



U.S. Fish & Wildlife Service - Midwest Region

Fisheries & Aquatic Resources Program

Fish Lines

The Golden Anniversary
of Fish Lines

The Wild Fish Health
Survey

Restoring the Past with
Fish Passage

Vol. 5 No. 9
June 2007



Fish Lines

Fisheries & Aquatic Resources Program - Midwest Region

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

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

Features

4 The Golden Anniversary of Fish Lines

The Fisheries & Aquatic Resources Program - Midwest Region is proud to present our 50th issue of Fish Lines.

BY GERRY JACKSON, ASSISTANT REGIONAL DIRECTOR - FISHERIES

5 The Wild Fish Health Survey

The Wild Fish Health Survey was established in the Midwest Region (Great Lakes/Big Rivers) in 1997.

BY COREY PUZACH AND ERIC LEIS, LA CROSSE FHC

8 Restoring the Past with Fish Passage

On June 19, we celebrated the return of the majestic lake sturgeon on the banks of the upper reaches of the Wild Rice River, a major tributary to the Red River of Northern Minnesota.

BY HEIDI KEULER, LA CROSSE FRO



-USFWS

Staff of the Columbia National Fish and Wildlife Conservation Office remove a shovelnose sturgeon from a trammel net during a fisheries assessment on the Missouri River.

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

ASSISTANT REGIONAL DIRECTOR
Gerry Jackson

To submit suggestions or comments, e-mail
david_radloff@fws.gov

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



-USFWS
Flyfishing in the Midwest Region

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

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

Conservation Briefs 9-24

- 9 **Lake Sturgeon Recovery Efforts Highlighted in IMAX Documentary**
BY JIM BOASE, ALPENA NFWCO
- 10 **Distinguished Visitor Comes to Pendills Creek NFH**
BY CURT FRIEZ, PENDILLS CREEK NFH
- 10 **Appropriations Staff Member Finds Lampreys an Appropriate Topic**
BY ELLIE KOON, LUDINGTON BIOLOGICAL STATION
- 10 **Assessing the Yellow Perch Fishery in Green Bay**
BY JOHN NETTO, GREEN BAY NFWCO
- 11 **Mingo NWR Sampling Conducted**
BY JOE MCMULLEN, COLUMBIA NFWCO
- 11 **Fish Pathogens in North Dakota Fish Studied**
BY RICK NELSON, LA CROSSE FHC
- 12 **Survey for Evidence of Lake Trout Reproduction in Lake Michigan**
BY CHARLES BRONTE, GREEN BAY NFWCO
- 13 **2007 Goby Round-up and Asian Carp Corral**
BY HEIDI KEULER, LA CROSSE NFWCO AND GARY CZYPINSKI, ASHLAND NFWCO
- 14 **Sea Lamprey Mortality exceeds Fishing Mortality in Portions of lakes Michigan and Superior**
BY JOHN NETTO, GREEN BAY NFWCO
- 15 **DeSoto Refuge Fest is a Success**
BY SARA MARSO AND BRIAN ELKINGTON, COLUMBIA NFWCO
- 15 **M/V Spencer F. Baird Open House held in Alpena, Michigan**
BY JERRY MCCLAIN, ALPENA NFWCO
- 16 **Carterville NFWCO Completes Annual Survey and Management Report for Lake Greenwood at the Naval Surface Warfare Center**
BY NATE CASWELL, CARTERVILLE NFWCO
- 16 **Everyone Loves a Parade**
BY STEVE REDMAN, IRON RIVER NFH
- 17 **Miles of Shoreline Surveyed for Coaster Brook Trout**
BY FRANK STONE, ASHLAND NFWCO
- 17 **Lake Whitefish Survey Conducted in Lake Michigan**
BY TED EGGEBRAATEN, GREEN BAY NFWCO
- 18 **Cooperative Lake Sturgeon Management Continues on the Menominee Reservation**
BY ANN RUNSTROM, LA CROSSE NFWCO
- 18 **Sharing Information for Productive Aquaculture**
BY FRANK STONE, ASHLAND NFWCO
- 19 **Research Examines Link between Trout Diet, Reproductive Success in Lake Michigan**
BY DALE HANSON, GREEN BAY NFWCO
- 20 **Genoa NFH Mussels Help Minneapolis Monitor Water Quality**
BY TONY BRADY, GENOA NFH
- 20 **Thermal Criteria for Winged Mapleleaf Mussels**
BY MARK STEINGRABER, LA CROSSE NFWCO
- 21 **Gingell Road Stream Crossing Completed**
BY SUSAN WELLS, ALPENA NFWCO
- 21 **Kleinsteiber Wetland Restoration Project**
BY TED KOEHLER, ASHLAND NFWCO
- 22 **Mitigation Side-Channels Ease Flood Impact**
BY KYLE WINDERS, COLUMBIA NFWCO
- 22 **Fish Community Surveyed for Spawning Season in Middle Mississippi River**
BY MATT MANGAN, CARTERVILLE NFWCO
- 23 **Keeping Biologists Safe**
BY ADAM KOWALSKI, ALPENA NFWCO
- 23 **Interview with a Volunteer**
BY CURT FRIEZ, PENDILLS CREEK NFH
- 24 **Student Employment Program a "STEP" up for Local Natural Resource Majors**
BY DOUG ALOISI, GENOA NFH

Congressional Actions	25
Midwest Region Fisheries Divisions	26
Fisheries Contacts	27
Fish Tails	27

The Golden Anniversary of Fish Lines

BY GERRY JACKSON, ASSISTANT REGIONAL DIRECTOR - FISHERIES

The Fisheries & Aquatic Resources Program - Midwest Region is proud to present our 50th edition of *Fish Lines*. The first *Fish Lines* was released in March 2003 and has evolved into a regular and much anticipated publication. Each field station produces monthly station reports, providing the core material to develop each issue. This release of *Fish Lines* captures our accomplishments from early to mid-summer 2007, utilizing a new revitalized format to display our diverse Fisheries Program in the Midwest Region. Our outreach and communications team is also initiating options to increase visibility of this popular publication, which includes a cost-effective List Serve distribution.

