

Fisheries Program

Fish Lines

Distribution of Small Bighead & Silver Carp

Celebrating Volunteer Support

Renovation of Besser Museum Fish Exhibit

Ohio River Asian Carp Monitoring and Assessment

WE'RE GLAD TO BE FRIENDS OF THE NEOSHO NATIONAL FISH HATCHERY





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

Conserving America's Fisheries



In this Issue

Field Focus

[Whitney Genetics Lab](#)

The first season of official monitoring of invasive carp environmental DNA (eDNA) was completed in November of last...[Read More](#)

Subscribe

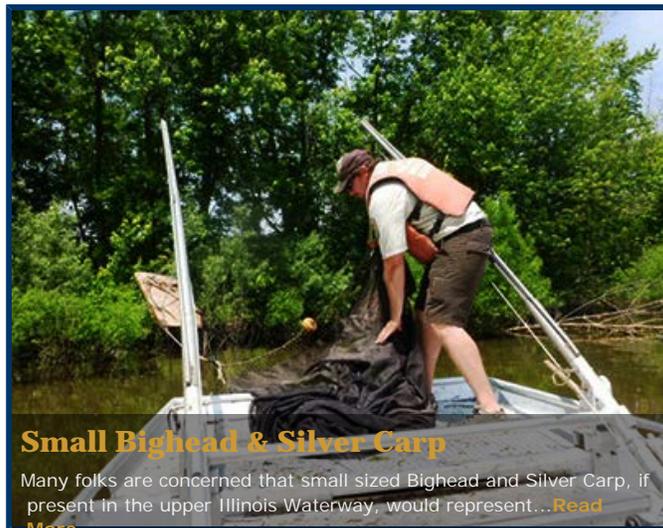
[Subscribe Now!](#)

Archive

[2014](#) [2013](#) [2012](#) [2011](#) [2010](#) [2009](#)

Editorial Staff

[Tim Smigielski, Editor](#)
[Karla Bartelt, Webmaster](#)



Small Bighead & Silver Carp

Many folks are concerned that small sized Bighead and Silver Carp, if present in the upper Illinois Waterway, would represent...[Read More](#)



Distribution of Small Bighead and Silver Carp



Fisheries Offices Celebrate Volunteer Support



Renovation of Besser Museum Fish Exhibit



Ohio River Asian Carp Monitoring and Assessment



Children's Book on Neosho NFH

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: May 8, 2014



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

Conserving America's Fisheries

Distribution of Small Bighead Carp and Silver Carp in the Illinois Waterway

BY JEFF STEWART, CARTERVILLE FWCO



Adam McDaniel (fisheries technician) from the Columbia Fish and Wildlife Conservation Office pulls in a push-trawl sample. Credit: Jose Rivera, USFWS

Many folks are concerned that small sized Bighead and Silver Carp, if present in the upper Illinois Waterway, would represent a threat to breach the electric fish barrier in the Chicago Area Waterway System (CAWS) at Romeoville. Therefore there is a need to better define the distribution and demographic characteristics of small Asian carp in the middle and upper Illinois River Waterway. This will allow us to better characterize and assess the risk they may pose to making it past the CAWS and into the Great Lakes.

We use nets, electrofishing, and push-trawling to sample for small carp. Nets used are Wisconsin style mini-fyke nets and large-frame fyke nets which are set and fished overnight. Fyke nets are set as shoreline sets and as tandem sets in open water areas. Electrofishing consists of 15 minute daytime pulsed-DC boat electrofishing runs made with a Midwest Lakes Electrofishing System Infinity control box. Push-trawl samples are made with a bow mounted skate-balloon trawl.



