

U.S. Fish & Wildlife Service - Midwest Region

## Fisheries Program

# *fishlines*

**Raises and Releases  
Endangered Shiners**

**SUPSY Trial Shows  
Promising Results**

**Future Home to  
Whitefishes**

**Jumbo Brook Trout  
Retire to WI Lakes**

**Out of Sight is Not  
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# U.S. Fish & Wildlife Service Fisheries, Midwest Region

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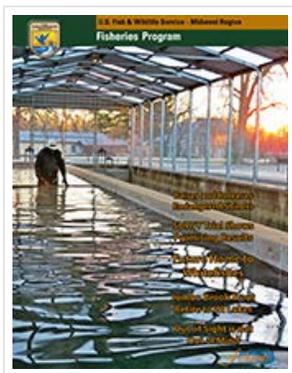
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## Field Focus

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The Iron River National Fish Hatchery, located in northern Wisconsin, is in the business of raising lake trout and coaster brook trout...[Read More](#)

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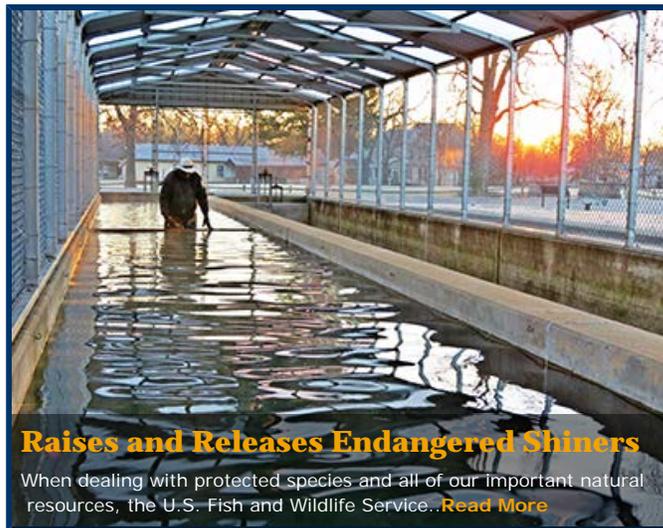
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Jan 14, 2016  
*In this Issue*



### **Raises and Releases Endangered Shiners**

When dealing with protected species and all of our important natural resources, the U.S. Fish and Wildlife Service...[Read More](#)



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## Fish Tails

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

## Field Notes

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

Last updated: January 14, 2016



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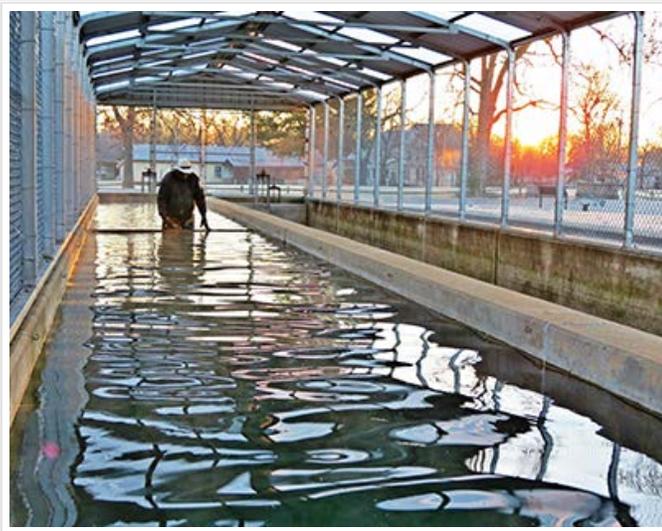
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### Neosho National Fish Hatchery Raises and Releases Endangered Shiners

BY BRUCE HALLMAN, NEOSHO NFH

When dealing with protected species and all of our important natural resources, the U.S. Fish and Wildlife Service (Service) doesn't mess around. Sometimes it is dealing with illegal trade and intercepting packages with imperiled plant or animal specimens. Other times it includes confiscating live animals, fighting wildfires, tracking down poachers or destroying ivory products – all done under potentially hazardous circumstances. And still other actions focus on controlling plants or animals that have taken over in new locations - invasive species that can often outcompete native life and become a nuisance.