In 2002, the U.S Fish and Wildlife Service recommit- ted to our role as a partner in conserving America's fish and other aquatic resources that are enjoyed by millions of recreational anglers and outdoor enthusi- asts. The Strategic Vision was built on the foundation laid by our partners, convened by the Sport Fishing and Boating Partnership Council. In many respects, the Strategic Vision directed us to continue undertak- ing activities that we performed well in the past. In other respects, the Strategic Vision signaled a clear intention for us to do business differently and expand our involvement into other fisheries and aquatic

resources conservation activities. We continue to focus our efforts and activities on what we are best positioned to contribute based on our budget and staffing limitations and unique capabilities, recogniz- ing that sound science and solid partnerships are the keys to aquatic resource stewardship.

We continue to enhance our working relationships with the States, Tribes, other Federal agencies and our many partners in the private and public sectors to identify, prioritize and focus our efforts in a manner that is complementary to their efforts, consistent with the mission of our agency, and within the funding resources available.

This document highlights just some of the many activities that are carried out by our Fisheries and Aquatic Resources Program staff, and it underscores the complexity and diversity of issues that must be addressed to meet the challenge of helping to con- serve our aquatic resource heritage.

This publication continues to be, as always, a work in progress and we welcome your feedback. Thank you for taking the time to read *Fish Lines* and for your efforts to help conserve our precious aquatic re- sources. We hope you enjoy reading this and future editions of *Fish Lines*.



For further info about the Regional Fisheries Program: <http://www.fws.gov/midwest/Fisheries/>

The Wild Fish Health Survey

BY COREY PUZACH AND ERIC LEIS, LA CROSSE FHC

The Wild Fish Health Survey was established in the Midwest Region (Great Lakes/Big Rivers) in 1997. The motivation for starting the survey was the myxozoan parasite (*Myxobolus cerebralis*) which causes Whirling Disease, and can be found in many different species of salmonids. This disease has been shown to cause mortalities up to 90% in young wild trout. Brook, cutthroat and rainbow trout appear to be the most sensitive to these infections. Large population decreases generated the need for a better understanding of the distribution of fish pathogens

throughout our streams and rivers in the United States.

In the Midwest Region, the survey is performed by the La Crosse Fish Health Center (FHC), located in Onalaska, Wisconsin. The Center is staffed by a project leader, assistant project leader, five fish health biologists, an administrative technician, two term technicians and four student employees. The Center does not have fish collection capabilities, so participation by outside partners is necessary for the survey.

In the ten plus years of the survey, partner participation has grown considerably. Fish and Wildlife Service National Fish and Wildlife Conservation Offices and National Fish Hatcheries throughout the region have assisted in fish collections. Other Federal programs and agencies such as Ecological Services, United States Geological Survey, and the Department of the Army have aided in fish collection. State biologists have also been important to the success of the survey through collection of fish, and information on fish kills. Over the years, tribal participation has greatly increased on and off tribal lands. This participation has been crucial in the success of the



-USFWS

A La Crosse Fish Health Center biologist takes bacterial samples from lake herring that were captured from Lake Superior waters.

Wild Fish Health Survey in Region 3 and without our partners the survey would not be possible. These partners have helped the Wild Fish Health Survey start to get a baseline in 65 of the 375 HUC cataloging units (Hydrologic Unit Codes) in the Midwest Region. The U.S. Geological Survey created the HUC system to classify the nation's watersheds and sub-watersheds, with a 14-digit HUC referring to the smallest watershed classification.

The sample collection takes place in a variety of locations. La Crosse FHC staff meets partners at the collection site where they take the samples in the field, or bring the fish back to the laboratory for necropsy. Partners may also ship whole fish or fish health samples to the Center. La Crosse FHC staff



-USFWS

Eric Leis of the La Crosse Fish Health Center samples paddlefish in Southeastern Missouri as part of the Wild Fish Health Survey.

also sample fish at state, Federal and tribal facilities to ensure infectious diseases are not inadvertently spread to wild, native fish populations. Currently, the La Crosse FHC screens for the following viral, bacterial and parasitic infections:

Viruses

IPN (Infectious Pancreatic Necrosis Virus)
IHN (Infectious Hematopoietic Necrosis Virus)
VHS (Viral Hemorrhagic Septicemia Virus)
CCV (Channel Catfish Virus)
OMV (*Oncorhynchus masou* Virus)
LMBV (Largemouth Bass Virus)
ISAV (Infectious Salmon Anemia Virus)
WSIV (White Sturgeon Iridovirus)
WSHV (White Sturgeon Herpes Virus)
SVCV (Spring Viremia of Carp Virus)
Unknown viruses

Bacteria

Aeromonas salmonicida- Furunculosis
Yersinia ruckeri- Enteric Redmouth
Renibacterium salmoninarum- BKD
Edwardsiella ictaluri- Hole in the head disease
Aeromonas hydrophila
Flexibacter columnare- Columnaris

Parasites

Myxobolus cerebralis- Whirling Disease
Bothriocephalus acheilognathi- Asian Tapeworm
Other parasites upon request

Fish are tested for these pathogens by a variety of techniques in accordance with American Fisheries Society reviewed procedures. Tissue cell culture is the method used in screening for viral pathogens. Viruses are isolated by taking kidney, spleen, (and possibly liver or swim bladder) samples from the fish. These tissues are then homogenized, diluted and placed on fish cells that are growing in the laboratory. The FHC propagates seven fish cell lines used in tissue cell culture. The species of fish determines the cell lines to be used in the screening process. Each cell line is sensitive to certain viruses; therefore, multiple cell lines are used to ensure that the samples are tested for all possible viruses. The cells are observed for twenty-eight days for viral activity. If a virus is present in the fish tissues, then the cells will become infected. Once an infection is observed, polymerase chain reaction (PCR) is used to confirm the identity of the virus.

