



U.S. Fish and Wildlife Service - Midwest Region

# Fisheries & Aquatic Resources Program



## Lake Sturgeon Spawning Assessment in the Bad River, Wisconsin

**International  
Efforts  
return Sturgeon  
to Tribal Waters**

Vol. 10 No. 7  
June 2012

# 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.

## Features

### 4 Lake Sturgeon Spawning Assessment in the Bad River, Wisconsin

Sampling was conducted for spawning lake sturgeon in the Bad River, Wisconsin.

BY JOSHUA SCHLOESSER, ASHLAND FWCO

### 5 International Efforts return Sturgeon to Tribal Waters

Partners work together to restore lake sturgeon the White Earth Reservation.

BY SCOTT YESS, LA CROSSE FWCO



-USFWS

Biologist Joshua Schloesser (left) and Bad River technician Kris Arbuckle pose with an 81 pound female lake sturgeon that was making her spawning run up the Bad River, Wisconsin.

To view other issues of "Fish Lines," visit our website at:  
<http://www.fws.gov/midwest/Fisheries/library/fishlines.htm>

# Fish Lines

2012 Vol. 10 No. 7

ASSISTANT REGIONAL DIRECTOR  
Todd Turner

To submit suggestions or comments, e-mail  
david\_radloff@fws.gov

U.S. Fish & Wildlife Service, Midwest Region  
Fisheries & Aquatic Resources Program  
1 Federal Drive, Ft. Snelling, MN 55111  
Phone: 612/713-5111



-USFWS

**A young boy is all smiles after catching his first trout during a fishing event at the Neosho National Fish Hatchery.**

**Fish Lines** is produced by the Fisheries and Aquatic Resources Program, Region 3, U.S. Fish & Wildlife Service, Ft. Snelling, Minnesota. Items included are selected from monthly reports submitted by Region 3 fisheries offices. Photos included are used by permission and may be copyrighted.

Equal opportunity to participate in, and benefit from programs and activities of the U.S. Fish and Wildlife Service is available to all individuals regardless of race, color, national origin, sex, age, disability, religion, sexual orientation, status as a parent and genetic information. For information contact the U.S. Department of Interior, Office for Equal Opportunity, 1849 C Street N.W., Washington, DC 20240

Printed on 30% Recycled by Fiber Weight Paper

## Conservation Briefs ..... 6-19

- 6 Hatchery Supports 21<sup>st</sup> Century Community Learning Grant Program  
BY ROGER GORDON, JORDAN RIVER NFH
- 7 2012 Great Lakes Lake Sturgeon Website Update  
BY ANJANETTE BOWEN, ALPENA FWCO
- 7 Carterville FWCO helps kick off "Birding the Bottomlands"  
BY ROB SIMMONDS and JENNIFER JOHNSON, CARTERVILLE FWCO
- 8 A Mystery Fish  
BY MARK STEINGRAEBER, LACROSSE FWCO
- 9 Making Babies at Neosho  
BY JANICE EATON, NEOSHO NFH
- 10 Invasive Buckthorn Removal at Alpena High School  
BY ANJANETTE BOWEN, ALPENA FWCO
- 11 "Athletes for the Outdoors" Mentoring Program is a Huge Success!  
BY ROGER GORDON, JORDAN RIVER NFH
- 11 Environmental Education Days  
BY SARAH LEIS, LA CROSSE FHC
- 12 A Day of Math and Science for Junior High Students at Sprinkler Lake Education Center  
BY ANJANETTE BOWEN, ALPENA FWCO
- 12 Here, There and Everywhere!  
BY ANGELA BARAN, GENOA NFH
- 13 Outreach and Education  
BY WAYNE TALO, JORDAN RIVER NFH
- 13 Alpena FWCO Participates in Earth Day Fair at the Great Lakes Maritime Heritage Center  
BY ANJANETTE BOWEN, ALPENA FWCO
- 14 Hydroacoustic Assessment of Spawning Lake Sturgeon in the Bad River, Wisconsin  
BY JOSHUA SCHLOESSER, ASHLAND FWCO
- 15 Cooperative Study Answers Mussel Safety Concerns on Lampricide  
BY DOUG ALOISI, GENOA NFH
- 16 Technology Upgrade Improves Mussel Production Capacity at Genoa NFH  
BY NATHAN ECKERT, GENOA NFH
- 17 Partners for Fish and Wildlife Project on Little Tavern Creek Benefits Niangua Darters  
BY LIISA SCHMOELE, COLUMBIA FWCO
- 17 Dilution is *NOT* the Solution to Pollution  
BY COLBY WRASSE AND DAVE MOSBY, COLUMBIA FWCO
- 19 Great "Friends" Return to Jordan River NFH for 2012  
BY ROGER GORDON, JORDAN RIVER NFH
- 19 SCEP Student Completes Graduate Thesis  
BY BECKY LASEE, LA CROSSE FHC
- 19 Welcome Aboard!  
BY MARK STEINGRAEBER, LACROSSE FWCO

Midwest Region Fisheries Divisions ..... 20  
 Fisheries Contacts ..... 21  
 Fish Tails ..... 22

# Lake Sturgeon Spawning Assessment in the Bad River, Wisconsin

BY JOSHUA SCHLOESSER, ASHLAND FWCO

Lake sturgeon are the largest fish in Lake Superior, with one fish caught in 1922 that was 7'11" long and weighed an astonishing 310 pounds. Lake Sturgeon are at their heaviest as they make their way up Lake Superior tributaries to spawn, carrying up to 20% of their body weight in

eggs or milt. Each spring, these dinosaur fish make



-USFWS

**A mature female lake sturgeon makes its way up the stained waters of the Bad River to lay her eggs, which have been developing over the last 3-5 years.**

their spawning run from Lake Superior up Wisconsin's Bad River to spawn, but individual fish don't spawn each year. Males typically spawn every 2-3 years and females every 3-5+ years. Lake sturgeon are also unique in that males don't make their first spawning run until age 15 and females until age 23, when they are approximately 45 inches and 51 inches in length, respectively.

This spring, the Ashland Fish and Wildlife Conservation Office (FWCO) conducted its third year of intensive sampling for spawning lake sturgeon in the Bad River in cooperation with the Bad River Band of Lake Superior Chippewa, but this survey dates back to the mid 1990's. Netting on the Bad and White rivers (a tributary to the Bad River) started on April 11<sup>th</sup> and lasted until May 4<sup>th</sup>, which was an unusually long season due to an early warm up this spring. The

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

main goal of the spawning assessment was to obtain a population estimate for this year's spawning run, as well as collect biological information to better understand the population's biology and demographics. While you never know what you'll find or see along the river each day, there was more excitement than usual one day when we found ourselves shuttling Wisconsin Department of Natural Resources fire fighters across the White River to put out spot wildfires that had jumped across the river.

