

U.S. Fish & Wildlife Service - Midwest Region

Fisheries & Aquatic Resources Program

Fish Lines

Hidden History

**Fish Disease
Diagnostics**

**Children in
Nature**



Vol. 8 No. 6
March 2010

Fish Lines

Fisheries & Aquatic Resources Program - Midwest Region

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

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

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Lake Trout Distribution in the Upper Great Lakes

The lake trout stocking season got off to an early start on April 7th for Jordan River, Pendills Creek and Iron River National Fish Hatcheries in the Upper Great Lakes. Almost 2.4 million fish will be stocked into Lake Huron and Lake Michigan by the end of April, with another 1.6 million to be stocked in May.

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

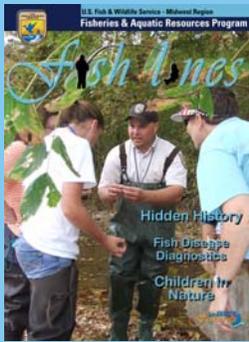
fish lines

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-USFWS/Patty Herman

Colby Wrasse of the Columbia Fish and Wildlife Conservation Office describes the characteristics of a fish species to interested students of the stream ecology class at Roaring River State Park.

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.

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Hidden History

BY KAY HIVELY, NEOSHO NFH

When the two large domes were lifted onto the top of the new headquarters/visitor center at the Neosho National Fish Hatchery (NFH), the crane lifted more than the two “crowns.”

Inside what has become known as the “onion dome,” are several extra pieces of lumber that are filled with signatures. These signature boards are the brainchild of hatchery manager David Hendrix who wanted many people to feel part of this project.



“Actually it all started with T. J.; the contractor manager asked if I might like to have some people come by and sign one of the domes before it was put up,” Hendrix said. “I thought about that and wondered if having some people there on the construction site might create a problem. I discussed it with my staff and we decided we would just get some boards and have people sign them and then put them up in the dome.”

Now those boards, signed by people from throughout the community, as well as by United States Senator “Kit” Bond and U. S. Congressman Roy Blunt, are encased in the dome, making each signer part of this amazing building. One board was actually sent to the regional office in Minnesota so the regional director and his staff could add their signatures.

“This has gotten so big,” Hendrix laughed, “that I think T. J. is sorry he mentioned it. We have all kinds of people signing the boards. We just keep adding boards when one gets full. I keep one in the office so if someone drops by they can sign. I am really trying to get signatures of all the people who have been so important to the hatchery over the years.”

Always interested in kids, Hendrix made a point to include school children in the project. He also obtained signatures from members of the *Friends of the Neosho National Fish Hatchery* and from people who have volunteered from time to time.

-Kay Hively

The long awaited arrival of the "onion dome" came early on the morning of March 2 as a large crane swings the dome around and prepares to set it on top of the new visitor center at the Neosho National Fish Hatchery. Two of the Amish construction workers man the ropes to assure the dome is placed in the perfect location.

Barring some unforeseen catastrophe, those signatures should be inside the dome for one hundred or more years. If that is the case, it is very unlikely that anyone who signed those boards will be around to see them again. But, even if no signers will see those boards again, they will always have the satisfaction of knowing they were allowed

to have a small part in the history of what is already the nation's oldest operating federal fish hatchery.

Another "keepsake" event that is planned for the new building is a cornerstone which will be placed in the building. The staff in Minnesota will make suggestions about what that will depict. It may just be the date 2010 or it might have something more, perhaps the name of the hatchery. Hendrix also hopes to include a time capsule behind the cornerstone which will include photographs, newspaper articles and other artifacts from Neosho and the hatchery.

"More than anything, I want these things to let people know how much the people in this community mean to the hatchery. This is a great town and we owe our very existence to the support of the community. Everyone in this town is important to us."

As the last of the two domes settled into place one dreary morning, Hendrix looked at his watch and said, "Mark this date down. Its 8:30, March 2, gray and overcast with snow, and the dome is in place. It's a historic time."



-Kay Hively

Several boards were used to collect signatures from supporters of the new Neosho National Fish Hatchery visitor center. The signature boards are secured in the onion dome and include the names of Senator Kit Bond and Congressman Roy Blunt, along with several members of the *Friends of the Neosho National Fish Hatchery*.



-R. Rogers

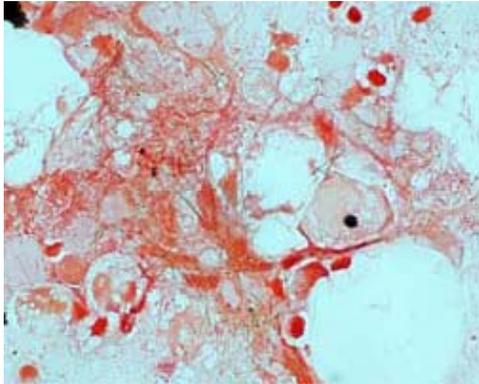
Students at the Neosho Middle School posed after signing boards which will be put into one of the onion domes at the Neosho National Fish Hatchery visitor center.