A tandem mini-fyke net set in a backwater of the Illinois Waterway. Credit: Jeff Stewart, USFWS

This sampling began in 2012, and continued through the 2013 field season. In the first two field seasons we captured and identified over 100,000 fish specimens. Young of the year Silver Carp were captured 102 river miles from the electric fish barriers in 2012. To date that is the closest that young of the year have been found to Lake Michigan. The 2014 field sampling is scheduled to resume in the month of May. We hope to learn more about the distribution of small invasive carp in the Illinois Waterway in order to help monitor the risk of these fish entering the Great Lakes.



Jeff Stewart (fish biologist) pulls in a fyke net sample on the Illinois Waterway. Credit: Rob Simmonds, USFWS

The 2014 field sampling is scheduled to resume in the month of May. We hope to learn more about the distribution of small invasive carp in the Illinois Waterway in order to help monitor the risk of these fish entering the Great Lakes.



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

Conserving America's Fisheries

Fisheries Offices Celebrate Volunteer Support

BY DOUG ALOISI, GENOA NFH

The three La Crosse Wisconsin (WI) area U.S. Fish and Wildlife Service (FWS) Fisheries offices held their Annual Volunteer and Friends Appreciation Banquet, at the Boot Hill Restaurant's conference room in La Crosse, WI. The FWS offices are comprised of the La Crosse Fish Health Center, the La Crosse Fish and Wildlife Conservation Office and the Genoa National Fish Hatchery.

There was a great turnout on hand, with over 50 of our combined volunteers, friends and their spouses attending. During calendar year 2013, at the Genoa National Fish Hatchery alone, over 1091 volunteer hours were logged on high priority programs such as freshwater mussel and lake sturgeon restoration, coaster brook trout marking and environmental education programs such as the outdoor classroom.

A few special awards were handed out for calendar year 2013, with Lloyd Lorenz receiving our Volunteer of the Year Award. Lloyd has logged over 464 volunteer hours in the last three years and is one of the hatchery's most dedicated volunteers.

Two special awards were also presented during the evening. Brigid Reimann was presented with the hatchery's annual Conservation Steward Award. This award is generally given out to a local area educator who has excelled in instilling a conservation ethic in the upcoming generation. Brigid has been instrumental in getting the hatchery's Sturgeon in a Classroom program instituted in Merrill (WI) High School. She also led development of a small scale aquaculture system using surplus hatchery tanks and station culture expertise to begin teaching aquaculture skills to the Merrill Agricultural Program. In addition, Ken Visger, longtime Friend Board of Directors member was presented with a Meritorious Service Award for his energy to form and lead our La Crosse area Fisheries Friends Group for the last decade. The three La Crosse area FWS Fisheries offices look forward to Calendar Year 2014's volunteer programs and working alongside these dedicated people that care for and serve to protect our natural resources.



Genoa NFH Project Leader Doug Aloisi with Volunteer of the Year Lloyd Lorenz and Conservation Steward Awardee Brigid Raiman. Credit: USFWS



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

Conserving America's Fisheries

Ohio River Asian Carp Monitoring and Assessment

BY JEFF STEWART, CARTERVILLE FWCO



Stephan Petersen (Technician) and Tyler Roberts (WVDNR) attach a VR2w receiver to a navigation buoy on the Ohio River. Credit: Jeff Stewart, USFWS

stretches from the Markland Lock and Dam near Cincinnati, Ohio, upstream to the confluence of the Allegheny and Monongahela Rivers at Pittsburgh, Pennsylvania. Partners include the Kentucky Department of Fish and Wildlife Resources, West Virginia Division of Natural Resources, Ohio Department of Natural Resources, and Pennsylvania Fish and Boat Commission. Projects underway include telemetry of tagged Asian carp, environmental DNA (eDNA) sampling, and split-beam hydroacoustic and side scan SONAR work. Our efforts to understand the distribution and movements of Asian carp in the middle and upper Ohio River continue in 2014.