Over this 23 day netting assessment, a total of 274 lake sturgeon were captured in the Bad and White rivers. Highlighting this large catch were two large females, each weighing 81 pounds and reaching nearly 6 feet in length. On each fish, a variety of information is collected including length, weight, girth, sex, a genetic and age sample, and the presence of lamprey marks; each fish is given a uniquely numbered passive integrated transponder (PIT) tag and t-bar anchor tag. These tags allow biologists to track fish when they are recaptured in future assessments and determine the growth and spawning periodicity of individual fish. All this information is necessary to ensure lake sturgeon populations are sustainable in

Lake Superior.

After spawning, lake sturgeon quickly return to Lake Superior to feed on invertebrates, crustaceans and fish with their vacuum-like mouth. Here they will spend their time recovering from spawning and replenishing their energy reserves for the next spawning cycle.

Sturgeon from the Bad River population have an affinity for nearby Chequamegon Bay, but have been found cruising throughout the Apostle Islands and over near the Keweenaw Peninsula, Michigan.

Funding through the Great Lakes Restoration Initiative has helped support the Bad River lake sturgeon assessments over the last three years.

# International Efforts return Sturgeon to Tribal Waters

BY SCOTT YESS, LA CROSSE FWCO

Lake sturgeon are primitive fish that historically inhabited many of Minnesota's large rivers and lakes associated with these rivers.

In northwest Minnesota, Native Americans came to depend on the seasonal availability of lake sturgeon, particularly in the spring when tribal villages were often located near waters where these fish spawned. Likewise, early European settlements on the Lake of the Woods were established to commer-



-USFWS  
White Earth Reservation students release hatchery-reared lake sturgeon into White Earth Lake.

cially harvest this species, whose caviar and fine flesh were sought worldwide.

By the end of the 19th century; however, lake sturgeon populations were in decline here due to overharvest, pollution and water development projects. This pattern continued throughout most of the 20th century. For example, the last record of a lake sturgeon near the White Earth Indian Reservation was from Lake Lida in 1957.

To reverse this trend and return the species to a portion of its historic range, the White Earth Natural Resources Department (NRD), Minnesota Department of Department of Natural Resources, Fish and Wildlife Service, and the Rainy River First Nations of Canada entered into a management agreement in 1997 to restore lake sturgeon in White Earth Lake and Round Lake on the White Earth Reservation. Management plan quotas call for the annual rearing

and stocking of 8,000 fingerlings in White Earth Lake and 5,000 fingerlings in Round Lake. The lakes will receive about half these amounts in 2012. Remaining fish will be stocked in the Wild Rice River, a nearby tributary of the Red River.

Significant team efforts take place prior to stocking. One huge hurdle is to test the spawning sturgeon for viral pathogens prior to shipping their eggs from Canada to the United States. Members of this assessment team included: Scott Yess of the La Crosse Fish and Wildlife Conservation Office (FWCO) who traveled to Baudette, Minnesota, to collect tissue samples from 25 lake sturgeon; this was accomplished with assistance from Tom Heinrich of the Minnesota Department of Natural Resources (DNR). The samples were delivered to Dr. Becky Lasee (La Crosse Fish Health Center) on April 30th. Viral tests later proved negative, permitting the international shipment of fertilized eggs from these fish to the Genoa National Fish Hatchery (NFH) in Wisconsin.

On May 6<sup>th</sup>, Randy Zortman and Jerald Roberts (White Earth NRD) assisted Joe Hunter (Rainy River First Nations) and his staff spawn three female lake sturgeon.

Yess subsequently delivered nearly 95,000 eggs on May 10<sup>th</sup> to Genoa NFH. The staff at Genoa NFH were well prepared for the culture of these lake sturgeon.

In late summer, the sturgeon will be tagged and then transported to the White Earth and Red Lake Reservations along with selected locations that Minnesota DNR stocks. This was an incredible team effort ... thanks to all who participated!



-USFWS  
The White Earth Indian Reservation in northwestern Minnesota lies within the drainage basin of the Red River, a stream that flows north into Canada.

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

## Hatchery Supports 21<sup>st</sup> Century Community Learning Grant Program

BY ROGER GORDON, JORDAN RIVER NFH

Jordan River National Fish Hatchery (NFH) became a cooperating partner with Boyne City Middle School in 2012 in support of the school district's 21<sup>st</sup> Century Community Learning Center grant program.

This program supports the creation of community learning centers, providing academic enrichment opportunities during non-school hours for children, particularly students who attend high-poverty and low-performing schools. The program helps students meet state and local student standards in core academic subjects such as reading and math; offers students a broad array of enrichment activities that can complement their regular academic programs; and

offers literacy and other educational services to the families of participating children.

During the six week program at Jordan River NFH, the students will assist staff in a wide array of outdoor projects including installing bird boxes, trail and pollinator garden maintenance, brook trout propagation, and general light maintenance. The students will spend lots of time out of doors enjoying the beautiful Jordan River valley and all it has to offer.

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.



-USFWS

**Student volunteers install tree swallow nesting boxes at the Jordan River National Fish Hatchery.**



-USFWS

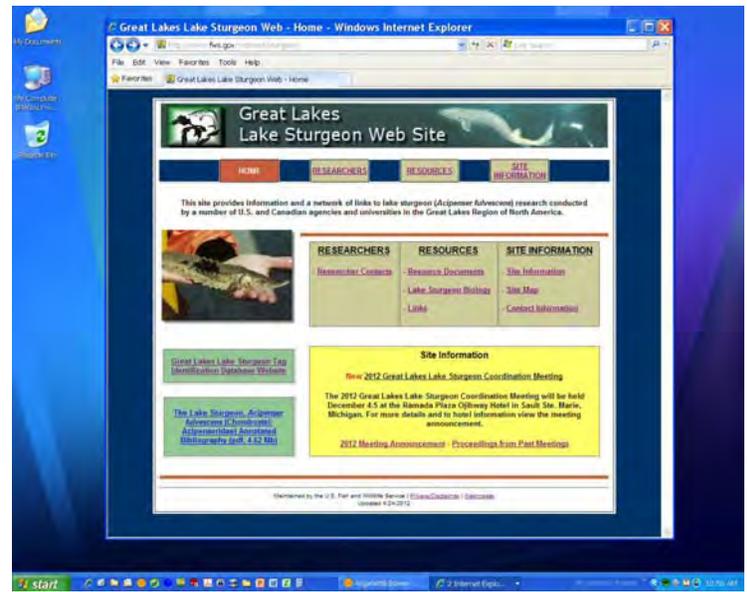
**Boyne City Middle School kids help clear Jordan River National Fish Hatchery hiking trails in preparation for hundreds of elementary school visitors!**

