efforts to return lake sturgeon to the Menominee people and their lands, and to share in the joy of this lake sturgeon homecoming!

Conserving this Nation's fish and other aquatic resources cannot be successful without the partnership of Tribes; they manage or influence some of the most important aquatic habitats both on and off reservations. In addition, the Federal government and the Service have distinct and unique obligations toward Tribes based on trust responsibility, treaty provisions, and statutory mandates. The Fisheries Program plays an important role in providing help and support to Tribes as they exercise their sovereignty in the management of their fish and wildlife resources on more than 55 million acres of Federal Indian trust land and in treaty reserved areas.

For further info about the La Crosse FWCO: <http://www.fws.gov/midwest/lacrossefisheries/>

Paupier Net Shows Promise

BY WYATT DOYLE, COLUMBIA FWCO

What started as a sampling tool to find Asian carp has resulted in a much needed fishing net to assess juvenile paddlefish populations. Columbia's Fish and Wildlife Conservation Office (FWCO) assisted the Iowa Department of Natural Resources (DNR) in a fishery survey at Desoto National Wildlife Refuge (NWR) to evaluate the impact of last year's Missouri River flood to the oxbow lake.



-USFWS

The Columbia Fish and Wildlife Conservation office used the paupier net to survey for rough fish at the Desoto National Wildlife Refuge.

When the lake was flooded in 1993, rotenone was used to remove "rough" fish like carp, freshwater drum and bigmouth and smallmouth buffalo and provide anglers with a more traditional sport fishery. However, following last year's flood, refuge manager Tom Cox decided to let the lake retain the fish from the river and enhance it with walleye from an Iowa DNR hatchery.

For further info about the Columbia FWCO: <http://www.fws.gov/midwest/columbiafisheries/>

Science and technology form the foundation of successful fish and aquatic resource conservation and are used to structure and implement monitoring and evaluation programs that are critical to determine the success of management actions. The Service is committed to following established principles of sound science.

While the Iowa DNR electrofished the lake, our office used the new "paupier" net to assess the rough fish population. The paupier is a 12 foot wide by 7 foot deep by 30 foot long net that rests off the sides of the boat. It is raised and lowered on winches and pushed by the boats outboard.

While the net has had moderate success with small Asian carp, it has proven very effective at catching surface dwelling native species like crappie and paddlefish. We have sampled small numbers of 12-20 inch paddlefish in river surveys, but at Desoto NWR we sampled as many as 74 paddlefish in only a four minute run. There is no other tool to effectively sample juvenile paddlefish except gill nets, a passive gear, which can be dependent on fish movement or flowing water. The active nature of the paupier net provides a new and efficient tool for sampling paddlefish.



-USFWS/HeatherCalkins

Small paddlefish were captured in a paupier net during a fishery survey at the Desoto National Wildlife Refuge.

The inability of management biologists to assess juvenile paddlefish populations prevents the understanding of what is needed for good recruitment events and how to set regulations for the next decade since acceptable harvest sizes occur some ten years later. At least for Desoto Lake, there will be a future paddlefish population that may one day make it back to the Missouri River through control gates at the ends of the lake or through another large flood. The "paupier" promises to be a needed tool for other state agencies in assessing their paddlefish populations.

Aquatic Organism Passage Project on the West Branch of the Sturgeon River

BY JOSEPH GERBYSHAK, ALPENA FWCO

Biologists Joseph Gerbyshak and Heather Rawlings of the Alpena Fish and Wildlife Conser-



(Above) The West Branch of the Sturgeon River at Lewis Road prior to the culvert replacement project, and (below); The new, bottomless culvert that will allow for uninhibited aquatic organism passage along with reducing sedimentation and thermal pollution.



-USFWS photos

For further info about the Alpena FWCO: <http://www.fws.gov/midwest/alpena/index.htm>

Loss and alteration of aquatic habitats are principal factors in the decline of native fish and other aquatic resources and the loss of biodiversity. Seventy percent of the Nation's rivers have altered flows, and 50 percent of waterways fail to meet minimum biological criteria.

vation Office (FWCO)

worked with

Lisha Ramsdell of Huron Pines and the Otsego County Road Commission to replace a culvert that was causing environmental harm at the intersection of Lewis Road and the West Branch of the Sturgeon River.

The undersized, failing culvert was replaced with an arched, bottomless structure that spans the bank full width of the stream. The new structure allows for aquatic organism passage, reduces sediment loading, and decreases thermal pollution. Along with the culvert replacement, the road surface was hardened with Afton stone and runoff diversions were constructed on the shoulders of the road, further reducing the amount of sediment input to the stream from the road.

The West Branch of the Sturgeon River, a Blue Ribbon Trout Stream, is a high quality, cold-water system. Brook trout, a native species to Michigan, are one of the many species that benefit from restoring cold-water habitat fragmented by inadequately sized culverts at road-stream crossings. The protection of cold-water systems, such as the West Branch of the Sturgeon River, is becoming increasingly important to help ensure the sustainability of fish, wildlife, plants and habitats in the face of accelerating climate change.