With the signing of the Endangered Species Act in 1973, the Service was given the responsibility "to halt and reverse the trend toward species extinction, whatever the cost." The Service, which includes the National Fish Hatchery (NFH) System, works in many different ways to help recover, restore, and reintroduce species with the goal of delisting them as soon as possible. Huge successes have been seen with such varied wildlife as the bald eagle, whooping crane, black-footed ferret, grizzly bear and gray whale. Currently, the Service has listed 184 animals (including 78 fish) and 270 plant species as endangered, with others being considered all the time. There is a lengthy petition period where the public and scientific communities can contribute to the process.



Neosho NFH manager Dave Hendrix gets an early start to a big day crowding Topeka shiners for transport. Credit : Bruce Hallman, USFWS



Dave Hendrix is proud of the accomplishment as the endangered shiners are released into their new habitat. Credit: Bruce Hallman, USFWS

And now in the small town of Neosho, Missouri we are on the front lines in the fight against extinction. This summer, for the first time in a federal fish hatchery, Neosho NFH staff was able to successfully spawn and raise the federally endangered Topeka Shiner in our spring-water raceways. As a result of this success, this December, about 2,200 Topeka shiners made it to their new home in the wild.

While this may sound straightforward, whenever a protected species is being raised or transported, everything has to work seamlessly. Although this operation did not seize illegal cargo or put out a wildfire, this stocking trip was not without a bit of excitement. As we were on the road, hauling the precious cargo in a goose-neck trailer, conversations were frantically going on to make sure all the transfers took place without "stressing" the fish too much. Two research facilities, one at the University of Minnesota and the other with the U.S. Geologic Survey, had requested some of our shiners for critical studies to help better understand their environmental needs. Timing the transport and

moving the priceless shiners couldn't have happened without the help of all our valued partners. As we met with a Missouri Department of Conservation contact near the Iowa border in northern Missouri, just minutes away from meeting with the Minnesota researcher, all the wondering came to an end, and we were able to move our fish along. Whew!



Rod May Assistant Manager of Neosho NFH and Dave Hendrix transfer Topeka shiners to a cooler for transport down to the receiving water. Credit: Bruce Hallman, USFWS



As the sun sets on this long historic day Rod May and Dave Hendrix get ready to head back to Neosho NFH. Credit: Bruce Hallman, USFWS

With the drama behind us, it was time to stock the bulk of our fish into the wild. Two prairie streams were chosen, branches that historically have maintained populations of this rare little fish. Each site received roughly half of our remaining cargo, we finally drained our tanks as the last light of the day was also draining from the sky. It took all day to travel, meet up with various agency representatives, travel to the stream site, and finally head back toward Neosho.

Being a part of the solution for this world's troubled wildlife is a wonderful privilege. Even though our contribution seems to involve a little minnow, it is critical to understand the big picture when it comes to biodiversity and our global ecological responsibilities. Every species has its place – life is like a giant Jenga game, the one with the stack of wooden blocks that are removed one at a time. We don't want to be around when nature's Jenga stack comes crashing down, though, we want to make sure it stays healthy, strong and standing with as many of its original blocks intact as possible.

Thanks to the efforts of the Neosho National Fish Hatchery in 2015, we just made that environmental stack of blocks a little harder to topple. A pretty big accomplishment considering it is such a little fish raised in a little southwest Missouri town!