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

## 2012 Great Lakes Lake Sturgeon Website Update

BY ANJANETTE BOWEN, ALPENA FWCO

The Great Lakes Lake Sturgeon website (<http://www.fws.gov/midwest/sturgeon>) was updated during April 2012 to include new information and partners. The site was established in 1999 to provide a forum for lake sturgeon restoration and management activities throughout the Great Lakes basin. It contains information from numerous agencies working on lake sturgeon management, research, conservation and restoration in the Great Lakes basin. Updates to the site included the addition of three new researchers and new information posted by 16 others. A total of 82 researchers currently contribute to the site from 57 agency offices and 13 universities. The site is currently managed by Anjanette Bowen with the Alpena Fish and Wildlife Conservation Office (FWCO).



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

## Carterville FWCO helps kick off “Birding the Bottomlands”

BY ROB SIMMONDS and JENNIFER JOHNSON, CARTERVILLE FWCO

It's not often that our office reports on our “birding” efforts, but we recently had the opportunity to help the Middle Mississippi River Partnership kick off a new birding event. “Birding the Bottomlands” was an opportunity to get southern Illinois and Missouri residents out for a morning of birding. It also introduced the Birding the Bottomlands map and brochure, which identifies dozens of public birding locations along the middle Mississippi River, in both Illinois and Missouri.

Expert birders were on hand at 10 locations along the river (including 2 canoeing sites), where people could come and catch a glimpse of migratory songbirds in their most vibrant colors. The Carterville Fish and Wildlife Conservation Office (FWCO) assisted during the afternoon event where several groups/agencies provided demonstrations of what they do. This gave us an opportunity to display our electrofishing boat and several of our nets and to talk to people primarily about Asian carp and what is being done about them.

Cool, windy weather kept attendance down a bit, but those who came enjoyed the birding, learning from the various demonstrations, with the kids espe-

cially enjoying both cake and the opportunity to meet everyone from Smokey Bear to Puddles the Blue Goose!



-USFWS/Jennifer Johnson

**Bobber the Water Safety Dog (U.S. Army Corps of Engineers), Smokey Bear (U.S. Forest Service), Woodsy Owl (U.S. Forest Service), and Puddles the Blue Goose (Fish and Wildlife Service) gather for the “Birding the Bottomlands” kick off, which is an opportunity to get southern Illinois and Missouri residents outside for a morning of birding.**

For further info about the Carterville FWCO: <http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/carterville.pdf>

## A Mystery Fish

BY MARK STEINGRAEBER, LACROSSE FWCO

It's not unusual for La Crosse Fish and Wildlife Conservation Office (FWCO) staff to receive a phone call, e-mail, or photo concerning an unusual looking fish caught in the Upper Mississippi River (UMR). In recent years, many of these fish have been exotic pet fish that outgrew their aquarium and were illegally released into the wild by their owners. Reports like these from anglers are important, often providing authorities with the first indication of a new and perhaps invasive species.



-USFWS

(Above) An unusual looking fish caught by an angler in Pool 8 of the Mississippi River turned out to be a "melanistic form" of the native bowfin. The photo below illustrates a more typical looking bowfin.



-USFWS/Raver

But when I recently received a photo of an unusual looking fish caught in Pool 8 by an angler who also fishes the UMR commercially, it gave me and other station staff reason to pause. While appearing much like a native bowfin, its mottled golden coloration, apparent forked tail and missing caudal eyespot indicated there was more to this fish than what met our collective eyes.

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

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.

Therefore, we consulted with other ichthyologists (fish scientists) at Chicago's Shedd Aquarium and the Wisconsin Department of Natural Resources. While authorities here think the fish was a bowfin too, Dr. John Lyons (Adjunct Curator of Fishes at the University of Wisconsin Zoological Museum in Madison) added this insight into its strange appearance: "It's a melanistic form, hence the odd coloration of the body. I've seen patterns like this on other melanistic fish species, although I've never seen a melanistic bowfin before. It's definitely weird looking. However, the green ventral fins, the long dorsal fin coupled with the short anal fin, and the head and mouth shape/morphology are diagnostic for a bowfin. It's definitely not a snakehead or anything like that. The maxillary doesn't look particularly odd to me for a bowfin. The lack of the caudal eye spot isn't necessarily odd either as the spot disappears in larger bowfin and this fish is around the size where I see it beginning to be lost in some fish. And given the other unusual pigmentation aspects, maybe this fish never had an ocellus (eye spot). The forked tail is indeed odd, but it seems like it might be damaged - perhaps it's missing a gouge out of middle rather than being truly forked. There's always something new to see coming out of the Mississippi River. Thanks for sharing."

If you should catch something unusual here or in any other body of water, bring it (or a photo) to the attention of state or federal natural resource agency personnel ... with teamwork, we should be able to solve your next aquatic mystery.

## Making Babies at Neosho

BY JANICE EATON, NEOSHO NFH

The oldest federal fish hatchery in the nation became proud parents of approximately 15,080 pallid sturgeon hatchlings during the middle weeks of May. The casual onlooker would never suspect that among the serene spring fed ponds and butterfly laden Bee Balm plants in the heart of a southwestern Missouri town is the largest producer of Federally endangered pallid sturgeon in the Nation.



-USFWS

**Spawning this Federally endangered pallid sturgeon requires a collective effort between hatchery staff from the Neosho National Fish Hatchery and Blind Pony State Fish Hatchery.**

The Neosho National Fish Hatchery's (NFH) manager David Hendrix, assistant manager Roderick May, and lead biologist Jaime Pacheco along with Blind Pony State Fish Hatchery manager Bruce Derecktrah, assistant manager Jake Colehour and Kyle Winders (resource staff scientist of the Missouri Department of Conservation), gathered on May 8<sup>th</sup> at Neosho to spawn the only two egg-carrying female pallid sturgeon in this half of the United States. No other fishery was able to produce egg-carrying pallid sturgeon for the year.

Two weeks before spawning day, an egg polarization index (PI) was completed by extracting eggs from the female and microscopically sizing the egg and the position of the egg nucleus in the cytoplasm to determine spawning readiness. A day before spawning, the

two females were injected with a 10% dosage of LHRH, a spawn inducing hormone. Inducement is required with the aid of exogenous hormones as aquaculture fish will not spawn naturally. Twelve hours later, the additional 90% of LHRH was injected. At spawning, two biologists held the female as a third staff member gently massaged her belly to aid in the release of eggs. A fourth biologist captured the eggs in a container. Only one female released eggs, the other most likely reabsorbed her eggs.