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

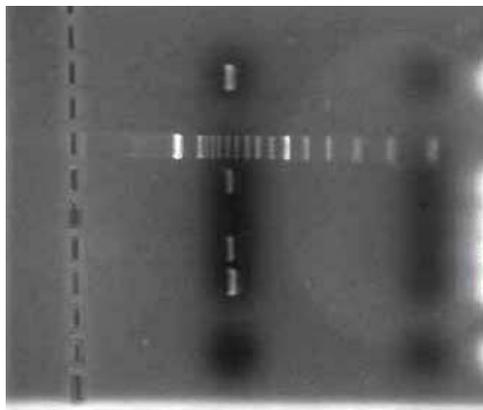
Fish Disease Diagnostics

BY BECKY LASEE, LA CROSSE FHC

Throughout the year, staff at the La Crosse Fish Health Center (FHC) diagnose and identify disease problems in hatchery fish and wild fish populations. On average, FHC biologists conduct 30 diagnostic examinations per year. La Crosse FHC staff use both traditional post-mortem and molecular



-USFWS/BeckyLasee
Gram stain smear from skin lesion showing bacteria.



-USFWS/BeckyLasee
Traditional polymerase chain reaction (PCR) results confirming coldwater disease.



-USFWS/SarahBauer
Salmincola sp. attached to the gill of a brook trout.

techniques to identify disease problems. Initial steps include performing skin scrapings to reveal any bacteria or parasites. The next steps might be culturing the pathogen in specific media or cell cultures, or performing a molecular technique like polymerase chain reaction (PCR). It may take hours or several weeks to make a diagnosis. Sometimes the specific cause of fish morbidity or mortality cannot be identified.

In hatcheries, diseases can occur from environmental problems and pathogens. Common bacterial problems include bacterial gill disease (BGD), columnaris disease, coldwater disease (CWD) or furunculosis. Recently, cases of CWD have increased throughout the United States as well as reports of antibiotic resistant strains.

Common parasite problems are caused by monogenetic flukes like *Gyrodactylus* spp., tapeworms like *Corallobothrium* sp. in catfish, digenetic trematodes (e.g., “ich”, black-spot, yellow grub, white grub) and copepod parasites like *Salmincola* spp.

Large kills caused by viruses are infrequent in hatcheries but occur in wild populations due to Viral Hemorrhagic Septicemia (VHS), Largemouth Bass Virus (LMBV), Spring Viremia of Carp Virus (SVCv) and others.



-USFWS/BeckyLasee
Gyrodactylus sp.



-USFWS/K.Peters
Yellow grub infection on fathead minnows.



-USFWS/BeckyLasee
A largemouth bass infected with Largemouth Bass Virus (LMBV).

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

Children in Nature

BY JAIME MASTERSON, PENDILLS CREEK NFH

April 7th kicked off the “Children in Nature” project for Pendills Creek National Fish Hatchery (NFH). The 6th grade class at Brimley Elementary School was selected to take part in the project. A lesson plan was designed by biologist Jaime Masterson to take 35 students outside and teach them about six different subjects in



-USFWS

Students identify the rocks they found on the Lake Superior shoreline during a “Children in Nature” event sponsored by the Pendills Creek National Fish Hatchery.

nature including geology, ichthyology, entomology, dendrology, botany and meteorology. Guest experts from Lake Superior State University (LSSU), the U.S. Forest Service and an independent geologist volunteered their time to come and help out and teach the various subjects within their disciplines.

Geology was the first class, held at the Iroquois Lighthouse, where local geologist Julia Shubel educated the kids about types of rocks and how to identify rocks and minerals. Students were given identification tables, three observation sheets and pocket magnifying glasses. The children were then let loose on the rocky shoreline to search out and discover different types of rocks. Mrs. Shubel also brought along a rock hammer and an acid kit to help identify different rocks and minerals. After each group identified three rocks, the class congregated back together

so that they could share their results with the entire class.

On April 13th, the students learned about ichthyology at the Pendills Creek NFH. Roger Greil of LSSU’s Aquatic Research Lab in Sault Ste. Marie, Mich. volunteered his time to take the children electro-fishing in Pendills Creek. After collecting fish samples, they were anesthetized and identified. Specimens collected included brook trout, slimy sculpin and steelhead trout. One group even managed to land a 12 inch steelhead...great catch! The children were then given a tour of the hatchery and overview of why we grow lake trout at Pendills Creek NFH by hatchery manager Curt Friez. Lastly, the children were taught how to do fish food calculations and to calculate actual feed rates for different fish culture raceways. Children were then able to feed fish in those raceways. At the end of the day, participants were given Pocket Freshwater Fish Ident-I-Cards™ to help them continue to identify any fish species they come across.



-Bay Mill News/SharMyers

Roger Greil of Lake Superior State University and two children sample the fish population in a Lake Superior tributary.

Stay tuned for the next three classes on entomology, dendrology, botany and meteorology that will take place in May and June.

For further info about the Pendills Creek NFH/Sullivan Creek NFH: <http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/pendills.pdf>
For additional photos, information and videos of the “Children in Nature” classes, see the blog at: <http://pendillscreeknfh.blogspot.com/>

Great Lakes Fishery Commission's Fish Stocking Database

BY DALE HANSON, GREEN BAY FWCO

Dale Hanson, biologist at the Green Bay Fish and Wildlife Conservation Office (FWCO), recently updated the Great Lakes Fishery Commission's fish stocking database with all reported fish stocking events that occurred in the Great Lakes during 2009. Hanson works with state, tribal, federal and provincial agencies across the Great Lakes to report the number of fish stocked in a standard database. The database, available on-line at <http://www.glfc.org/fishstocking/>, enables fish managers, researchers and the general public to determine the number of fish

stocked by species, location and date for each of the five Great Lakes.