Jeff Stewart (Fish Biologist) and Tyler Roberts attach a VR2w acoustic receiver to a stand for deployment in the Hocking River. Credit: Stephan Petersen, USFWS

Asian carp include the Silver Carp and Bighead Carp as well as hybrids between these species. Populations of these two introduced aquatic nuisance species (ANS) are spreading throughout the Mississippi and Ohio River Basins. Asian carp are highly invasive species that have been expanding their range in the U.S. since the early 1980's when they first began to appear in public waters. Populations of Asian carp have become well established in the lower and middle reaches of the Ohio River and are known to reproduce as far upstream as Louisville, Kentucky.

In early 2013 the Carterville Fish and Wildlife Conservation Office (FWCO) began work with state partners on the Asian carp problem in the Ohio River. The overall goal of these efforts is to understand the distribution, catch rates, and movement patterns of Asian carp in the Ohio River.

Understanding these aspects of Asian carp biology in the Ohio River will assist efforts to minimize their further spread in the basin and reduce the size of existing populations. The area being studied



Steve Gambicki (Fish Biologist) takes a water sample for environmental DNA analysis. Credit: Jeff Stewart, USFWS



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

Conserving America's Fisheries

Children's Book on Neosho National Fish Hatchery

BY KAY HIVELY, FRIENDS OF NEOSHO NFH



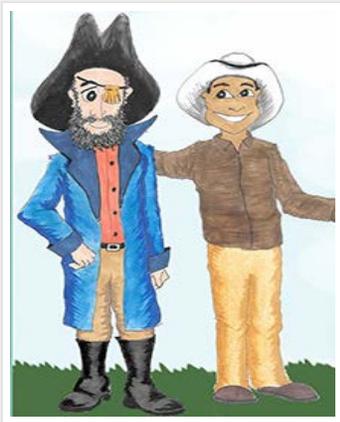
Captain Shellfish with a bottom up view of the aquarium at Neosho NFH Visitor Center. Photo Credit: Kay Hively, Friends of Neosho NFH, Original Artwork By: Doug Whitehead

The staff of the Neosho National Fish Hatchery often gives tours of their facility. They talk about the rainbow trout, the pallid sturgeon, the history of the nation's oldest operating hatchery and the new visitor center. But now there is a new tour guide at Neosho NFH—his name is Captain Shellfish. Captain Shellfish is a pirate.

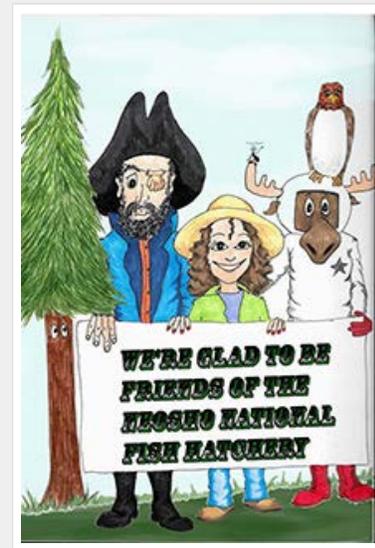
Doug Whitehead, a children's author, created Captain Shellfish and in his latest book, he has his main character touring the fish hatchery in Neosho. Just like the regular tours, Captain Shellfish points out the many features of the hatchery. He shows readers the now-famous "bubble" in one of the aquariums where kids, adults and now Captain Shellfish can view fish from underneath.

Besides all the wonders at the hatchery to experience, Captain Shellfish also introduces readers to hatchery manager Dave Hendrix, the man in the white cowboy hat.

Whitehead, who has written eight children's outdoor books, is a local author who not only writes his stories but does the illustrations as well. His books are for sale in the hatchery bookstore. Doug Whitehead (and Captain Shellfish) are also proud members of the Friends of the Neosho National Fish Hatchery.



Cartoon interpretation of Neosho NFH Manager Dave Hendrix and his new tour guide Captain Shellfish. Credit: Kay Hively, Friends of Neosho NFH



New cartoon friends will help the public discover and understand Neosho NFH. Credit: Kay Hively, Friends of Neosho NFH



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

Conserving America's Fisheries

Whitney Genetics Lab – A Fast and Furious Second Year

BY EMY MONROE, WHITNEY GENETICS LAB



Nick Grueneis filtering for the bottle contamination study. Credit: Jennifer Bailey, USFWS.