A long, thin laboratory tube of sperm was removed from a cryogenic chamber, amid swirls of dry ice vapor and placed into a warmer. This particular sperm arrived by FedEx from Warm Springs, Georgia. Once the sperm reaches a temperature of 103 degrees Fahrenheit (F) for 10 seconds, the ends of the tube were broken off and a biologist placed the tube in his mouth and gently blew the sperm over the new eggs. Well water was then added to the eggs to initiate a chemical reaction which caused the fertilized eggs to release an adhesive substance that in natural waters would allow the eggs to adhere to river rocks to increase chance of survival. In aquaculture, the adhesive can hinder the process, so eggs are covered in a mixture of well water and Fuller's Earth, a highly refined clay mixture to decrease the stickiness and an age old technique of stirring with a turkey feather to coat the eggs. Eggs were then rinsed and placed in a vat with continuous water flow over the eggs to simulate a riverbed scenario. This gathering and preparation process was repeated every thirty minutes for nine hours until all eggs were released from the female. When the eggs reached a temperature of 64 degrees F, some eight days later, brand new 2.5 centimeter pallid sturgeon hatchlings emerged like ghostly white tadpoles from the eggs.

The hatchery biological staff can now breathe a little easier and celebrate the successful culmination of a year's work and those 15,080 possibilities of new and still endangered pallid sturgeons. While nurturing these hatchlings, work will begin anew of searching for, retrieving and growing more reproductive females for next year's spawning. The two spawned females will be safely released into the Missouri River. Without the expert knowledge, experience and critical care given by our own biology staff and visiting biologists, our Mother's Day story might not have had a happy ending.

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

## Invasive Buckthorn Removal at Alpena High School

BY ANJANETTE BOWEN, ALPENA FWCO

The Alpena Fish and Wildlife Conservation Office (FWCO) and Huron Pines assisted Alpena High School with a project to remove invasive buckthorn from the banks of a creek in the Alpena High School nature area. The creek is used by Alpena Junior and High School classes to learn about water quality. Buckthorn grows thick along the banks, preventing access to the creek and making water sampling difficult. Alpena High School received a small grant from the Northeast Michigan Great Lakes Stewardship Initiative (NEMGLSI) to remove and treat the buckthorn in partnership with local resource agencies and students. The goal of NEMGLSI projects is to encourage, coordinate and connect school children to natural resource and community projects.

On April 10, Alpena FWCO biologists Heather Rawlings and Anjanette Bowen along with Huron

Pines staff Casey Ressler, Tim Englehart and Ken Reed cut buckthorn and worked with students from the Alpena High School's advanced biology class and Alpena Junior High School's 6<sup>th</sup> Grade Class to remove buckthorn from the creek. Approximately 200 students assisted in removing buckthorn from a half mile of the creek. The stumps will be treated with herbicide and the branches will be chipped for trails in the nature area.

### **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.



-USFWS



The Alpena Fish and Wildlife Conservation Office and Huron Pines assisted Alpena High School with a project to remove invasive buckthorn from the banks of a creek in the Alpena High School nature area.

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

## “Athletes for the Outdoors” Mentoring Program is a Huge Success!

BY ROGER GORDON, JORDAN RIVER NFH

A new program that started at the hatchery this spring is “Athletes for the Outdoors”. This initiative asks for youth athlete volunteers from area school districts to serve as assistants to Jordan River National Fish Hatchery (NFH) staff during outdoor outreach events. Students help deliver kids fishing day events, on-site public use programs focused on the outdoors, and other hatchery supported off-site events.

This year’s participants were from Gaylord and Mancelona, Michigan, high schools. Students were present at three “Kids Fishing Day” events and did an outstanding job! The athletes assisted hatchery staff with setting up and taking down displays, photography and most importantly helped scores of

children catch many, many fish. These young men gave their time, energy and skills to a very appreciative public and are on a path to public service that we can all take pride in.

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 Jordan River NFH: <http://www.fws.gov/midwest/JordanRiver/>

## Environmental Education Days

BY SARAH LEIS, LA CROSSE FHC

In celebration of Earth Day, the Sparta Meadowview Middle School had an Environmental Education Day. On this day, the morning was dedicated to programs and activities dealing with the outdoors or natural resources. They invited many local U.S. Geological Survey, Fish and Wildlife Service, and U.S. Army Corps of Engineers offices to participate and provide presentations to the 6<sup>th</sup> graders. Staff from the La Crosse Fish Health Center (FHC) participated and provided an educational session on fish anatomy and parasites that can infect fish. The children really appreciated the “hands-on” fish dissection. For the parasites, the children were given handouts with descriptions of the major groups of parasites that can infect fish. Then, microscopes were set up with representatives of each parasite group and the students had to figure out which parasite group they were looking at. The many students in attendance really enjoyed learning about (something you don’t see every day!) parasites.



-USFWS/SarahLeis

Pictured is an attachment organ of the spiny headed worm, as seen through a microscope.

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

## A Day of Math and Science for Junior High Students at Sprinkler Lake Education Center

BY ANJANETTE BOWEN, ALPENA FWCO

Sprinkler Lake Education Center in Glennie, Michigan, held a Junior High Math Science Conference on April 30 to get students excited about these topics. The conference allowed students to participate in applied learning in a range of subjects in the math and science fields, and exposed them to a variety of careers.

Students worked in teams to answer questions at each station and won prizes at the end of the day. A number of organizations and agencies hosted stations at the event, including the National Oceanic & Atmospheric Administration's Thunder Bay National Marine Sanctuary, Michigan Sea Grant, U.S. Forest Service, AuSable Valley Audubon, *Friends of the Sprinkler Lake Education Center*, and the Alpena Fish and Wildlife Conservation Office (FWCO).

Alpena FWCO biologist Anjanette Bowen hosted the Fish and Wildlife Service station. The station focused on educating students about the distinguishing characteristics of fish and use of a dichotomous key to identify different fish species. Students used the key to identify a number of fish species found in the Great Lakes.

Ninety seventh and eighth grade students participated in the daylong event. This event was funded by a small grant provided by the Northeast Michigan Great Lakes Stewardship Initiative (NEMIGLSI). The Alpena FWCO is a partner with the Sprinkler Lake Education Center on this project and a resource member of the NEMIGLSI. The NEMIGLSI encourages place-based education by connecting school children with natural resources and community education projects. For more information about the NEMIGLSI visit their website at: <http://nemiglsi.org>.