Bacteria are cultured by stabbing the kidney of the fish with a sterile loop. The loop is then streaked on media. After an incubation period, any bacteria growing on the media are subjected to a variety of tests which are used to identify the bacteria. These tests examine the composition and morphology of the bacteria as well as the biochemical characteristics which are unique to each bacterial species. Some species of bacteria are not easily isolated using media so other methods are employed. For example, Enzyme- Linked Immunosorbent Assay (ELISA) is used to identify *Renibacterium salmoninarum*. In this assay, the binding of specific antibodies determines the presence of the bacteria.

Polymerase chain reaction (PCR) can also be used to confirm the presence of bacterial species. PCR is used to determine the species of bacteria and viruses through the amplification of a highly specific segment of genome. The assay targets a conserved segment of the genome which is not shared by other species. The DNA or RNA is extracted from the sample and mixed with reagents, which allow for amplification. Amplification occurs in a thermal cycler through a series of temperature changes. The product of the reaction is then visualized through gel electrophoresis and the bacterial or viral species is determined by the presence of an appropriately sized DNA band.



-USFWS

Pictured is a largemouth bass infected with Largemouth Bass Virus. One of the signs of the disease is the large lesions that are evident on the body of this fish.

Highlights of the Wild Fish Health Survey in the Midwest Region:

- Since 1997, almost 27,000 individuals have been sampled from 76 species of fish
- In cooperation with state, Federal and tribal officials, over 7,300 fish, spanning 40 species, have been sampled in 2007 to determine the distribution of Viral Hemorrhagic Septicemia (VHS)
- First isolation of VHS in Lake Erie and Lake Michigan
- First isolation of Largemouth Bass Virus (LMBV) in the Great Lakes
- First isolation of LMBV in the Mississippi River
- First isolation of LMBV in Indiana, Iowa, Michigan, Missouri and Wisconsin
- Determined the distribution of LMBV throughout the Midwest; data is being used by the states to help determine regulation changes
- First tissue cell culture isolation of Spring Viremia of Carp Virus (SVCV) from the Mississippi River
- First isolation of SVCV in Illinois
- Isolated an unknown virus from black crappie
- Isolated an unknown virus from smallmouth buffalo
- Isolated an unknown virus from bluegill and are working to characterize the virus
- First observation of Asian tapeworm in the Midwest
- In cooperation with partners, the La Crosse Fish Health Center plays a leading role in surveillance programs for emerging invasive fish pathogens

ring. The virus appeared in the Great Lakes in 2003, but it wasn't until 2005 that massive fish kills occurred; however, the virus found in the Great Lakes is a different strain from that found on the West Coast. At this time, VHS has been isolated from 25 different species in this Region. The Fish and Wildlife Service will continue to work with the states, tribes and other Federal agencies to monitor the spread of this new disease.

Historical data from sampling efforts can be accessed on the National Wild Fish Health Survey database website at www.esg.montana.edu/nfhdb/.

For further info about the La Crosse FHC: <http://www.fws.gov/midwest/Fisheries/fisheryoffices.htm#lacrossefhc>

There are a wide range of techniques used to screen for parasites. Many can be seen with the naked eye while observing the body surface, fins, gills, gastrointestinal tract, kidney and liver. Other parasites are found using compound and stereo microscopes. The parasites are then fixed, stained and identified. Parasites are found in every organ, including the blood. Some parasites need a different approach for the screening process. The parasite *Myxobolus cerebralis* is found living in the cartilage around the head, spine and gill arches. To extract the spores, the head and/or gill rakers are cooked, defleshed, blended, digested and scanned under a compound microscope for the parasite.



-USFWS

Pictured from left to right is Ken Phillips, Rick Nelson, Becky Lasee and Eric Leis performing a wild fish health assessment for Pool 9 of the Mississippi River.

Now, more than ever, the Wild Fish Health Survey plays a key role in conserving fisheries in the Midwest Region. With the new threat of Viral Hemorrhagic Septicemia (VHS), results from the survey are crucial for making management decisions. The virus was originally found in Europe in the 1930's. A new isolate was found in 1988 on the West Coast in Pacific her-

Restoring the Past with Fish Passage

BY HEIDI KEULER, LA CROSSE NFWCO

On June 19, we celebrated the return of the majestic lake sturgeon on the banks of the upper reaches of the Wild Rice River, a major tributary to the Red River of Northern Minnesota. This project reconnected more than 120 miles of the Wild Rice River by creating a rock-sloped stretch of rapids allowing the migration of fish past the dam. The partnership expects the fish diversity to improve and increase the likelihood of restoring a wild lake sturgeon population on the White Earth Reservation.