The first season of official monitoring of invasive carp environmental DNA (eDNA) was completed in November of last year. Since then, Whitney Genetics Lab (WGL) staff has been busy working on several different studies, as well as collaborating with our research partners in the US Geological Survey (USGS) and the US Army Corps of Engineers (ACE) to improve eDNA as a monitoring tool. We have also been participating in several planning meetings with our Fish and Wildlife Conservation Offices (FWCO) and state partners getting ready for a huge second year, where over 8000 eDNA samples will be collected across the Great Lakes and in the Upper Mississippi and Ohio River basins.

Several lab projects were focused on refinement of methods or equipment used for eDNA monitoring. Due to the nature of eDNA (low quality and low quantity), and the use of polymerase chain reaction in the lab, the risk of contaminating DNA is high. This risk is controlled by *everyone* in the monitoring program following our detailed and rigorous [Quality Assurance Project Protocol \(QAPP\)](#), which is

available on-line for anyone interested in how we collect and process eDNA samples.

An easy way to prevent contamination is to simply use new bottles for each event; however, a case of six bottles is nearly \$100 and as a conservation agency, it did not feel right to use bottles just one time. We examined the potential of contamination from re-using 2-liter sample bottles. Our study demonstrated that proper cleaning of bottles eliminated contaminating DNA so we can improve our carbon footprint by reusing bottles and save money for the program.



Jennifer Bailey evaluating gear decontamination in the lab. Credit: Nick Grueneis, USFWS

When we inherited the QAPP from USACE, the only decontaminating agent allowed for field gear was bleach, which is corrosive to boats, and hard on everyone's clothing and other gear. So the lab investigated several different decontaminating products in a controlled lab study and on boats used in the field by the La Crosse FWCO. These studies resulted in the addition of several different decontamination procedures and products to the QAPP that are safer for field staff and have a reduced environmental impact.



Jenna Merry (La Crosse FWCO) steam washing boats for the gear decontamination study. Credit: Jennifer Bailey, USFWS

The lab portion of the QAPP will hopefully see some updates as well. Two studies underway this spring, in collaboration with our colleagues at the USGS and ACE, should hopefully result in not only a more efficient monitoring program, but also increased confidence in results. The first one will test and validate several new markers for both silver and bighead carp, which will hopefully provide several different marker options with increased reliability, reduced effects of inhibition, and increases in lab efficiency and cost savings. The second study will compare detection rates of carp DNA between different water processing methods, filtering vs centrifuging. If centrifuged samples offer the same rate of detection, advantages include reduced contamination risk, as well as time and cost savings for the lab.

Increasing lab efficiency and cost savings will allow the lab to increase sample processing capacity so that implementation of eDNA as a monitoring tool can

be used in the most appropriate spatial and temporal manner, which will provide the best information available to management agencies. Samples started arriving April 23rd, and will be coming in fast and furious over the spring as field crews collect thousands of samples as water temperatures and the hydrograph rise. Samples will continue to filter in over the summer and well into fall. We look forward to another productive year of eDNA monitoring!



Nick Berndt working with USGS collaborators Nathan Jensen and Lauren Turinetti to evaluate DNA concentration by centrifuging. Credit: Kyle Von Ruden, USFWS

Last updated: May 8, 2014



U.S. Fish & Wildlife Service

Fisheries, Midwest Region

Conserving America's Fisheries



Fish Tails

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

Fish Biologist Invited to Educate Dearborn Sail and Power Squadron

BY ANDREW BRIGGS, ALPENA FWCO - WATERFORD, MI SUBSTATION

Fish biologist Andrew Briggs of the Alpena Fish and Wildlife Conservation Office – Waterford Substation was invited to present to the Dearborn Sail and Power Squadron at their monthly membership meeting. The Dearborn Sail and Power Squadron is a unit of the United States Power Squadrons and is a non-profit, educational organization. They educate all levels of sail and power boaters on safe boating practices. The meeting took place at Richard's Family Restaurant in Livonia, Michigan on March 20th and approximately 30 members were present.