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

## Here, There and Everywhere!

BY ANGELA BARAN, GENOA NFH

Even though April is one of the busiest culture months at Genoa National Fish Hatchery (NFH), it was also the beginning of the outreach season. We had two students at the hatchery for job shadows, three schools for tours and attended three environmental education events. The month started with Black River Falls Schools traveling here on April 12<sup>th</sup>. On April 20<sup>th</sup>, 20 high school students from La Crosse toured the hatchery and asked about jobs in the Fish and Wildlife Service; we may have recruited a couple future volunteers and employees!

Then another 20 students from Sparta Middle School received the hatchery tour and learned about freshwater mussels with biologist Nathan Eckert on April 25<sup>th</sup>. Staff from the hatchery also participated in an event at Wisconsin's Badger Camp and the Environmental Education Days at Norskedalen Nature and Heritage Center on April 26<sup>th</sup> and 27<sup>th</sup>, taking fish and mussels for the children to touch and see.

Taking time from our busy schedules to teach local students about the fascinating creatures we see every day helps to cultivate the love for the outdoors and a conservation mind in our young people.



-USFWS

Area students take a walking tour of the Genoa National Fish Hatchery.

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

## Outreach and Education

BY WAYNE TALO, JORDAN RIVER NFH

Biologist Wayne Talo guided 40 middle/high school students through a lake trout dissection as part of the 17<sup>th</sup> Annual Water Watch Student River Congress at the Maritime Academy in Traverse City, Michigan, on May 18. Fourteen local schools sent students to learn about science, as it relates to issues involving the Great Lakes and their tributaries. Students had the opportunity to choose between 11 different topics/speakers to fill their two-class schedule for the day. In addition to the dissection, students learned some basic fish physiology (how gills gather oxygen from the water, and how osmoregulation works), as well as some of the history behind the lake trout rehabilitation program and the sea lamprey control program.



-USFWS

A staffer from the Jordan River National Fish Hatchery coaches a youngster as he lands his catch.

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

## Alpena FWCO Participates in Earth Day Fair at the Great Lakes Maritime Heritage Center

BY ANJANETTE BOWEN, ALPENA FWCO

National Oceanic & Atmospheric Administration (NOAA)-Great Lakes Maritime Heritage Center hosted an Earth Day Fair for Alpena area elemen-



-USFWS

Joseph Gerbyshak of the Alpena Fish and Wildlife Conservation Office talks about Michigan mammals at the Great Lakes Maritime Heritage Center.

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

tary school students. The celebration brought together many organizations and agencies to help teach children about the earth and issues impacting the earth. Approximately 494 people (414 were students) attended the event.

Biologists Joseph Gerbyshak and Anjanette Bowen of the Alpena Fish and Wildlife Conservation Office (FWCO) staffed a hands-on display/activity about Michigan mammals. Students learned to recognize common Michigan mammals from their pelts. Pelts for coyote, skunk, mink, beaver, muskrat, opossum, grey squirrel, fox squirrel and weasel were on display. Students also learned how to identify mammals by examining their skulls and teeth. They played a game where they used dentition (teeth) to determine if the skull was from an herbivore, carnivore or omnivore and then matched skulls with corresponding mammal photos. The students were very adept at learning the role of dentition in feeding and understanding the concept.

## Hydroacoustic Assessment of Spawning Lake Sturgeon in the Bad River, Wisconsin

BY JOSHUA SCHLOESSER, ASHLAND FWCO

This spring, the Ashland Fish and Wildlife Conservation Office (FWCO) in cooperation with the Bad River Band of Lake Superior Chippewa installed a hydroacoustic unit in the Bad River, Wisconsin, to assess spawning lake sturgeon abundance. Hydroacoustic equipment used for fishery assess-



-USFWS

**Biologist Mike Seider aims a hydroacoustic transducer so the acoustic beam covers the entire water profile, ensuring no fish "escape" upstream or downstream without being detected by the hydroacoustic beam.**

ments functions similarly to fish finders used by recreational anglers, except they are much more precise and implement sophisticated acoustic technologies. A stationary hydroacoustic transducer was placed in the water where it emitted pulses of acoustic energy across the entire river channel. As the pulse of energy traveling through the water encounters an object, such as a fish, a portion of the energy pulse is reflected back to the transducer, which is called an echo. The unit in the Bad River uses a technology referred to as split-beam hydroacoustics which uses four quadrants that each emit and receive an acoustic pulse which enables the ability to determine the exact location, size and swimming direction of individual fish. This type of application is especially valuable for fixed location sampling where fish swim past a transducer, such as lake sturgeon migrating upriver to spawn. Then simply enough, the number of fish (i.e., echos) moving upstream and the number moving downstream are counted to get a population estimate – all without handling a single lake sturgeon!

This hydroacoustic technique has been previously used on lake sturgeon in the Sturgeon River (Michigan) with success and was recommended for use as a rapid assessment tool for Great Lakes tributaries where the status of lake sturgeon was uncertain (presumably due to low abundance). On the Bad River

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

this year, the hydroacoustic sampling was implemented in conjunction with a mark-recapture assessment to help validate abundance estimates by using both

techniques. While hydroacoustics cannot decipher the exact species of fish, it works well for spawning lake sturgeon because their large size produces greater target strengths than most other fishes in Great Lakes tributaries. To validate the expected target strength of spawning lake sturgeon, we released spent fish captured during our netting efforts in front of the hydroacoustic transducer. This should allow us to distinguish a spawning fish echo from those of other fish species.



-USFWS

**A trailer near Wisconsin's Bad River houses sensitive hydroacoustic equipment for assessing the population size of spawning lake sturgeon.**

Currently, biologists Joshua Schloesser and Mike Seider are working on post-processing the hydroacoustic data collected almost continuously for 24 hours a day from April 4<sup>th</sup> to May 11<sup>th</sup>. In the future, we hope to move the hydroacoustic unit to other historic lake sturgeon spawning tributaries within the Lake Superior basin and perform additional spawning assessments. Funding through the Great Lakes Restoration Initiative supported this hydroacoustic lake sturgeon spawning assessment.

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.

## Cooperative Study Answers Mussel Safety Concerns on Lampricide

BY DOUG ALOISI, GENOA NFH

The lampricide known as TFM (3-trifluoromethyl-4-nitrophenol) has been used as a safe and effective specific control agent for invasive sea lamprey larvae in the Great Lakes basin since the early 1960s. Sea lamprey have caused a significant decline in sport fish populations throughout the Great Lakes due to the parasitic feeding habits of adults. One adult sea lamprey can cause over 40 pounds of sportfish to die



-USFWS

**Researchers determined that black sandshell mussel juveniles were not affected by typical chemical treatment levels used for invasive sea lamprey control.**

and be taken out of a fishable population over its lifespan. Even though TFM is extremely specific to sea lamprey larvae that reside in the tributary streams of the Great Lakes, there are some species of fish and invertebrates that can be negatively affected, at or close, to treatment rates due to specific life stages or the biology of the animal.