Users can also find information on tagged fish; tag numbers can be entered on-line and users can get information such as the strain of the fish, its original stocking location and the age of the fish. The database is generally updated annually with the previous year's stocking events by April 1st.

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.

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

La Crosse FHC assists Western Technical College

BY ERIC LEIS & SARAH BAUER, LA CROSSE FHC

In March, La Crosse Fish Health Center (FHC) was contacted by Diane Waller, biology professor from Western Technical College (WTC) to help set up a laboratory exercise for the spring semester introductory biology class. La Crosse FHC staff assisted WTC in setting up the exercise which allowed students to learn about polymerase chain reaction (PCR). PCR is an assay which involves the amplification of a specific sequence of targeted DNA. The assay has many applications in a wide variety of fields. For example, it is used in the medical field to identify the presence of diseases, and in law enforcement, PCR can be used to link criminals to the crime scene.

The La Crosse FHC uses the assay to confirm the presence of a variety of bacterial, viral and parasitic pathogens. Students gained practical knowledge of PCR and how to interpret the results of the assay.

Staff from the La Crosse FHC has worked with Diane Waller previously. Diane is trying to develop a zoology course at WTC involving the local fish and parasites. She visited the lab over winter break to get practical experience staining, mounting and identifying parasites from bluegill and largemouth bass.



-D. Waller

Eric Leis (background) of the La Crosse Fish Health Center assists a student from Western Technical College with a polymerase chain reaction (PCR) procedure.

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

Alpena FWCO moves into a New “Green Space”

BY ANJANETTE BOWEN, ALPENA FWCO

During early February, the Alpena Fish and Wildlife Conservation Office (FWCO) moved from the Federal Building in downtown Alpena, Mich. into a renovated portion of the former Fletcher Paper Company.

The Alpena FWCO first opened in 1992 in the Federal Building as the Alpena Fishery Resources Office. Although the location of the Federal Building had many benefits, storage space was not one of them. Station vessels were stored off-site at a leased garage and the Federal Building was not well suited for lab work.

After a number of years of research and development, plans for a new working space were designed. In 2009, Alpena Marc LLC won the contract to construct the new office. It is housed in a portion of the historic former Fletcher Paper Company along the Thunder Bay River near downtown Alpena. It is a state-of-the-art LEED certified green space with geothermal heating. The new design consists of offices, laboratory, cold storage for vessels and a heated storage/work area designed for net building.

The new office is also located near partner agencies including the National Oceanic and Atmospheric

Administration Thunder Bay National Marine Sanctuary and the Michigan Department of Natural Resources Alpena Fisheries Research Station. The design and location allows the station to better serve the mission of the Fish and Wildlife Service and accomplish station objectives. An open house and ribbon cutting ceremony will be held on April 9.



-USFWS

The Alpena Fish and Wildlife Conservation Office moved into green space at the site of the former Fletcher Paper Company along the Thunder Bay River near downtown Alpena, Michigan.

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

Fish Health Presentations at the World Aquaculture Society Conference

BY ERIC LEIS, LA CROSSE FHC

Fish health biologists Corey Puzach and Eric Leis from the La Crosse Fish Health Center (FHC) attended the World Aquaculture Society Conference in San Diego, California. There they listened to a variety of presentations given on different aquaculture-related topics delivered by speakers from around the world. In addition to fish health, there were also sessions dealing with shellfish and crustacean health. These were especially interesting to fish

health staff, because professionals in those fields face the same types of issues with diagnostic methods that fish health biologist experience. Corey and Eric gave oral presentations on fish parasites during the “Fish Health and Parasites” session. Overall, the conference was very interesting because the diversity of the topics presented gave the biologists insight to the advancements of aquaculture around the world.

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

Pallid Sturgeon History Remembered

BY BRIAN ELKINGTON, COLUMBIA FWCO

There have been a lot of “firsts” for pallid sturgeon recovery efforts. Most recently was the first time a mass stocking occurred of locally obtained broodstock for the lower Missouri River. To understand where you are, you have to look at where you have been. In 1992, Missouri’s Department of Conservation (MDC) Blind Pony State Fish Hatchery (SFH) led by Gary Heidrich, with the collaboration of MDC biologist Kim Graham, worked to spawn 4 pallid sturgeon obtained from commercial fishermen in the lower Mississippi River. This effort resulted in the first stocking of pallid sturgeon, 2,300 to be exact, in the Missouri River.



-USFWS

Wyatt Doyle of the Columbia Fish and Wildlife Conservation Office releases pallid sturgeon into the Missouri River.