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### Genoa National Fish Hatchery Mussel Culture Program: SUPSY Trial Shows Promising Results

BY NATHAN ECKERT, GENOA NFH



Initial size of fatmucket grown in the SUPSY during the 2015 summer.  
Credit: Lloyd Lorenz

exceeded growth rates that could be expected using methods currently available at the hatchery. The Museum and Aquarium was able to incorporate the SUPSY maintenance with their summer outreach programs providing a valuable benefit for both stations. We wish to thank the Museum and Aquarium for their assistance on this project and we look forward to continuing the partnership in the future.

This summer we tested a culture unit known as a SUPSY for rearing sub-adult mussels to a size suitable for stocking. SUPSY stands for suspended upwelling system and is made from a pair of two gallon buckets nested together with window screen cut-outs to allow water flow through the unit. Air flow provided by a blower creates lift that continually circulates water through the system. A total of eight SUPSY units were placed in the Ice Harbor at Dubuque, Iowa this spring in cooperation with the National Mississippi River Museum and Aquarium. The eight units consisted of six sets of fatmucket and two sets of Higgins' eye mussels. The mussels were monitored from late May through early October. During that time they were visited on a two week schedule for routine cleaning and data collection. The trial proved to be successful, with good growth and survival.

The results speak for themselves with 481% growth and nearly 96% survival for fatmuckets and 210% growth and a little more than 80% survival for Higgins' eye. And more importantly, the mussels



Final size of fatmucket grown in the SUPSY during the 2015 summer. Credit: Jared McGovern



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### Genoa National Fish Hatchery Isolation Building Currently Home to Lake Trout and Future Home to Whitefishes

BY OREY ECKES, GENOA NFH

As lake sturgeon culture and pond harvest wrap up for the fall, Genoa National Fish Hatchery (NFH) staff begin to focus their attention on hatching cold water fish during the winter months. Currently lake trout eggs are beginning to hatch as we wait for new arrivals of coaster brook trout and rainbow trout eggs.

Genoa NFH staff member Jeff Lockington collected wild lake trout eggs from Cayuga Lake, New York. The hatchery collects gametes from approximately 100 pairs of lake trout to maximize genetic contribution for future brood lines. Eggs collected from Cayuga Lake are shipped back to the Genoa NFH for incubation in the current regional isolation facility. As the eggs begin to hatch, an equal representative sample of fry are transferred to culture tanks for grow out. Lake trout are held in the isolation facility until clearing three separate disease inspections by the La Crosse Fish Health Center. Once the lake trout clear disease inspection after two years, they are transferred to Iron River NFH in Wisconsin and Sullivan Creek NFH in Michigan. These fish will serve as future broodstock in the National Fish Hatchery system.



Lake Trout fry being transferred to culture tanks. Credit: USFWS



Addition to Isolation Building. Credit: USFWS

incubation system, 12 circular tanks for fry and two rectangular tanks for juvenile and adult fish. Supply water will be fresh well water from the hatchery. In addition, there will be a drum filter, UV treatment system, injectable oxygen, and water temperature control systems for incubation of eggs and larvae and rearing of and quarantining of the new arrivals.

Construction is currently underway on a new 90 square foot addition to the isolation building. In the future, this addition will be home to bloater chubs and other species of coregonids (whitefishes). These fish are an important part of the prey fish community in the Great Lakes and serve an important role in many predator-prey relationships. In an effort to reestablish these species the U.S. Fish and Wildlife Service has partnered with multiple agencies to create broodstocks to assist in the reintroduction of lake herring and whitefish in the Great Lakes. Bloater chubs have experienced a decline in the Great Lakes due to commercial fishing, habitat degradation and an invasion of non-native species such as invasive plankton, alewife, and zebra and quagga mussels. A top priority with Great Lakes managers has been to recover native species to provide a better balance in food-web structure and function.