Freshwater mussels, due to their inability to relocate, also would not be able to escape from treatment locations and would be subject to the full lampricide treatment levels. Toxicity testing for many of the tributaries are site specific depending on what species of fish or mussel may be inhabiting the particular treatment location. This was the case for the black sandshell, a state threatened species that resides in the Poultney River of Vermont, a tributary of Lake Champlain. Due to the sandshell being present, Brian Chipman of the Vermont Fish and

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

Wildlife Agency contacted the Genoa National Fish Hatchery

(NFH) to find out if the station would be able to propagate test animals to research whether they would be negatively affected by TFM.

Mussel biologist Nathan Eckert of Genoa NFH was called into action to infest the host fish of the sandshell, a hatchery reared walleye. Larvae from four black sandshell adult females were placed on the gills of the walleye and allowed to transform into mussel juveniles. Then they were placed in rearing containers and fed for three weeks in preparation for



-USFWS

**Pictured are juvenile black sandshell mussels produced at the Genoa NFH.**

the testing. The mussels were then shipped to the U.S. Geological Survey's (USGS) Upper Midwest Environmental Science Center where much of the TFM registration work was accomplished. In a controlled experiment, it was found that the treatment levels for TFM were safe for the newly transformed black sandshell mussel juveniles. Research results were then made available from USGS scientists to Vermont biologists in order to make informed decisions in their sea lamprey control program efforts. This study highlights the results that can be accomplished by agencies of many different skill sets and interests to further cooperative conservation.

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.

## Technology Upgrade Improves Mussel Production Capacity at Genoa NFH

BY NATHAN ECKERT, GENOA NFH

In the past, mussel production at Genoa National Fish Hatchery (NFH) has been limited to the number and size of fish that can fit into our aquarium system fitted with 10 gallon aquaria. This system has limitations because it requires additional time to siphon mussels from the bottom of the tanks, and only 5 to 10 fish can be safely held in one aquarium.



-USFWS

**A new system was recently installed in the mussel building at Genoa National Fish Hatchery which will allow for larger batches of mussels to be produced in a more efficient manner. A double standpipe system allows incoming water to flush juvenile mussels into the sump for collection without siphoning.**

A new system was recently installed in the mussel building at Genoa NFH which will allow for larger batches of mussels to be produced in a more efficient manner. The recirculating system, which holds approximately 350 gallons, includes four 60 gallon circular tanks for holding fish inoculated with larval mussels. The system is fitted with a heater to maintain system temperature, a bio-filter to eliminate ammonia and an ultraviolet sterilizer which prevents disease outbreaks from spreading across tanks within the system. A double stand pipe system, with slits cut along the base of the outer pipe, allows flow through the tank to constantly siphon juvenile mussels from the bottom of the tank into a plankton filter waiting in the sump. This feature greatly speeds the process of counting juvenile mussels during daily chores. Larger system tanks also hold greater numbers of fish which in turn increases overall mussel production capacity.

The first run for the new recirculating propagation system will be producing two common mussel species for a Natural Resource Damage Assessment and Restoration project on the Ohio River. The two target species use a host fish notorious for being difficult to hold in captivity, the freshwater drum. Our hope is that more space to swim around and school up in a circular tank will improve our production success with these traditionally difficult species.



-USFWS

**Freshwater drum school together in a new mussel tank at the Genoa National Fish Hatchery. Freshwater drum is the host fish for two common mussel species needed for a Natural Resource Damage Assessment and Restoration project on the Ohio River.**

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

## Partners for Fish and Wildlife Project on Little Tavern Creek Benefits Niangua Darters

BY LIISA SCHMOELE, COLUMBIA ES FIELD OFFICE

Streams in the Missouri Ozarks are in trouble. Massive gravel loading and sedimentation from rapidly eroding stream banks have changed the



-USFWS/Liisa Schmoele

**Little Tavern Creek habitat restoration project before restoration (above) and after restoration (below) where banks were seeded with a native warm season grass and forb mixture and planted with native riparian shrubs and trees.**



-Bill Ambrose

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.

dynamics of these streams and can be traced to historic land use changes; virgin shortleaf pine forests were clear-cut in the early 1900s and free-ranging cattle and hogs were once rampant. The majority of the candidate, threatened and endangered species in Missouri are found in the Ozarks, and many of those depend on stream systems for survival. One threatened species in particular, the Niangua darter, is endemic to the Osage River basin. Impoundment of the Osage, Niangua and Pomme de Terre rivers for hydroelectric power generation or flood protection has restricted the range of the Niangua darter to small tributary streams of the Osage River.

But there is hope! Slowly but surely, many federal, state and non-profit natural resource organizations in Missouri are helping to restore Ozark streams. Most recently, Partners for Fish and Wildlife Program biologist Liisa Schmoele worked with landowner Bill Ambrose to stabilize an eroding stream bank and replant the riparian corridor to help improve habitat for the Niangua darter.

It began with an email from a Miller County Commissioner that had a problem; a county road running along Little Tavern Creek was in danger of being undermined by the creek. The eroding bank in question was losing untold amounts of sediment to the creek which happened to be less than one half mile upstream from federally designated critical habitat for the Niangua darter. Thanks to the help of the Partners for Fish and Wildlife Program, Miller County Commission and Missouri Department of Conservation, not to mention Bill Ambrose, the project has been completed about a year after learning of the issue. In Missouri, approximately 97% of the state is in private ownership; partnerships like these are critical to the recovery of our listed species.

## Dilution is *NOT* the Solution to Pollution

BY COLBY WRASSE AND DAVE MOSBY, COLUMBIA FWCO

Across the planet, impaired water quality threatens many species of fish and other organisms. The Missouri River is no exception. Water quality monitoring has shown that hormonally active agents (HAAs) such as natural and synthetic hormones, other pharmaceuticals and pesticides (atrazine) are

present in the lower Missouri River. These compounds are known to effect the reproductive systems of fish including sturgeon, and are therefore of particular concern in the recovery of the federally endangered pallid sturgeon. Wastewater treatment effluent and combined sewer system outfalls (CSO) are poten-

tial point sources for HAAs. Existing treatment systems are largely ineffective at removing HAAs from wastewater. One potential exception is the City of Columbia's (Missouri) wastewater treatment wetland. Earlier studies by the City of Columbia and the Missouri Department of Conservation have shown concentrations of HAAs have been significantly reduced through wetland treatment. Monitoring the Missouri River for HAAs may allow us to pinpoint potential sources and assess the impact these pollutants may have on the fish community.