Due to the increased importance of cold-water systems, this watershed has been a focus area for other recent habitat improvement projects. Over the past three years, two undersized culverts have been replaced directly upstream of the Lewis Road site, further opening passage to the headwaters that serve as vital spawning and rearing habitat. These projects could not have been completed without the careful planning and cooperation of the Fish and Wildlife Service, Huron Pines and the Otsego County Road Commission.

Summer 2012 Youth Hiring at Genoa NFH

BY DOUG ALOISI, GENOA NFH

Genoa National Fish Hatchery (NFH) received funding to allow us to hire a summer crew of three Youth Conservation Corps (YCC) and three Student Temporary Experience Program (STEP) employees through a departmental budget initiative entitled "Youth in the Great Outdoors". After a random drawing of eight summer applicants, Ty Clancy, Curtis Westfall and Hannah Strachan were chosen as the three YCC employees. Ty, Hannah and Curtis are all students from the Viroqua Area High School and will be with us for the summer from June to August.



-USFWS

The Genoa National Fish Hatchery Youth Conservation Crew work on a new hiking trail at the hatchery.

They are helping the hatchery staff catch up on grounds maintenance, equipment repairs, and are even going to be helping us with building nature trails through our wetland area and outdoor classroom. Our

three STEP employees this summer are Orey Eckes, Paige Oldham and Zachary Kumlin.

We are fortunate to be able to continue Orey's appointment now that he is working toward his Master's Degree at the University of Wisconsin, La Crosse. For his thesis, he is looking at the development of lake sturgeon eggs at several temperatures to determine the length of time to reach each stage of development and to see which temperatures are most ideal for incubating the eggs. Stay tuned for future articles with the results!

Paige Oldham is also returning to us from Hawaii Pacific University, where she is majoring in marine biology. She is also not new to the hatchery. Paige worked as a YCC employee over the summer of 2009 and then came back in the summer of 2010 as a YCC crew leader.

Zachary Kumlin is the newest STEP enrollee for the station. Zach's area of focus will be the maintenance department at the Genoa NFH, a new twist for the station. In the past, the STEP program has focused primarily on giving up-and-coming biologists opportunities for job related experience. Zach is majoring in electro-mechanical technology at Western Technical Community College, and also has worked at the hatchery many years ago (2007) in the YCC program. We look forward to working with all of our young people and expect to hear many good reports of their future productivity!

The Fisheries Program relies on a broad range of professionals to accomplish its mission: biologists, managers, administrators, clerks, animal caretakers, and maintenance workers. Without their skills and dedication, the Fisheries Program cannot succeed. Employees must be trained, equipped and supported in order to perform their jobs safely, often under demanding environmental conditions, and to keep current with the constantly expanding science of fish and aquatic resource management and conservation.

For further info about the Genoa NFH: <http://www.fws.gov/midwest/genoa/>

Motorboat Operator Certification Course Open-Water Module

BY ADAM KOWALSKI, ALPENA FWCO AND DAVE WEDAN,
LA CROSSE FWCO

Motorboat Operator Certification Course (MOCC) instructors Adam Kowalski with the Alpena Fish and Wildlife Conservation Office (FWCO), Dave Wedan (Regional Watercraft Safety Coordinator, Lacrosse FWCO), Steve Witt with the National Park Service (NPS), Jason Johnson (NPS), Dave Wilkins (NPS), and Mike Larsen (NPS) put on a three day Open-Water Module training in Bayfield, Wisconsin, from May 15 to 17. The Open-Water Module is designed to give Department of Interior employees additional safety training, over and above the standard MOCC training, for operating larger vessels on the open waters of the Great Lakes and large inland waters.



-USFWS

Students participate in a drill for the Open-Water Module of the Motorboat Operator Certification Course, reminding them that personal floatation devices need to be in proper working order and sized correctly.

Students were provided the tools, resources and knowledge required to safely operate a vessel on a large water body. Focusing on the “Know Before You Go” risk assessment concept, the course stresses checking weather conditions and where to find local weather, marine information, and updates while planning and conducting any open water work. Crew supervisors and operators (crew leader) must assess and prepare the crew he/she may be working with, confirming that their abilities, training, experience and fitness level is equal to the task to be completed and prepared for all environmental and mission evolu-

tion challenges and situations. The course also offers experience in navigation, using a chart and charting tools with and without the aid of electronics, and how to operate and navigate using GPS and radar units. Students get the chance to operate larger-sized vessels on one of the Great Lakes, in open-seas, and possibly out of sight of land - conditions not usually seen on smaller inland lakes and rivers. Vessel maintenance addresses minor breakdowns at sea, such as fouled spark plugs, how to replace them, and how to troubleshoot and deal with other mechanical issues. The students also experience “hands-on” experience in what to do in case of an emergency, such as a crew member overboard, vessel sinking, change in sea or weather conditions, in-water survival and rescues.

The Great Lakes Open-Water Module mandates the need to always file a float plan, how to fill out a float plan, who should receive the float plan, and how to use the risk assessment Green-Amber-Red (GAR) model. The GAR model is a Coast Guard designed process used to calculate the risk of each mission from planning to completion.