With the new addition, hatchery biologists will have the ability to recirculate at least 90 percent of the water. The building will be equipped with an



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### Out of Sight is not Out of Mind

BY MARA KOENIG, REGIONAL OFFICE - EXTERNAL AFFAIRS



The Sea Lamprey Control Risk Assessment team studies the effects of lampricide treatment on non-target species in the Conneaut Creek, PA. A priority this winter is to evaluate spawner abundance in Lake Erie to gauge effect of lampricide treatment of the creek. Credit: Joanna Gilkeson, USFWS .

demanding task. Service fish biologists consider many factors- stream water volume, regulated flow patterns, pH cycles, sensitive species and detailed notes from previous treatments.

Another “off-season” priority for the team is calculating abundance of adult sea lampreys in each Great Lake. Currently, for Lake Erie they will gauge the effect of the lampricide treatment of Conneaut Creek in Pennsylvania. Conneaut Creek has long been a sea lamprey producing stream. In 2013, a portion of the stream was left untreated to protect the hornyhead chub. The hornyhead chub is common among the Great Lakes, but has only small populations in two Pennsylvania streams, and Conneaut Creek is one of those. To protect this fish in Pennsylvania, the Service partnered with Pennsylvania Fish and Boat Commission (PFBC) to attempt removal of larvae using backpack electrofishers in 2013.

“While this effort pulled thousands of large sea lamprey ammocetes from the system, it was very costly and not effective at reducing the larval population,” Shawn Nowicki, Larval Unit Supervisor for the Marquette Biological Station stated.

To solve the hornyhead chub issue, the Service’s SLC Risk Management team conducted a biological assessment that demonstrated hornyhead chubs are not sensitive to lampricide in the concentration it is applied to the stream. SLC presented the findings to the State of Pennsylvania and requested to start treating the creek.

The Service collaborated with the PFBC to successfully treat the creek using lampricide in the spring of 2015 with no effect to the hornyhead chubs.

Additional priorities during the coming year include coordinating and monitoring of the Manistique and Grand River barriers in Lake Michigan. Both projects are funded through the U.S. Army Corps of Engineers as part of the Great Lakes Fishery and Ecosystem Restoration program. A new sea lamprey barrier being constructed on the Manistique River, located in the upper peninsula of Michigan, is replacing the Manistique Papers, Inc. dam that has deteriorated over time and resulted in increased numbers of sea lamprey into Lake Michigan. For the Grand River, a feasibility study to investigate construction of a new adjustable crest barrier and rehabilitation of the river channel to improve flood protection, river habitat and recreational use while preventing sea lampreys from migrating upstream is currently ongoing. This barrier would replace the Sixth Street Dam in Grand Rapids, Michigan. Both barriers are crucial to controlling sea lamprey.

While a blanket of white frosts the ground, the disc-like mouth sucking threat- the sea lamprey - is cloaked safely beneath, and the U.S. Fish and Wildlife Service’s Sea Lamprey Control (SLC) team is bustling, planning and prepping for the next field season.

During the “off-season”, priorities for the team include planning an effective sea lamprey treatment schedule to reach sea lamprey suppression targets in each Great Lake. Suppression targets are sea lamprey population goals based on a calculation of estimated average abundance numbers of sea lamprey over a five-year period. Each lake has its own goal. In 2014, the adult sea lamprey abundance target was 75,891 for Lake Huron, which the team achieved.

Setting the treatment schedule for each field season requires a lot of coordination with other federal, state and tribal partners to find the optimum window that ensures removal of sea lampreys while minimizing the effect to other species.

Determining the best treatment for each individual tributary entering the Great Lakes watershed is a



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### Friends of the Iron River National Fish Hatchery Let it Snow...Free Snowshoe Loaner Program

BY CAREY EDWARDS, IRON RIVER NFH

The Iron River National Fish Hatchery (NFH), located in northern Wisconsin, is in the business of raising lake trout and coaster brook trout for restoration purposes in the upper Great Lakes. The hatchery resides on 1,200 acres of land that encompass and protect the headwaters of the hatchery's water supply, Schacte Creek. The hatchery manages the land in different ways including areas for wood cutting, maple syrup collection, monarch and pollinator restoration, wildlife clearings, agricultural usage and a three mile trail system.