Comparing HAA concentrations below Columbia's treatment wetland compared to similar sized communities without such treatment may point towards potential solutions to this newly emerging problem. Treatment wetlands can have other benefits depending on other surrounding land use and wetland design. Columbia's treatment wetland provides a water supply for Eagle Bluff's Conservation Area, a waterfowl and wildlife mecca. Wetlands can also sequester significant carbon, which may have benefits related to global climate change. In the fall of 2011, as part of a larger study examining the reproductive health of shovelnose sturgeon and the incidence of intersex fish, Columbia Ecological Services (ES) and Columbia Fish and Wildlife Conservation Office (FWCO) began deploying polar organic chemical integrative samplers (POCIS) in the lower Missouri River. The POCIS are sensitive membranes which absorb chemical compounds, including HAAs, and mimic the respiratory exposure of fish. We placed POCIS above and below waste water treatment outfalls in the lower Missouri River and also within a tributary stream (Gasconade River) which is believed to be relatively free of pollutants.

Setting and retrieving the POCIS in the dynamic lower Missouri River presented a challenge. Water levels within the Missouri River can fluctuate by more than 15 feet in a month. Floods often wash large trees and other debris downstream, and can deposit large amounts of silt and sand. Given these conditions, we were not completely confident that we would be able to successfully retrieve the POCIS after the required 28 day soak time. We settled on a design where a mainline was tied to a stable tree on the bank, above the minor flood level – this would allow retrieval during all but the worst of floods. At the end of the mainline, we attached a large concrete block to hold the POCIS in position. The POCIS was then attached to the concrete block with approximately two feet of rope and a float was attached directly above the POCIS to prevent the sampler from becoming buried

in the substrate. The POCIS were set in areas with enough depth to prevent desiccation should river levels have fallen drastically, and at locations where they would receive main channel flows, but would not become buried in the sand. Thus far, we have been successful in retrieving all POCIS we have set.

After retrieval, the POCIS will be analyzed by the University of Nebraska at Lincoln using analytical chemistry techniques. These results when coupled with results of the sturgeon reproductive health study (See "Confusion (Among Sturgeon) Continues in the Big Muddy" from *May 2012* edition of *Fish Lines*) will provide us insight into the prevalence of HAAs in the lower Missouri River and their potential impact on sturgeon reproduction. This project represents collaboration between Columbia ES Field Office, Nebraska ES Field Office, Columbia FWCO, and U.S. Geological Survey Columbia Environmental Research Center.



-USFWS/Colby Wrasse

**Zack Brock of the Columbia Fish and Wildlife Conservation Office assembles a stainless steel cylinder which will house polar organic chemical integrative samplers which are sensitive membranes that absorb chemical compounds, including hormonally active agents, and mimic the respiratory exposure of fish.**

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

## Great “Friends” Return to Jordan River NFH for 2012

BY ROGER GORDON, JORDAN RIVER NFH

Long time perennial volunteers Chuck and Nancy Proper returned to the Jordan River National Fish Hatchery (NFH) on April 10<sup>th</sup> after a winter spent in Salome, Arizona. The Proper’s, who have volunteered on the hatchery during the summer



-USFWS  
Dedicated volunteers Chuck and Nancy Proper assist a young fisherman at an outreach event, representing the Jordan River National Fish Hatchery.

months for the past four seasons, have donated thousands of hours to the Fish and Wildlife Service over the years.

Chuck, a retired UPS employee and his wife Nancy, a retired domestic engineer are both wonderful individuals who have spent a lifetime in service to their fellow Americans. In addition to a life which has included raising a family, multiple foster children, and a long list of community volunteerism, the Proper’s have been an annual fixture at National Fish Hatcheries.

The couple first started volunteering at the Garrison Dam NFH in the spring of 2000, and after eight years of service began helping out at Jordan River NFH in the spring of 2008. For the past four seasons, the Proper’s have greatly enhanced the hatchery’s outreach and maintenance program. The crew has come to rely on their wonderful enthusiasm and “get it done” attitude in all they assist us with. “Welcome Back!”

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 Jordan River NFH: <http://www.fws.gov/midwest/JordanRiver/>

## SCEP Student Completes Graduate Thesis

BY BECKY LASEE, LA CROSSE FHC

Student Career Experience Program (SCEP) student Beka McCann of the La Crosse Fish Health Center (FHC) successfully defended her M.S. thesis on April 20. Beka is a student of Aquatic Sciences, University of Wisconsin at La Crosse, and

her research focused on the viruses of fathead minnows, golden shiners and white suckers from baitfish dealers in Wisconsin. Once the thesis is approved by the Dean’s Office, Beka will be converted to a permanent biologist position at the Fish Health Center.

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

## Welcome Aboard!

BY MARK STEINGRAEBER, LACROSSE FWCO

Heather Rodriguez joined the La Crosse Fish and Wildlife Conservation Office (FWCO) staff in April where she serves as a biological science technician. Heather graduated from Texas A & M University in December 2009 with a degree in Wildlife & Fisheries Sciences. A few months later, her husband received orders to report for duty at Fort McCoy, and they moved to Tomah, Wisconsin, in May 2010.

Prior to accepting her job with the Fish and Wildlife Service, Heather worked at Fort McCoy where she became friends with a taxidermist, who has been teaching her about taxidermy – very different than the museum-style of stuffing she learned in school! In her off time, Heather enjoys doing a variety of crafts and training her “highly food-motivated” cat to do tricks. “Welcome aboard Heather!”