The Dearborn Sail and Power Squadron was interested in the habitat restoration projects currently underway in the St. Clair-Detroit River System (SCDRS). Andrew presented information on the artificial spawning reefs that the U.S. Fish and Wildlife Service (Service) and partners have constructed and plan to construct in the system. Since 2008, three artificial reefs have been constructed in the SCDRS, two in the Detroit River (Belle Isle and Fighting Island), and one in the lower St. Clair River (Middle Channel). The intent of the reefs is to increase native fish species spawning habitat, which has been lost in these rivers as a result of dredging in the early 1900's. The construction of these reefs has been identified as restoration targets for the "Loss of Fish and Wildlife Habitat" and "Degradation of Fish and Wildlife Populations" Beneficial Use Impairments (BUIs) in these two Areas of Concern (AOCs). Attendees of the meeting were impressed at the amount of effort that goes into determining where reefs are constructed and the amount of physical and biological data collected to determine the success of the reefs. Project partners use side scan sonar equipment, underwater video, scuba diving, acoustic Doppler current profilers, and other gears to assess the physical characteristics of each reef site. Biological data collection includes larval, juvenile, and adult fish assessments along with fish egg deposition studies to evaluate the success of each reef. Participants were amazed at the positive impacts that the current reefs have had on the fish community in such a short period of time. Members expressed concern over the habitat degradation that has taken place in the SCDRS, but were excited to see that there were people out there making a difference.

Presenting to local groups is an excellent way that the Service can inform the public of the important work that is being conducted right in their backyards. These groups often develop an appreciation for the work being conducted along with the importance of conserving the environment around them. These reef construction projects are conducted in cooperation with the Huron-Erie Corridor Initiative partnership, which recently received the Department of the Interior (DOI), Partners in Conservation Award, one of the highest recognitions bestowed on organizations by the U.S. Secretary of the Interior.

For more information please visit the [Huron-Erie Corridor Initiative website](#).

YouTube Video Links:

<http://www.youtube.com/watch?v=6VHf9YsrzT8>

http://www.youtube.com/watch?v=g_oXh3306mg

Fish Culture Class Tours Pendills Creek National Fish Hatchery

BY JAMES ANDERSON, SULLIVAN CREEK NFH

During the month of April 2014, students from Lake Superior State University's (LSSU) fish culture class toured the Pendills Creek National Fish Hatchery. The students and the instructor were very interested in the hatchery's water treatment processes used to improve our water quality. Many of the students were well versed in the knowledge of fish culture from already working in LSSU's Aquatic Research Lab (ARL) where they raise Atlantic salmon.

It turned out to be a great day to witness the Pendills Creek water treatment process in action. It had rained in the morning, and by the warm afternoon the snow melt was stirring up the creek. The tour started at the hatchery water supply intake, where the water looked like very chunky iced coffee. Then the tour moved downstream to the traveling screen building where the students saw how the screen removes large debris from the incoming water. Next was the drum filter, where the finer particles in the water get filtered out down to 90 microns. After the drum filter is the Ultra Violet Disinfection (UV) system, which uses UV light to

kill any pathogens that might be hiding in the water. Finally, the Low Head Oxygenators (LHO's) which add supplemental liquid oxygen to the processed water. The end result of all this water treatment was examined when the tour entered the production building and the water in the raceways looked like fresh brewed tea. The one thing the water treatment process does not do is change the color of the water that much. The next stop was the fish pump used to load the large fish distribution truck and the 3,300 gallon tanker itself, which many found quite unique. The tour then proceeded to the tank room where students viewed lake trout fry and asked any final questions before schooling back up onto the university bus.