The event featured a Native American blessing ceremony. The low, repetitious beat of the tribal drums reminded our audience (approximately 75 people) of a heartbeat, steady and sure, lulling us into a peaceful silence as smoke from a ceremonial pipe curled and lifted into the sky. Minds drifted to a time when lake sturgeon and many other fish migrated freely to spawn in the cool, rapidly flowing water of the Wild Rice River. We could imagine 200 years ago watching tribal members perform this same sacred ceremony, giving thanks for sustenance and a fish that had existed for centuries.

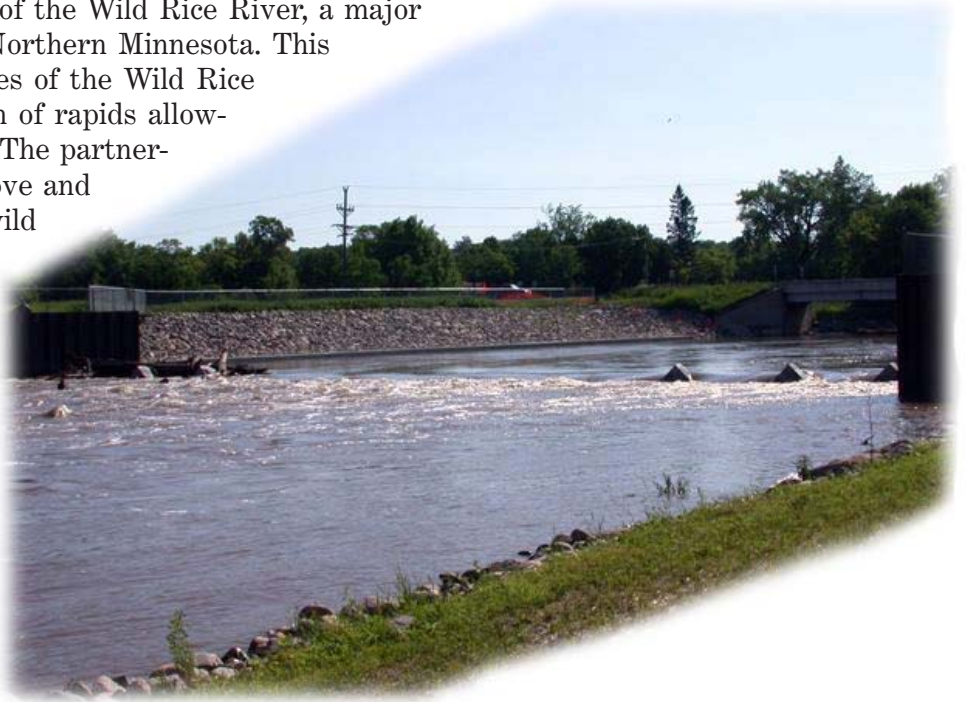
In 1900, the original Heiberg Dam was built on the Wild Rice River to power a flour mill, but the dam was later destroyed during a flood in 1965. Another dam was built in 1977 in the same location to reduce the effects of ice downstream, but this dam was damaged during a flood in 2002. Finally, after five years, the

Heiberg Dam fish passage project was completed with the help of many partners, including the Wild Rice Watershed District, Minnesota DNR, Federal Emergency Management Agency, Fish and Wildlife Service, White Earth Reservation, Houston Engineering and the National Fish and Wildlife Foundation.

Participants of the ceremony included the Eagle Sprit Drum Group from White Earth Reservation and several speakers including Erma Vizenor from the White Earth Reservation, Warren Seykora from the Wild Rice Watershed District, Ron Payor from the Minnesota DNR, representatives from state and Federal congressional offices, and Gerry Jackson from the Fish and Wildlife Service. The Minnesota DNR and Fish and Wildlife Service presented several awards to the partnership. There was

a ceremonial release of lake sturgeon from Genoa NFH and tribal elder Joe Bush gave a final blessing. The event concluded with a delicious fried fish lunch. The Fish and Wildlife Service thanks all of the partners and people who shared the day with them. Special thanks go to the Town of Twin Valley for their logistical assistance with the project.

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



-USFWS

The Heiberg Dam after fish passage was restored. This project reconnected more than 120 miles of the Wild Rice River, which will enhance lake sturgeon restoration efforts on the White Earth Reservation in Minnesota.



-USFWS

The Heiberg Dam fish passage project was completed with the help of many partners.

Lake Sturgeon Recovery Efforts Highlighted in IMAX Documentary

BY JIM BOASE, ALPENA NFWCO

It has been five years since researchers from the Alpena National Fish and Wildlife Conservation Office (NFWCO), Ontario Ministry of Natural Resources, U.S. Geological Survey (USGS), DTE Energy and Purdy Fisheries met with IMAX film producer David Lickley of Science North to discuss the idea of a Great Lakes documentary.

Lickley first came to the Port Huron/Sarnia area after reading a *Toronto Star* article about the lake sturgeon research that had been taking place there in 2002. At the time, Alpena NFWCO was working with these partners on a number of sturgeon projects including identifying adult spawning and juvenile nursery habitats in the St. Clair River. Lickley wanted to capture some of our findings on film for his documentary “Wonders of the Great Lakes,” scheduled for release in May 2008.

Lickley described the clarity of the waters at Port Huron as “perfect for capturing this type of footage.” The filming took place in two phases this spring. The goal during the first phase was to capture the act of lake sturgeon spawning in the St. Clair River. Lake sturgeon spawning in this area generally takes place over just one or two days, so timing was critical. As the days approached, correspondence with local diver/underwater film makers Greg and Kathy Lashbrook provided crucial feedback on when the sturgeon would be spawning.