This occurred two years after the pallid sturgeon was listed as endangered and marked the beginning of a process none could have anticipated. Again in 1997, Blind Pony SFH spawned pallids obtained from Mississippi River broodstock and they were again stocked into the lower Missouri River. The upper Missouri River then pulled off successful spawns and those genetics began to be reintroduced in the upper portions of the Missouri River above the major dams. In 2001, over 10,000 pallids from the upper basin were stocked into the lower river after over 15,000 yearling pallids were lost at Blind Pony SFH due to a Herpes virus outbreak, effectively ending their pallid production program for the next eight years. Since the fish was still considered to be in danger of extinction (supported by biologists only detecting a handful of wild fish each year) there would be in excess of

50,000 pallid sturgeon stocked into the lower Missouri River from upper basin origin over the next three years. At this point, genetic concerns caught up to the stocking program. New detection techniques had become available combined with enough genetic data collections for pallid sturgeon from Montana to Louisiana. Precautionary measures were put in place during 2007 that would only allow stocking of “local” origin broodstock within four statistically defined population groups. At that time, there were five state and federal agencies sampling for broodstock in the lower Missouri River and none had ever captured a gravid (egg bearing) female.

This situation was complicated by two ongoing telemetry programs in the lower Missouri and middle Mississippi Rivers that also needed gravid females to determine spawning locations and behavior. With increased efforts based on the need for local genetic material, biologists began to find adults in the upper portion of the lower Missouri River designated as the Central Lowlands Management Unit. These fish have subsequently been spawned and stocked in that unit. However, it wasn’t until 2009 that females and males were obtained in the lower portion of the lower Missouri River, the Interior Highlands Management Unit. These captures, made by the Columbia Fish and Wildlife Conservation Office (FWCO) and MDC, make it possible for a historic stocking of 1,100 Interior Highlands Management Unit pallid sturgeon from and into the lower Missouri River from the Interior Highlands Management Unit population. Coincidentally (or not), this event has been made possible in 2010 because of the foresight and initiative of biologists back in 1992. Their initial stockings of pallid sturgeon are now producing mature fish that are able to be used in the telemetry programs. The abundance of mature 1992-stocked fish allows them to be used for the telemetry study, leaving any wild pallids to be utilized for the production of future pallid sturgeon.

Interestingly, the “spoils of war” in this case have been that the Nation’s oldest fish hatchery, Neosho National Fish Hatchery managed by David Hendrix,

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.

has been revitalized and became a hub for pallid sturgeon production and is the source of this year's stocking. Blind Pony SFH has been revamped and expanded and serves as the spawning facility for lower Missouri River fish once again. Also, state agencies and management offices have been employed to monitor other at-risk species, to ensure more species don't decline to the point of no return. More importantly, citizens around the river have become a part of the process as well, often volunteering in mass to contribute any way they can and to be part of the effort to do something bigger than ourselves.

We can't underestimate the power of one person's efforts to get the ball rolling in restoring a species. Gary Heidrich has moved on from Blind Pony SFH and Kim Graham is deceased, but we follow in their footsteps of doing today what we know must be done

for the future. During April 2010, over 80 volunteers and 50 biologists will be out searching over 1,000 miles of river for the next generation of pallid sturgeon genetics. We will be searching for three of Gary and Kim's black egg females needed in the U.S. Geological Survey's river telemetry programs, which has become one of the largest in the world. Although one person can start the process, it takes an army of many to complete it. For those of us that have been around a while, we can say "remember when" and explain what the big deal is with yet another stocking, that nothing has come easy and it is with reflection and gratitude to those that laid the ground work before us that we will commit each year in this effort to recover this species and God willing it will be in my lifetime.

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

Spring Hatchery Inspections at National Fish Hatcheries

BY BECKY LASEE & SARAH BAUER, LA CROSSE FHC

Biologist John Whitney of the La Crosse Fish Health Center (FHC) conducted the spring fish health inspection at the Pendills Creek/Sullivan Creek National Fish Hatchery (NFH) Complex the week of March 1st. Fish health samples were collected from 140 fish (representing 9 lots) from the Sullivan Creek lake trout brood stock facility and 300 fish (6 lots) at Pendills Creek lake trout production hatchery. Samples tested negative for the bacterial, viral and parasitic certifiable fish pathogens. The hatchery complex maintains its Class A status (free of all certifiable pathogens).

In addition, biologist Eric Leis conducted the annual spring fish health inspection at Genoa NFH. Eric was accompanied by student employees Ryan Katona, Chris Olds, Beka McCann and Sarah Bauer, all from the La Crosse FHC. Genoa NFH is a unique hatchery because it raises both cold and warm water fish species. Fish health samples were taken from 620 fish representing 12 different species of fish. Laboratory results from the inspection are still pending.



-USFWS/SarahBauer

Eric Leis of the La Crosse Fish Health Center takes fish health samples from largemouth bass.

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

Genetic Guidelines for Stocking Lake Sturgeon

BY ROBERT ELLIOTT, GREEN BAY FWCO

A comprehensive report titled *Genetic Guidelines for the Stocking of Lake Sturgeon in the Great Lakes Basin* has been published by the Great Lakes Fishery Commission that provides important and detailed recommendations, rationale, and procedures to follow when considering rehabilitation or restoration stocking of lake sturgeon in the Great Lakes basin.