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

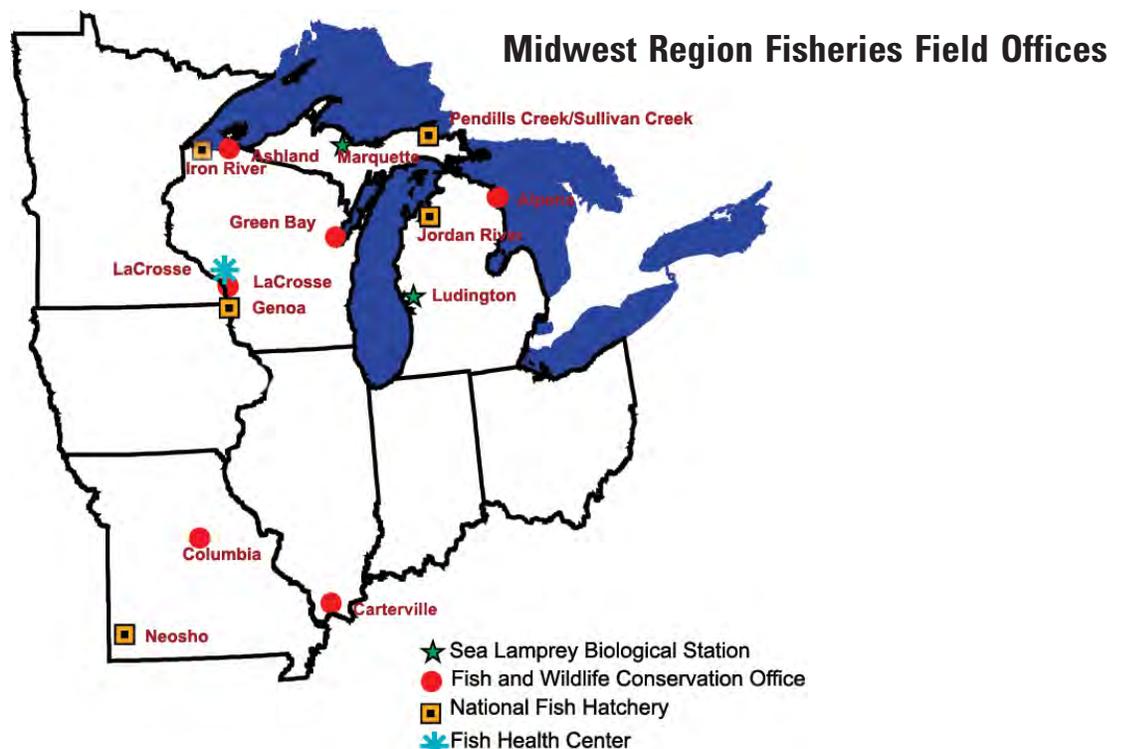
technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and relicensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments and treaty authorities.

## 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.



# Midwest Region Fisheries Contacts

Todd Turner ([todd\\_turner@fws.gov](mailto:todd_turner@fws.gov))

## Michigan

Alpena Fish and Wildlife Conservation Office  
480 West Fletcher St.  
Alpena, MI 49707  
Scott Koproski ([scott\\_koproski@fws.gov](mailto:scott_koproski@fws.gov))  
989/356-3052  
Area of Responsibility (Michigan, Ohio)

Jordan River National Fish Hatchery  
6623 Turner Road  
Elmira, MI 49730  
Roger Gordon ([roger\\_gordon@fws.gov](mailto:roger_gordon@fws.gov))  
231/584-2461

Ludington Biological Station  
229 South Jebavy Drive  
Ludington, MI 49431  
Jeff Slade ([jeff\\_slade@fws.gov](mailto:jeff_slade@fws.gov))  
231/845-6205

Marquette Biological Station  
3090 Wright Street  
Marquette, MI 49855-9649  
Katherine Mullett ([katherine\\_mullett@fws.gov](mailto:katherine_mullett@fws.gov))  
906/226-1235

Pendills Creek/Sullivan Creek  
National Fish Hatchery  
21990 West Trout Lane  
Brimley, MI 49715  
Curt Friez ([curt\\_friez@fws.gov](mailto:curt_friez@fws.gov))  
906/437-5231

## Missouri

Columbia Fish and Wildlife Conservation Office  
101 Park Deville Drive; Suite A  
Columbia, MO 65203  
Tracy Hill ([tracy\\_hill@fws.gov](mailto:tracy_hill@fws.gov))  
573/234-2132  
Area of Responsibility (Iowa, Missouri)

Neosho National Fish Hatchery  
East Park Street  
Neosho, MO 64850  
David Hendrix ([david\\_hendrix@fws.gov](mailto:david_hendrix@fws.gov))  
417/451-0554

## Illinois

Carterville Fish and Wildlife Conservation Office  
9053 Route 148, Suite A  
Marion, Illinois 62959  
Rob Simmonds ([rob\\_simmonds@fws.gov](mailto:rob_simmonds@fws.gov))  
618/997-6869  
Area of Responsibility (Illinois, Indiana, Ohio)

## Wisconsin

Ashland Fish and Wildlife Conservation Office  
2800 Lake Shore Drive East  
Ashland, WI 54806  
Mark Brouder ([mark\\_brouder@fws.gov](mailto:mark_brouder@fws.gov))  
715/682-6185  
Area of Responsibility (Michigan, Minnesota, Wisconsin)

Genoa National Fish Hatchery  
S5689 State Road 35  
Genoa, WI 54632-8836  
Doug Aloisi ([doug\\_aloisi@fws.gov](mailto:doug_aloisi@fws.gov))  
608/689-2605

Green Bay Fish and Wildlife Conservation Office  
2661 Scott Tower Drive  
New Franken, WI 54229  
Mark Holey ([mark\\_holey@fws.gov](mailto:mark_holey@fws.gov))  
920/866-1717  
Area of Responsibility (Illinois, Indiana, Michigan, Wisconsin)

Iron River National Fish Hatchery  
10325 Fairview Road  
Iron River, WI 54847  
Dale Bast ([dale\\_bast@fws.gov](mailto:dale_bast@fws.gov))  
715/372-8510

LaCrosse Fish Health Center  
555 Lester Avenue  
Onalaska, WI 54650  
Becky Lasee ([becky\\_lasee@fws.gov](mailto:becky_lasee@fws.gov))  
608/783-8441

LaCrosse Fish and Wildlife Conservation Office  
555 Lester Avenue  
Onalaska, WI 54650  
Pamella Thiel ([pam\\_thiel@fws.gov](mailto:pam_thiel@fws.gov))  
608/783-8431  
Area of Responsibility (Illinois, Iowa, Minnesota, Wisconsin)

# 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**

## Annual Tribal Fish Hatchery Inspections

BY COREY PUZACH, LA CROSSE FHC

In April, Corey Puzach and Terrence Ott traveled to the Red Cliff Tribal Fish Hatchery (TFH) and Keweenaw Bay TBF for their annual fish health inspection. The La Crosse Fish Health Center (FHC) provides health inspection services to four tribal hatcheries in the Midwest Region. La Crosse FHC also tests other groups of cultured and wild fish from other tribal organizations in the region. These inspections screen fish for many different types of certifiable fish pathogens. Healthy fish are a key component to the success of stocked fish. This year at Red Cliff TFH, six groups of brook trout were sampled and seven groups of brook trout and lake trout were sampled at Keweenaw Bay TFH for certifiable pathogens.