On May 29, as temperatures approached optimum for lake sturgeon spawning, the underwater film crew from Science North arrived in Sarnia, led by underwater cameraman Nick Caloyianis. Filming took place in the narrows below the Blue Water Bridge of the St Clair River, where hundreds of lake sturgeon come each year to spawn. The site is known for its fast flowing clear waters and rock-covered bottom, and is littered with shipwrecks that provide lake sturgeon refuge from the current during spawning. The site is also in the center

of the shipping lane for Great Lakes freighter traffic.

The camera used for the underwater portion of the film weighs nearly 300 pounds at the surface, but when submerged it is almost neutrally buoyant. Film canisters for the underwater IMAX camera each hold 1,000 feet of film, which produces about five minutes of film time, requiring many trips in and out of the water.

Alpena FRO provided use of its research vessel, the *Sentinel*, which has a cabled trawling winch, to assist with moving the camera in and out of the water during the filming. Fish were spawning on May 31 and the crew was able to capture some great footage of the spawning activity.

The second phase of filming took place on June 25 and focused on operations requiring capturing and implanting lake sturgeon for telemetry work that the Alpena NFWCO has been leading in this region of the Great Lakes. The project was funded through the Fish and Wildlife Service’s Coastal Grant Program.



-IMAX/Adam Lintz

An IMAX camera is lowered to the camera crew from aboard the Alpena National Fish and Wildlife Conservation Office vessel *Sentinel* in preparation to film lake sturgeon spawning under the Blue Water Bridge in the St. Clair River which is a tributary to the Great Lakes.

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

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.

Distinguished Visitor Comes to Pendills Creek NFH

BY CURT FRIEZ, PENDILLS CREEK NFH

U.S. Senator Debbie Stabenow's Upper Peninsula staff member, Sheri Davie, recently toured the hatchery enhancements at Pendills Creek NFH. Davie has been a strong advocate for Pendills Creek NFH, keeping Senator Stabenow informed of our activities. She has also been involved with the Friends of Pendills Creek Hatchery. Senator Stabenow is a strong supporter of the Fish and Wildlife Service's lake trout rehabilitation work. Davie realizes the importance of our program and its value to the Great

Lakes, so we were honored to have her stop by the hatchery to see the new improvements to water filtration and oxygen supplementation capabilities. Both improvements enhance fish quality and contribute to major yearling production increases and a new fall fingerling stocking program. Davie seemed very impressed with our efforts and looks forward to attending a Friends of Pendills Creek Hatchery meeting in the future on behalf of Senator Stabenow.

For further info about the Pendills Creek NFH: <http://www.fws.gov/midwest/Fisheries/library/StationSpotlightArticles/Pendills%20Creek%20NFH.pdf>

Appropriations Staff Member Finds Lampreys an Appropriate Topic

BY ELLIE KOON, LUDINGTON BIOLOGICAL STATION

Scott Dalzell, staff member on the Senate Subcommittee on Interior and Related Agencies, Committee of Appropriations, recently visited a sea lamprey control treatment site on Michigan's Pigeon River in an effort to learn more about the Fish and Wildlife Service in the Midwest Region. There, field personnel from the Ludington Biological Station's sea lamprey control team introduced Dalzell to the realm of the Great Lakes sea lamprey, how sea lamprey control is conducted, the integrated nature of the control program and why controlling sea lampreys is an integral part of restoring the Great Lakes native fishery. Mr. Dalzell's visit was part of a week-long tour of field activities of many Fish and Wildlife Service programs in Region 3.



-GLFC

Ellie Koon from the Ludington Biological Station explains the finer points of lampricide treatment to Scott Dalzell, staff member on the U.S. Senate Appropriation's Subcommittee on Interior and Related Agencies.

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

Assessing the Yellow Perch Fishery in Green Bay

BY JOHN NETTO, GREEN BAY NFWCO

John Netto was invited to the Wisconsin Department of Natural Resources (DNR) Lake Michigan Fisheries Team meeting to review the most recent data from the Green Bay yellow perch fishery and surveys. The commercial and recreational fishery monitoring data indicate that the large 2003 year class accounted for nearly all of the recreational and commercial yellow perch harvest in 2006.

Prior to the success of the 2003 year class, the yellow perch population had been at low levels since the mid-1990s. The stock assessment model also shows that the 2002 and 2004 year classes (though dwarfed by the 2003 year class) are among the largest recruitment classes in the last 15 years. The Wisconsin DNR has been using the available data to set safe mortality limits, allowing the fishery to rebound.

For further info about the Green Bay NFWCO: <http://www.fws.gov/midwest/Fisheries/library/StationSpotlightArticles/Green%20Bay%20FRO.pdf>

Mingo NWR Sampling Conducted

BY JOE MCMULLEN, COLUMBIA NFWCO

Biologists released 70 yearling alligator gar in Mingo NWR's Monopoly Marsh during the last week of May, marking the beginning of alligator gar reintroduction efforts in Missouri. The fish were raised at the Tishomingo NFH in Oklahoma and brought to Missouri earlier this year.

The alligator gar is among the largest freshwater fish in North America. Native to Southeast Missouri, the gar was extirpated by the 1960's. Loss of habitat is the primary cause of their decline; however, suitable habitat still abounds in the swamps of Mingo NWR. These fish can reach 12 feet and weigh as much as 300 pounds. It is believed that reintroducing this large predatory fish will help to balance biological processes and increase the overall health of the swamp ecosystem.

This year, Columbia FRO lead technician Joe McMullen teamed up with Mingo NWR and Missouri Department of Conservation staff to complete a fish community survey on Mingo NWR. Joe led a Youth Conservation Corps (YCC) crew that sampled fishery communities of the Mingo River, Monopoly and Rockhouse marshes, and tributaries and ditches throughout the Refuge. This is the second year these studies have been conducted.