The stocking of lake sturgeon is becoming an increasingly used strategy for rehabilitation and restoration of this important trust species; however, there are significant complexities associated with stocking lake sturgeon. These include genetic risks of out-breeding depression, loss of diversity, and artificial selection which are of particular concern when stocking takes place within the same basin or in proximity to the many small remnant populations that persist in the Great Lakes. The intent of this document is to provide step-by-step guidance for ensuring stocking programs are implemented in a judicious and responsible manner that contributes to and maintains genetic diversity and population viability of all occurrences of this species across the Great Lakes.

These new guidelines are based on several years of standardized research by multiple laboratories and agencies that have studied the genetic characteristics and structure of remnant lake sturgeon populations and their reproductive biology throughout the Great Lakes. Research has shown that most remnant populations differ significantly in their genetic structure but that important regional similarities also exist. This document includes background on current genetic structuring and diversity of remaining populations in the Great Lakes and describes the potential risks to and importance of conserving this diversity when initiating rehabilitation. The guidelines then identify six genetic stocking units throughout the Great Lakes and establish criteria for the identification of priority populations important for preservation. The report also presents a series of guiding principles and provides a decision tree that helps determine when stocking in a particular river or

water body is an appropriate management action. The guidelines then provide recommendations for the design and implementation of stocking programs including the selection of donor populations, methods for gamete collection and mating schemes, rearing and release techniques, appropriate stocking numbers and post-stocking evaluation.

The Fish and Wildlife Service has been heavily involved in the development of this report over the past five years. Dr. Amy Welsh, a geneticist with SUNY-Oswego led preparation of the final report with funding assistance from the Great Lakes Fish and Wildlife Restoration Act and the Great Lakes Fishery Commission. Rob Elliott from the Green Bay Fish and Wildlife Conservation Office (FWCO) and Henry Quinlan from the Ashland FWCO are both primary co-authors. Other co-authors are Dr. Kim Scribner (Michigan State University), Dr. Chuck Krueger (Great Lakes Fishery Commission), Dr. Bernie May (University of California at Davis), Marty Holtgren (Little River Band of Ottawa Indians), Dr. Ed Baker (Michigan Department of Natural Resources), and Brad Eggold (Wisconsin Department of Natural Resources).

The publication is available on-line at: <http://www.glfc.org/pubs/SpecialPubs/2010-01.pdf> or a hard copy can be requested from the Great Lakes Fishery Commission. Contact Rob Elliott at the Green Bay FWCO for more information: robert_elliott@fws.gov.

Genetic Guidelines for the Stocking of Lake Sturgeon (*Acipenser fulvescens*) in the Great Lakes Basin



Great Lakes Fishery Commission

Miscellaneous Publication 2010-01

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

Green Bay Sport Fishing Show

BY SEA LAMPREY CONTROL STAFF

The Green Bay Sport Fishing Show was another excellent public outreach opportunity for both Fish and Wildlife Service and Department of Fisheries and Oceans (DFO) member agencies. The show was staffed by Joe Genovese, Dale Ollila (retired) and Joe Tyron from the Fish and Wildlife Service; Mike MacKenna and Chris Sierzputowski from DFO; and Trilby Becker from the Great Lakes Fishery Commission. Over the four day period, numerous questions from the public were handled in a professional and educational manner. Questions relating to invasive sea lamprey biology, treatment techniques, historical impact and the cooperation between two nations dealing with a common adversary were addressed. The potential Asian carp invasion into the Great

Lakes was of great interest to many of the people as well. Fortunately, the familiarity with invasive species issues left the public with a greater understanding of the problems facing the Great Lakes Fisheries Commission and the Governments of Canada and the United States.

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.

For further info about the Marquette Biological Station: <http://www.fws.gov/midwest/marquette/>

For further info about the Ludington Biological Station: <http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/ludington.pdf>

The Fish and Wildlife Service's sea lamprey control program continues to work closely with partners to control populations of sea lampreys in tributaries of the Great Lakes to protect the fishery and related economic activities in the basin (an estimated annual benefit of \$7 billion/year to the region). The Fish and Wildlife Service delivers a program of integrated sea lamprey control in United States waters of the Great Lakes as a contracted agent of the Great Lakes Fishery Commission.

Science Olympiad 2010

BY ANJANETTE BOWEN, ALPENA FWCO

Alpena Fish and Wildlife Conservation Office (FWCO) biologists Anjanette Bowen and Heather Rawlings participated in the Michigan Regional Science Olympiad tournament on Saturday, March 13, at the Alpena Community College in Alpena, Mich. Bowen and Rawlings developed and administered an ecology test for seven junior high and five high school teams and served as judges for the tournament's ecology category. Medals were awarded to 1st through 3rd place in each category, and the schools that ranked the highest overall advanced in the competition and became eligible to compete at the

state level. Approximately 25 high school and junior high students improved their understanding of ecological issues through this outreach event.

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

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.

Sea Lamprey Control Program Outreach

BY SEA LAMPREY CONTROL PROGRAM STAFF

Sea Lamprey Control staff for the Marquette and Ludington Biological Stations participate in numerous outreach events every year. Over the last couple of months, Joe Genovese traveled to Toronto to staff the Department of Fisheries and Oceans program display at the Toronto Sportsman's Show. Rebecca Gannon and Margie Shaffer traveled to Holly, Mich. to give a presentation about sea lampreys and other invasive species at Richter Intermediate School. Over the next two days, they presented to nine classes of 6th graders totaling over 270 students. It was a great success! These students also work with the Michigan Department of Natural Resource's "Salmon in the Classroom" project. In addition, the Fish and Wildlife Service was represented at the Marquette Boat Show where Dale Ollila and Joe Genovese staffed the program display.