An abandon ship drill was also added this year, in partnership with the Coast Guard and NPS. Students were informed that their vessel was sinking, and they were required to wear immersion suits in preparation of an abandon ship drill. After radioing a “May Day” call to the Coast Guard, the students entered the water and were rescued. While in the water, the students were to account for everyone, check for injuries, stay together, and continue to check on the condition of each person at regular intervals. Instructors were with the students at all times to facilitate proper communication and ensure the safety of everyone. A National Park Service vessel staffed with three instructors was within sight and communication for the duration of the drill.

This course was a total success and everyone completed the training. Students reported that they learned a great deal and felt the course was a great addition to the regular MOCC because it prepared them for open water boat handling and emergency situations.

For further info about the Alpena FWCO: <http://www.fws.gov/midwest/alpena/index.htm>

For further info about the La Crosse FWCO: <http://www.fws.gov/midwest/lacrossefisheries/>

Midwest Region Fisheries Divisions

National Fish Hatcheries

The Region's National Fish Hatcheries primarily focus on native fish restoration/rehabilitation by stocking fish and eggs, such as pallid and lake sturgeon and by developing and maintaining brood stocks of selected fish strains, such as lake trout and brook trout.

Hatcheries also provide technical assistance to other agencies, provide fish and eggs for research, stock rainbow trout in fulfillment of federal mitigation obligations and assist with recovery of native mussels and other native aquatic species.

Fish and Wildlife Conservation Offices

Fish and Wildlife Conservation Offices conduct assessments of fish populations to guide management decisions, perform key monitoring and control activities related to invasive, aquatic species; survey and evaluate aquatic habitats to identify restoration/rehabilitation opportunities; play a key role in targeting and implementing native fish and habitat restoration programs; work with private land owners, states, local governments and watershed organizations to complete aquatic habitat restoration projects under the Service's 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

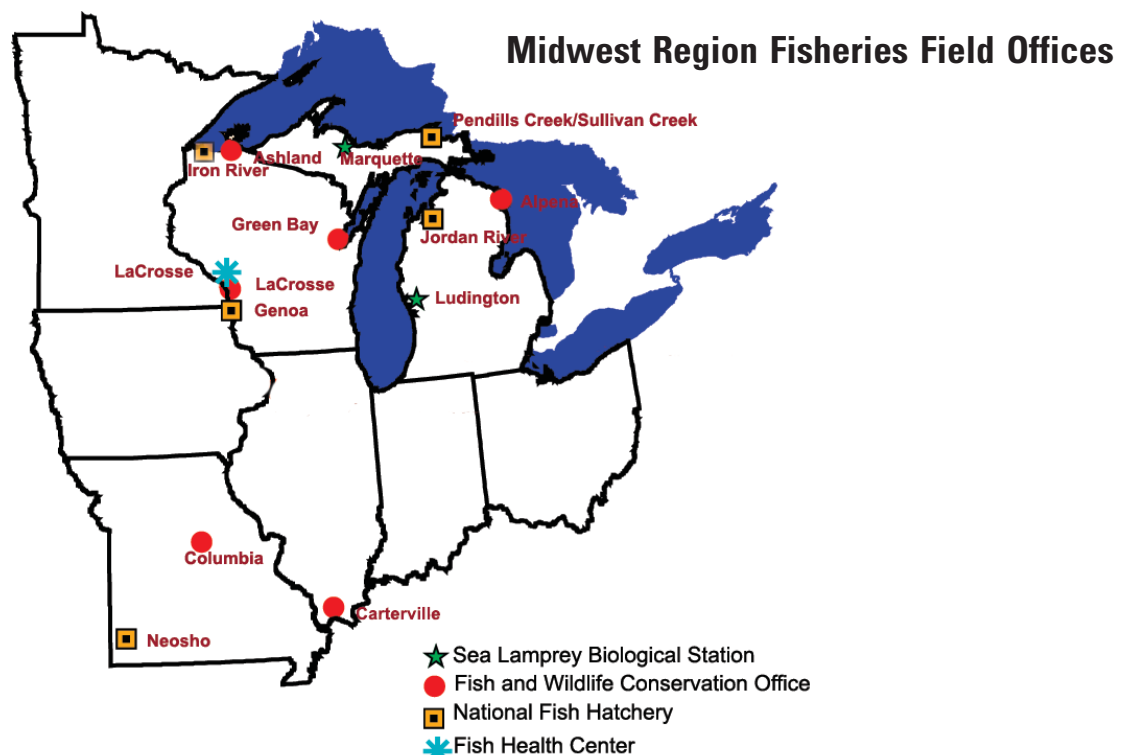
technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and relicensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments and treaty authorities.

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.



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Fish Tails

“Fish Tails” includes articles that are included in field station reports that are not published in the “Conservation Briefs.” These articles are categorized by focus area and includes the article title, author and field station. The website link, where the full article can be viewed, is highlighted in blue type.

Partnerships and Accountability

Aquatic Species Conservation and Management

Aquatic Invasive Species

Public Use

Cooperation with Native Americans

Leadership in Science and Technology

Aquatic Habitat Conservation and Management

Workforce Management

> ON Detail: Diversifying Skills through Collaboration

- o By the Columbia FWCO staff