The trail system is maintained all year long and can be used for just about anything done on foot, including hunting, hiking, snowshoeing and cross country skiing. The hatchery is a great place to learn about the life cycle of trout, see big fish and learn about the Fish and Wildlife Service's mission. Gaining steam though is the fact that it's also a wonderful destination for families and individuals to enjoy a beautiful piece of land.



Snowshoes patiently wait to hit the trails. Credit: USFWS



A snowshoe rack, constructed by hatchery staff, holds a variety of sizes for visitors to choose from. Credit: USFWS

Hatchery staff is always looking for ways to improve upon and increase hatchery visitation and with help from the Friends of the Iron River NFH, a vision became reality. Friend's members were successful in obtaining a grant that covered the cost of 19 pairs of snowshoes for a free loaner program at the hatchery. This "on my honor" program is available every day from dawn until dusk on hatchery trails only. The program is geared towards children, but a variety of sizes are available to accommodate any visitor interested in snowshoeing. Simply stop by the visitor center, choose your size and start trekking. The hatchery hopes to eventually have enough equipment that school groups will be able to trek the trails. This is an excellent way to help keep community members, both young and young at heart, active and out and about in the woods. Now all we need is snow! Whether you like to hunt, bird watch, pick mushrooms, snowshoe or cross country ski, Iron River National Fish Hatchery has something to offer to everyone.



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## Fish Tails

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

### Fox River-Green Bay Landscape Conservation Design Project Kicks Off

BY BETSY GALBRAITH, GREEN BAY FWCO

A kick-off meeting for the Fox River/Green Bay Landscape Conservation Design (LCD) project was recently held with local partners. For many decades, public and private organizations, along with concerned citizens, have worked to restore the health of the Lower Fox River and Green Bay through the clean-up of contaminated sediment, the implementation of innovative pilot projects to improve water quality, and the restoration and protection of important habitat. LCD is a logical next step to bring together partner efforts for a landscape level plan for the watershed.

LCD is both the process and products that achieve the collaborative conservation community's shared missions, mandates, and goals. The shared conversations that take place within the LCD process are as important as the products that are produced. LCD allows for collaborative decision making about the kind, quantity, and configuration of habitat needed, what activities to undertake, and where. Geospatial and biological information are used to inform models, create tools and maps, and to evaluate every acre of the system. Partners and stakeholders will utilize the end products to plan and implement projects while ensuring the sustainability of ecosystem services for current and future generations.

The workgroup for the project includes representatives from Tribes, federal, state, and local government agencies, universities, and non-profit groups. The Green Bay Fish and Wildlife Conservation Office is leading the project.

### Iron River NFH Provides Training Tools to the National Conservation Training Center

BY SHAWN SANDERS, IRON RIVER NFH

Iron River National Fish Hatchery was contacted by the National Conservation Training Center (NCTC) about donating fish to their teaching collection. The hatchery was more than willing to lend a hand and donate specimens of both species currently in culture, lake and coaster brook trout. Both male and female fish as well as different sizes were represented to help students differentiate morphometric (body shape) and coloration at different life stages. All specimens were shipped overnight to NCTC where they were fixed in formalin and transferred to alcohol for long-term storage.

The donated specimens will be used primarily for the "Fish Identification" class at NCTC. The National Conservation Training Center, located in Shepherdstown, West Virginia, provides training, program coordination, technical support, and distance learning for conservation professionals. Anyone interested in taking conservation training at NCTC can find a list of available courses at [nctc.fws.gov](http://nctc.fws.gov).



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## Midwest Region Fisheries Divisions

### National Fish Hatcheries

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



### Fish and Wildlife Conservation Offices

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

### Sea Lamprey Biological Stations

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

### Fish Health Center

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

### Whitney Genetics Lab

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



## Midwest Region Fisheries Contacts

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