-USFWS/RebeccaGannon

Students get up close and personal with young sea lampreys (ammocetes).

For further info about the Marquette Biological Station: <http://www.fws.gov/midwest/marquette/>

For further info about the Ludington Biological Station: <http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/ludington.pdf>

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.

Lake Whitefish Otoliths Aged for Fishery Independent Surveys

BY DALE HANSON, GREEN BAY FWCO

Dale Hanson of the Green Bay Fish and Wildlife Conservation Office (FWCO) recently worked through the biological samples collected during last fall's fishery independent lake whitefish survey near Escanaba, Mich. whitefish management unit WFM-01. Dale sectioned the otoliths from 35 lake whitefish and four lake trout to estimate the ages of these fish. Thin sectioning exposes the light and dark bands that are indicative of annular growth patterns in the otolith,

also known as an "ear bone" in the fish. These data were summarized along with fish length, weight, sex, maturity and invasive sea lamprey wounding rate and provided to the modeling subcommittee where the data are used in fisheries models to estimate the status of the fishery. The fishery status, as well as next fishing season's harvest quotas, will be reported soon to the Technical Fisheries Committee for discussion and approval.

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

Green Bay Biologist attends Research Board Meeting

BY CHARLES BRONTE, GREEN BAY FWCO

Charles Bronte of the Green Bay Fish and Wildlife Conservation office (FWCO) attended the Great Lakes Fishery Commission's (Commission) Board of Technical Experts (BOTE) meeting during March 15-16 in Ann Arbor, Mich. The BOTE provides recommendations for funding science and information transfer projects under the Commission's fishery research program. The board reviewed over 70 pre-proposals for research funding including those responding to a special call for proposals to study native species using acoustic telemetry, native species restoration and chemical communication in sea lamprey. The BOTE

will request full proposals from those investigators that address information needs of the lake committees and research theme areas. Funding recommendations up to a total of \$500,000 will be made to the Commission this fall after scientific peer-review and deliberation by the BOTE. Bronte has been a BOTE member since 2009 and prior to that served on the Sea Lamprey Research Board for eight years.

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.

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

Sharepoint Database Created for Great Lakes Stocking Information

BY DALE HANSON, GREEN BAY FWCO

Dale Hanson of the Green Bay Fish and Wildlife Conservation Office (FWCO) recently designed a new database for Fish and Wildlife Service stocking data that is stored on-line at the agency's sharepoint site. Sharepoint sites enable files to be shared over the internet and this new approach can greatly simplify the sharing of data between National Fish Hatcheries (NFH), FWCOs and the vessel base where the stocking vessel *M/V Spencer F. Baird* crew is stationed. The database will now enable Fish and Wildlife Service offices to readily access stocking information from the point the fish are loaded onto

hatchery trucks to their final destination when they are stocked from the *Baird*.

Hanson worked with biologist Denise Johnston of the Jordan River NFH and first-mate David Bohn of the *M/V Spencer F. Baird* to ensure all relevant stocking information could readily be entered in the sharepoint database. This effort will reduce the amount of time staff must spend accessing the data from individual station databases, or paper datasheets, and enable greater coordination of data between offices.

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

Details, Details...

BY NATE CASWELL, CARTERVILLE FWCO

I recently had the opportunity to complete a detail at the Midwest Regional Office (Region 3). The regional fish passage coordinator's job is currently vacant, so biologists from around Region 3 have been filling in to help keep things moving. Following in the footsteps of several other biologists, I spent the month of February at the Regional Office helping with a variety of tasks. I actually spent the bulk of my time working on project administration for the Great Lakes Fish and Wildlife Restoration Act. I worked with project recipients to keep existing files up to date and started the NEPA clearance process for the fiscal year 2009 selected projects. A final list of fish passage projects to be funded through the National Fish Passage Program for this year was completed. I also helped complete the review process for the Integrated Natural Resources Management Plan for Naval Support Activity Crane as part of the Region's Sikes Act coordination activities. In addition, I

worked with the Illinois Department of Natural Resources (DNR) and contracting personnel to quickly develop a cooperative agreement package that provided funds to the Illinois DNR for Asian carp monitoring and control efforts in the Chicago Area Waterway System. I have been with the Fish and Wildlife Service for a number of years, but this was my first detail to the Regional Office. Overall, it was a valuable educational experience that allowed me to gain some perspective on how the Fish and Wildlife Service and the Fisheries program operate at a regional level.

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 Carterville FWCO: <http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/carterville.pdf>

Recognizing Our Volunteers

BY SARAH BAUER, LA CROSSE FHC

Volunteers assist with many programs and daily activities at Fish and Wildlife Service offices. In March, the La Crosse Fish and Wildlife Conservation Office held their annual volunteer banquet to honor and show appreciation to their volunteers. The Genoa National Fish Hatchery and La Crosse Fish Health Center (FHC) participated in the banquet.