As knowledgeable as many of the students were on fish culture, the hatchery personnel said that if they got bored with Atlantic salmon, they could come and work with some Lake trout for a while if they had time, but nobody would bite on the offer!

Last updated: May 8, 2014



U.S. Fish & Wildlife Service

Fisheries, Midwest Region

Conserving America's Fisheries

Midwest Region Fisheries Divisions

National Fish Hatcheries

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

Fish and Wildlife Conservation Offices

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



Sea Lamprey Biological Stations

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

Fish Health Center

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



U.S. Fish & Wildlife Service

Fisheries, Midwest Region

Conserving America's Fisheries

Midwest Region Fisheries Contacts

Todd Turner, Assistant Regional Director, Fisheries
todd_turner@fws.gov

Alpena Fish & Wildlife Conservation Office

480 West Fletcher St.
 Alpena, MI 49707
 Scott Koproski (scott_koproski@fws.gov)
 989/356-3052
 Area of Responsibility (MI, OH)

Ashland Fish & Wildlife Conservation Office

2800 Lake Shore Drive East
 Ashland, WI 54806
 Mark Brouder (mark_brouder@fws.gov)
 715/682-6185
 Area of Responsibility (MI, MN, WI)

Cartersville Fish & Wildlife Conservation Office

9053 Route 148, Suite A
 Marion, Illinois 62959
 Rob Simmonds (rob_simmonds@fws.gov)
 618/997-6869
 Area of Responsibility (IL, IN, OH)

Columbia Fish & Wildlife Conservation Office

101 Park Deville Drive; Suite A
 Columbia, MO 65203
 Tracy Hill (tracy_hill@fws.gov)
 573/234-2132
 Area of Responsibility (IA, MO)

Genoa National Fish Hatchery

S5689 State Road 35
 Genoa, WI 54632-8836
 Doug Aloisi (doug_aloisi@fws.gov)
 608/689-2605

Green Bay Fish & Wildlife Conservation Office

2661 Scott Tower Drive
 New Franken, WI 54229
 Mark Holey (mark_holey@fws.gov)
 920/866-1717
 Area of Responsibility (IN, MI, WI)

Iron River National Fish Hatchery

10325 Fairview Road
 Iron River, WI 54847
 Dale Bast (dale_bast@fws.gov)
 715/372-8510

Jordan River National Fish Hatchery

6623 Turner Road
 Elmira, MI 49730
 Roger Gordon (roger_gordon@fws.gov)
 231/584-2461

LaCrosse Fish Health Center

555 Lester Avenue
 Onalaska, WI 54650
 Acting Terry Ott (terrance_ott@fws.gov)
 608/783-8441

LaCrosse Fish & Wildlife Conservation Office

555 Lester Avenue
 Onalaska, WI 54650
 Acting Scott Yess(scott_yess@fws.gov)
 608/783-8432
 Area of Responsibility (IA, IL, MO, MN, WI)

Ludington Biological Station

229 South Jebavy Drive
 Ludington, MI 49431
 Jeff Slade (jeff_slade@fws.gov)
 231/845-6205

Marquette Biological Station

3090 Wright Street
 Marquette, MI 49855-9649
 Kasia Mullett (katherine_mullett@fws.gov)
 906/226-1235

Neosho National Fish Hatchery

East Park Street
 Neosho, MO 64850
 David Hendrix (david_hendrix@fws.gov)
 417/451-0554

Pendills Creek National Fish Hatchery

National Fish Hatchery
 21990 West Trout Lane
 Brimley, MI 49715
 Curt Friez (curt_friez@fws.gov)
 906/437-5231

Sullivan Creek National Fish Hatchery

21200 West Hatchery Road
 Brimley, MI 49715
 Curt Friez (curt_friez@fws.gov)
 906/437-5231