The information gathered will be used as a basis of comparison to future questions about the affects of alligator gar on the Refuge's ecosystem. To better understand the alligator gar's habits, graduate students from Southeast Missouri State University have fitted these fish with telemetry devices in order to track their movements. This also allows biologists to more easily recapture the individuals so that information about their diets and growth can be obtained. This event marks the beginning of what will hopefully be a more productive and healthier swamp, and offers the promise of greater fishing opportunities on Mingo NWR.

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.



-USFWS/JoeMcMullen

Joe McMullen of the Columbia National Fish and Wildlife Conservation Office worked with Youth Conservation Corps employees to electrofish the Mingo River as part of a fish community survey on the Mingo National Wildlife Refuge.

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

Fish Pathogens in North Dakota Fish Studied

BY RICK NELSON, LA CROSSE FHC

Construction and operation of the outlet from Devils Lake, North Dakota, connects this closed basin to the Hudson Bay drainage through the Sheyenne and Red rivers. The outlet could transfer parasites and pathogens from Devils Lake into the Hudson Bay drainage, to the detriment of fish populations in that basin, especially to commercial and sport fish populations in the Red River and Lake Winnipeg.

Lake Winnipeg has a sustainable \$30 million commercial fishery for walleye, sauger and lake whitefish. In addition to this recorded catch, fisher-

men sell some of their catch directly to the public, and there is a substantial First Nations Tribal fishery for local consumption. In addition, the Red River supports a significant sport fishery in both the United States and Canada.

In response to the potential threat to downstream aquatic ecosystems in Canada and the United States from the Devils Lake outlet, the International Joint Commission requested that the International Red River Board prepare a proposal that provides 2007 Summer Field Sampling and a seasonal sampling

approach. The occurrence and prevalence of certain fish pathogens may be variably affected by several life history characteristics and elements of the environment, especially those causing increased stress. An annual monitoring program should consider sample collections at two or more times during the year. It may be particularly important and interesting to examine fish during or immediately following spawning activities.

Pathogen survey objectives are to determine the presence, if any, and estimate the prevalence of specific fish pathogens and parasites in resident fish from Devil's Lake, provide fish health specialists, fisheries managers and decision makers with a comprehensive pathogen survey report that may be used in performing risk analysis associated with biota transfer from an outlet on Devil's Lake, and provide survey results for viewing on the Web via the Fish and Wildlife Service National Wild Fish Health Survey database.

Based on information provided by the North Dakota Game and Fish Department, nine species of fish were known to occur in Devil's Lake and proposed for collection. Species included northern pike,



-USFWS

A multi-agency collaboration of fish health specialists gathered in North Dakota's Devils Lake basin to sample native fish and document any diseases present in the fish populations.

black crappie, fathead minnow, white sucker, white bass, walleye and yellow perch. Samples were assayed for specific fish pathogens according to protocols and procedures for the National Wild Health Survey and the American Fisheries Society/Fish and Wildlife Service fish health blue book.

Two sampling trips were completed this summer. Partners included the Bozeman Fish Health Center (FHC), Montana; La Crosse FHC, Wisconsin; Dexter FHC, New Mexico; Spirit Lake First Nation; North Dakota Game and Fish Department, South Dakota Game, Fish, and Parks; International Joint Commission; and International Red River Board (U. S. representatives). Results will be reported in August.

For further info about the La Crosse FHC: <http://www.fws.gov/midwest/Fisheries/fisheryoffices.htm#lacrossefhc>

Survey for Evidence of Lake Trout Reproduction in Lake Michigan

BY CHARLES BRONTE, GREEN BAY NFWCO

Charles Bronte of the Green Bay NFWCO worked with John Janssen of the University of Wisconsin-Milwaukee to conduct a beam-trawl survey for young wild lake trout at East Reef, 25 miles east of Milwaukee in Lake Michigan. East Reef is part of the Mid-Lake Reef Complex, comprised of four large reefs in south-central Lake Michigan. It was historically one of the most important sites for lake trout reproduction. The Fish and Wildlife Service has been stocking yearling lake trout at these offshore sites for many

years and has built up one the largest adult populations in Lake Michigan.

This study was funded by the Great Lakes Fishery Trust and involved a variety of techniques to document egg deposition and fry production over the last three years. Results indicate that very few fry are produced at these locations and suggests that spawner abundance may not be as high as previously thought and/or that survival bottlenecks occur between egg deposition and the first weeks of life.

For further info about the Green Bay NFWCO: <http://www.fws.gov/midwest/Fisheries/library/StationSpotlightArticles/Green%20Bay%20FRO.pdf>

2007 Goby Round-up and Asian Carp Corral

BY HEIDI KEULER, LA CROSSE NFWCO AND GARY CZYPINSKI, ASHLAND NFWCO

Illinois's sunny skies and warm temperatures greeted La Crosse NFWCO biologists, including Heidi Keuler, Louise Mauldin, Ann Runstrom, Pam Thiel, Dave Wedan and Scott Yess, during the 2007 Annual Goby Round-Up and Asian Carp Corral. The 12th annual Goby Round up and 6th annual Carp Corral took place June 11 to 15. A total of 14 crews monitored over 180 miles of the Illinois Waterway from Blue Island to Havana. The crews consisted of 50 individuals from Federal agencies (Fish and Wildlife Service, U.S. Geological Survey, and U.S. Army Corps of Engineers), state agencies (Illinois DNR, Illinois Natural History Survey (INHS), and Illinois/Indiana Sea Grant), aquariums (Shedd Aquarium and Discovery World), the Cook County Forest Preserve, the City of Chicago, the University of Wisconsin-Madison, the Field Museum of Natural History, and The Nature Conservancy. Objectives of the survey were to locate the downstream leading edge and relative abundance of invasive round goby and determine the relative abundance and upstream distribution of the invasive silver and bighead carps.