It was an easy decision to select who would be the La Crosse FHC's "Volunteer of the Year" - Beka McCann. She has donated over 250 hours of her time to assist staff in the bacteriology and histology labs. The honor was a surprise for Beka because she had no idea she was going to be recognized at the banquet as Volunteer of the Year. This made the moment even more special when biologist Eric Leis of the La Crosse FHC presented Beka with the award.

Beka has made such an impression on FHC staff that she was selected as a new employee under the Student Temporary Experience Program.



-USFWS/SarahBauer

Eric Leis of the La Crosse Fish Health Center presents Beka McCann with a "Volunteer of the Year" award.

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

Fish Health Biologist Meeting in Albuquerque, New Mexico

BY BECKY LASEE, LA CROSSE FHC

Terry Ott, Becky Lasee and Ken Phillips of the La Crosse Fish Health Center (FHC) attended the annual Fish Health Biologist meeting that was held in Albuquerque, New Mexico, on March 16-18. The first day of the meeting consisted of discussions on Strategic Habitat Conservation and Landscape Conservation Cooperatives, national program priorities, the National Wild Fish Health Database and the National Aquatic Animal Health Plan. Later the same day, the Bozeman and La Crosse FHCs gave scientific presentations on cutthroat trout virus (CTV), the Asian carp

rapid response rotenone project on the Cal-Sag, pathogen survey of baitfish, and an update of EEDv, VHSv and other viruses in the Midwest Region. On Wednesday, biologists attended the Climate Change and Conservation of Native Amphibians and Reptiles workshop. One highlight of this meeting was presentations by veterinary pathologist Dr. Allan Pessier of the San Diego Zoo. He discussed the role of emerging infectious diseases in captive amphibians and gave a thorough demonstration of amphibian anatomy, histology and histopathology.



-N.Heil

Attendees of the National Fish Health Biologist Meeting held in Albuquerque, New Mexico.

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

Biologist Attends Fisheries Academy

BY DALE HANSON, GREEN BAY FWCO

Dale Hanson of the Green Bay Fish and Wildlife Conservation Office (FWCO) attended the Fish and Wildlife Service's Fisheries Academy, March 1st-12th, at the National Conservation Training Center in Shepherdstown, West Virginia. The Academy provides students an opportunity to learn how all facets of the Fisheries program work together to accomplish the organization's mission. Three representatives

from each region were selected to attend and this enabled participants to learn about important fisheries issues within each region. Most importantly, the function of the Washington Office and its reliance on regional and field offices for information support was emphasized which provided participants with a new perspective on ways to improve how they view and do their jobs.

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

Congressional Actions

[111th CONGRESS House Bills]
[From the U.S. Government Printing Office via GPO Access]
[DOCID: h51ih.txt]
[Introduced in House]

111th CONGRESS
1st Session

H. R. 51

To direct the Director of the United States Fish and Wildlife Service to conduct a study of the feasibility of a variety of approaches to eradicating Asian carp from the Great Lakes and their tributary and connecting waters.

IN THE HOUSE OF REPRESENTATIVES

January 6, 2009

Mr. Kirk introduced the following bill; which was referred to the Committee on Natural Resources

A BILL

To direct the Director of the United States Fish and Wildlife Service to conduct a study of the feasibility of a variety of approaches to eradicating Asian carp from the Great Lakes and their tributary and connecting waters.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “Eradicating Asian Carp in the Great Lakes Study Act of 2009”.

SEC. 2. ASIAN CARP ERADICATION STUDY AND REPORT.

- (a) In General.—The Director of the United States Fish and Wildlife Service shall conduct a study to—
- (1) identify methods to eradicate Asian carp from the Illinois Waterway System, including methods for harvesting Asian carp; and
 - (2) evaluate the feasibility and costs of each such method.

(b) Consultation.—The Director shall conduct the study under subsection (a) in consultation with—

- (1) the Administrator of the National Oceanic and Atmospheric Administration; and
- (2) at least two interstate bodies representing the Mississippi River and Great Lakes States.

(c) Contents.—The study shall include, at a minimum, an evaluation of the feasibility of temporarily harvesting Asian carp as a method for eradicating the carp from the Illinois River. Such evaluation shall include evaluations of—

- (1) species biomass and distribution for all fish species in the Illinois River, including a comparison with historical biomass and distribution data if such data is available;
- (2) possible harvesting methods for Asian carp;
- (3) possible products that could be generated from Asian carp;
- (4) available types of temporary processing locations for harvested Asian carp;
- (5) the environmental effects of constructing and operating temporary processing facilities at such locations;
- (6) methods to repopulate the Illinois River ecosystem with native species; and
- (7) the effect of Asian carp on the Illinois River ecosystem if temporary harvesting of Asian Carp is not conducted.

(d) Report.—

(1) In general.—The Director, in consultation with the Administrator, shall submit to Congress a report containing the findings, conclusions, and recommendations resulting from the study under subsection (a).