Since 2002, an electrical fish barrier in the Chicago Ship and Sanitary Canal near Romeoville, Illinois, has been in operation to prevent and slow the spread of invasive aquatic species. Originally the pilot barrier was intended to prevent the round goby from advancing from Lake Michigan to the Mississippi River. Now, biologists and fishermen hope the barrier will be effective at preventing Asian carp from reaching Lake Michigan and the rest of the Great Lakes. The barrier's electrodes are starting to wear out due to corrosion, though, and a new barrier has been constructed just downstream from the first barrier that is able to repel small fish more effectively than the pilot barrier. The new barrier will also have a longer lifespan. Currently, the new barrier is being tested for commercial barge and recreational boater safety before it is fully operational.



-USFWS
Dozens of invasive silver carp leap out of the boat wake near the Starved Rock State Park on the Illinois River.

has observed a significant increase in the number of Asian carps netted. During the 4-day sampling period in 2006, 128 bighead and silver carps were collected. And this year, 236 bighead and silver carps were collected. In addition, 60 carp jumped into the boat. Although it seems as though the abundance of Asian carps is increasing, the encouraging news is that they have not been collected above the Brandon Road Lock and Dam.

Carp samples were checked for bacterial and viral pathogens including Viral Hemorrhagic Septicemia (VHS) and Spring Viremia of Carp Virus (SVCV). In 2003, SVCV was found in common carp collected in the Calumet Sag Channel. Although it poses no threat to humans, it is highly contagious to carp, goldfish, koi and

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.

Survey results indicate that round goby were not found any farther downstream than where they were collected in July of 2004 by the INHS, just below the Peoria Lock and Dam (nearly 170 miles from Lake Michigan and half the distance to the Mississippi River). In addition, abundance of the round goby seemed to decrease from last year in the stretch from Joliet downstream from the barrier.

During this year's surveillance, a bighead carp was collected at River Mile 281.5. Previously, the most upstream record of a bighead carp was from a 2002 collection at River Mile 275. This now places bighead carp about 15 miles below the electrical barrier and 45 miles from Lake Michigan. A total of three bighead carp were collected by our monitoring crew in the Dresden Island Pool. Abundance of the bighead and silver carps seem to be increasing. Eric Leis from the La Crosse FHC has worked in the Peoria Pool (or the stretch of the river from Starved Rock State Park to Illinois River Mile 223) for the past four years. He

minnows and could cause locally significant mortalities in these fish populations. The results from this year's sampling are not yet available.

The Goby Round-up and Asian Carp Corral garnered abundant media interest, due in no small part to the outreach efforts of Shedd Aquarium. The public is becoming more aware of the impact that aquatic invasive species can have on the Great Lakes and Mississippi River ecosystems. National ABC covered the story and it was aired on Good Morning America, and Chicago, New York City, and La Crosse affiliates, as well as many other stations across the country. FOX's Chicago affiliate filmed our operations and incorporated it into a special on aquatic invasive species and also did a post-event interview for a newscast. CBS-Chicago also reported on our field activities. The event was covered by many newspapers including the *Washington Post*, *Daily Southtown*, *Joliet Herald News*, *Wilmington Free Press*, *Morris Daily Herald*, *La Salle News Tribune* and *Mason County Democrat*, and on WBBM Radio in Chicago, Illinois Public Radio and the Illinois Radio Network.

La Crosse NFWCO thanks all of its many wonderful partners for their continued support. We couldn't have had such success without them. Many of the partners have been with the Goby Round-up from the very beginning. Thanks again for rounding up the gobies and corralling the carp!

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

A total of 14 crews monitored over 180 miles of the Illinois Waterway from Blue Island to Havana. Crews consisted of 50 individuals from Federal agencies (Fish and Wildlife Service, U.S. Geological Survey, and U.S. Army Corps of Engineers), state agencies (Illinois DNR, Illinois Natural History Survey, and Illinois/Indiana Sea Grant), aquariums (Shedd Aquarium and Discovery World), Cook County Forest Preserve, City of Chicago, University of Wisconsin-Madison, Field Museum of Natural History, and The Nature Conservancy. Objectives of the survey were to locate the downstream leading edge and relative abundance of round goby and determine relative abundance and upstream distribution of the invasive silver and bighead carp. In addition, round goby, bighead, silver, grass, and common carp were collected as part of the Fish and Wildlife Service's Wild Fish Health Survey.

Sea Lamprey Mortality exceeds Fishing Mortality in Portions of lakes Michigan and Superior

BY JOHN NETTO, GREEN BAY NFWCO

Sea lampreys are aquatic invaders that contributed to the collapse of lake trout populations in the Great Lakes. Control efforts have successfully reduced lamprey populations and their impact on fishery resources. John Netto of the Green Bay NFWCO presented a review of sea lamprey induced mortality in the 1836 Treaty Waters of the Great Lakes at the spring meeting of the Sea Lamprey Integration Committee in Ann Arbor, Michigan. As part of the stock assessment process in the 1836 treaty waters, biologists estimate sea lamprey induced mortality on lake trout. This source of mortality is a major component of total lake trout mortality and has implications on the health of lake trout stocks and the fisheries they support. Netto's presentation reviewed how sea

lamprey induced mortality is estimated from wounding data collected from fishery monitoring and survey data. The presentation also reviewed sea lamprey mortality levels and compared this source of mortality to recreational and tribal commercial fishing mortality.