(2) Contents.—The report shall include recommendations concerning—

- (A) regulatory and other mechanisms to ensure—
 - (i) expeditious action to address the Asian carp problem;
 - (ii) effective eradication of such carp;

and

- (iii) that an appropriate deadline is set for the completion of harvesting of such carp;

(B) preferred harvesting methods for Asian carp;

(C) the ideal quantity and distribution of—

- (i) temporary processing locations for harvested Asian carp; and

- (ii) temporary buying stations for harvested Asian carp; and

(D) methods to repopulate the Illinois River ecosystem with native species.

(e) Deadlines.—The Director shall—

- (1) begin the study under subsection (a) not later than three months after the date of enactment of this Act;
- (2) complete the study not later than 15 months after the date of enactment of this Act; and
- (3) submit the report under subsection (d) not later than three months after the date of completion of the study.

Source is <http://www.gpoaccess.gov/bills/index.html>
Searched database by keyword = “Asian carp”

Midwest Region Fisheries Divisions

National Fish Hatcheries

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

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

Fish and Wildlife Conservation Offices

Fish and Wildlife Conservation Offices conduct assessments of fish populations to guide management decisions, perform key monitoring and control activities related to invasive, aquatic species; survey and evaluate aquatic habitats to identify restoration/rehabilitation opportunities; play a key role in targeting and implementing native fish and habitat restoration programs; work with private land owners, states, local governments and watershed organizations to complete aquatic habitat restoration projects under the Service's Partners for Fish and Wildlife and the Great Lakes Coastal Programs; provide coordination and technical assistance toward the management of interjurisdictional fisheries; maintain and operate several key interagency fisheries databases; provide

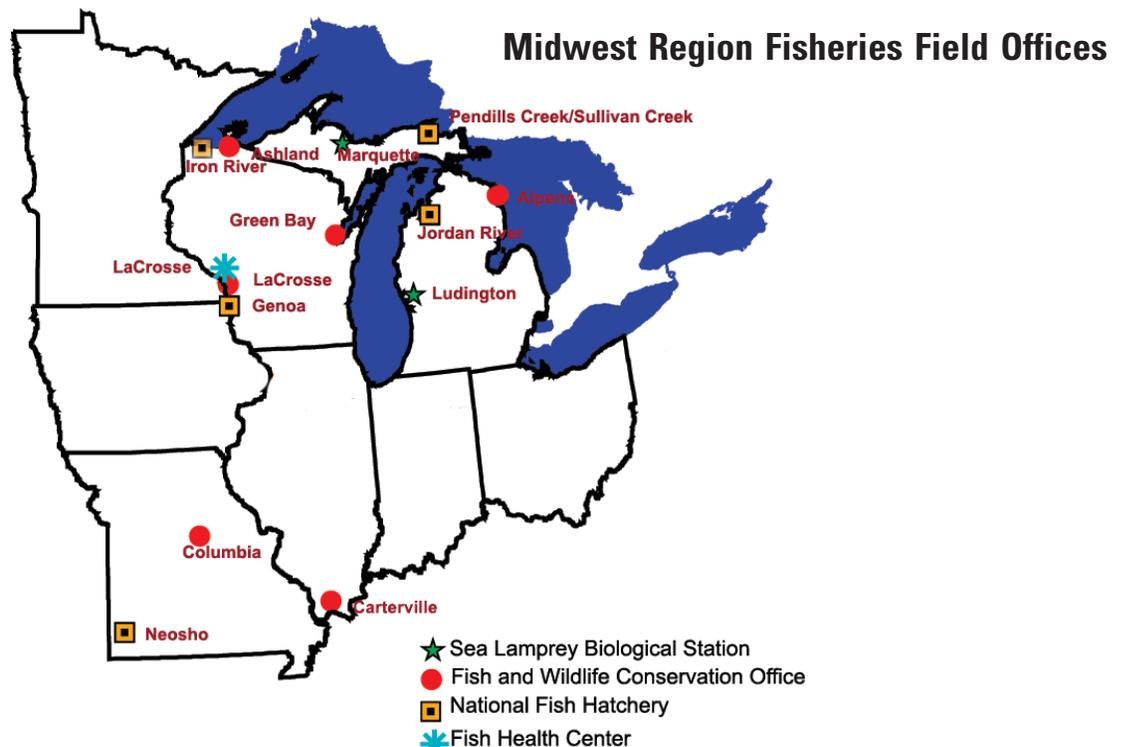
technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and relicensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments and treaty authorities.

Sea Lamprey Biological Stations

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

Fish Health Center

The Fish Health Center provides specialized fish health evaluation and diagnostic services to federal, state and tribal hatcheries in the region; conducts extensive monitoring and evaluation of wild fish health; examines and certifies the health of captive hatchery stocks; and, performs a wide range of special services helping to coordinate fishery program offices and partner organizations.



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Fish Tails

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

Partnerships and Accountability

➤ [Lake Michigan Lake Trout Survey Data Summarized for Annual Lake Committee Meeting](#)

- Dale Hanson, Green Bay FWCO

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



-USFWS/RebeccaBannon

Jeff Slade, Ellie Koon, Kathy Hahka, Lynn Kanieski, Rebecca Gannon, Dorance Brege, Darrian Davis, Lori Criger and Jessica Barber attended the Great Lakes Fishery Commission Lake Committee meetings in Windsor, Ontario. Jeff presented the report of the Lake Michigan Sea Lamprey Working Group.