Currently, sea lamprey mortality exceeds fishing mortality in lakes Michigan and Superior. In Northern Lake Michigan, sea lamprey mortality increased dramatically in 2003 and remains higher than levels observed over the previous twenty years. Sea lamprey mortality levels were very high in Lake Huron during the 1990's, but they have been low since 1999 due to increased control activities in the Saint Mary's River.

For further info about the Green Bay NFWCO: <http://www.fws.gov/midwest/Fisheries/library/StationSpotlightArticles/Green%20Bay%20FRO.pdf>

DeSoto Refuge Fest is a Success

BY SARA MARSO AND BRIAN ELKINGTON,
COLUMBIA NFWCO

Columbia NFWCO's Brian Elkington and Sara Marso took part in Refuge Fest at DeSoto NWR on June 2. Begun in 2001, to encourage fishing at DeSoto Lake, Refuge Fest is a great opportunity for outreach and education. We united with the DeSoto staff, Pottawattamie County Conservation Board, U.S. Army Corps of Engineers, American Family Insurance and many more organizations to make this event a success. Bass Pro Shops and Tracker Boats provided educational excursions and clinics ranging from archery to boating and fishing. They also donated prizes for the carp fishing contest. Raptor Recovery Nebraska offered the chance to see and learn about raptors from the region. Friends of Boyer Chute and DeSoto NWR provided concession stands and live bluegrass music. This event is held annually the first Saturday in June.

Refuge Fest is a great opportunity to talk to the public about what we do. We displayed sampling nets, a measuring board, a scale, and *Louweeza* - our electrofishing boat. Live fish were also displayed for adults and children alike to handle. There were many flyers, handouts, snacks and squishy sturgeon, as well as a fish identification puzzle for the public to enjoy.

This event offered us a chance to talk about many rumors circulating in the region regarding the DeSoto Lake fishery. Many anglers believed that the fish populations were declining or non-existent in DeSoto Lake. Inclement weather during the spring spawning period stressed pre-spawn crappie causing some to die. Weather-induced changes in population level behaviors also resulted in poor spring fishing catch. We were able to reassure the public that the DeSoto Lake fishery remains healthy. We also discussed the plight of the endangered pallid sturgeon and recovery efforts in the nearby Missouri River.

Despite a thunderstorm late in the day, there was an excellent turnout of 750 participants at Refuge Fest. The Columbia NFWCO looks forward to participating in this event for years to come.

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.



-USFWS

Brian Elkington of the Columbia National Fish and Wildlife Conservation Office explains the process of electrofishing to spectators at the De Soto National Wildlife Refuge Refuge Fest.

M/V Spencer F. Baird Open House held in Alpena, Michigan

BY JERRY MCCLAIN, ALPENA NFWCO

The Fish and Wildlife Service hosted an open house in Alpena, Michigan, on June 9 to showcase the *M/V Spencer F. Baird* while it was in Lake Huron stocking lake trout. The event provided an opportunity for the public to board and inspect this state-of-the-art fish stocking and stock assessment vessel and talk with Fish and Wildlife Service staff about the programs and work of the vessel. Numerous staff

participated in the event and met with visitors as they arrived. Participants included Aaron Woldt and Jerry McClain (Alpena NFWCO), Tim Smigielski (Jordan River NFH), and Nikolas Grueneis (Iron River NFH), Mike Perry, Bob Bergstrom and Dave Bohn (*M/V Spencer F. Baird*). Approximately 50 visitors took tours of the vessel during the three-hour event.

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

Carterville NFWCO Completes Annual Survey and Management Report for Lake Greenwood at the Naval Surface Warfare Center

BY NATE CASWELL, CARTERVILLE NFWCO

Carterville NFWCO biologist Nate Caswell and technicians Matt Mangan and Matt Wegener completed the annual fishery survey of Lake Greenwood at Illinois' Naval Surface Warfare Center Crane Division in May. Crane is a large naval establishment that covers about 100 square miles, and offers a wide variety of outdoor recreation opportunities for military and Department of Defense personnel. Much of the area is heavily wooded and includes several small ponds and the 800-acre Lake Greenwood.

Carterville NFWCO used night electrofishing to sample four sites on Lake Greenwood. The annual management report was recently completed, and results show that largemouth bass catch was down slightly from the 2005 and 2006 surveys, but the number of larger fish in the lake seems to be increasing based on our recent surveys and the results of local fishing tournaments. The bluegill population in the lake remains strong, providing a quality fishery for this species. Supplemental stocking of walleye and channel catfish in Lake Greenwood provide additional fishing opportunities.



-USFWS/Colby Wrasse
Carterville National Fish and Wildlife Conservation Office biologist Nate Caswell takes a scale sample from a walleye captured during night electrofishing in Lake Greenwood, located on the Crane Naval Surface Warfare Center.

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

Everyone Loves a Parade

BY STEVE REDMAN, IRON RIVER NFH

Staff from Iron River NFH recently participated in the annual Citizens 4th of July Parade in Superior, Wis. Biologist Steve Redman drove the 3,000-gallon fish distribution tanker truck that was one of six used for the distribution of over 4.4 million lake trout in the Upper Great Lakes this past spring. Fish and Wildlife Service employees Clark Bartelt, Karla Bartelt and family walked behind and handed out goodies to all the onlookers. Kids young and old love a parade and this was a great opportunity to increase public awareness, especially to advertise our August 11 open house, and gather community support for the Iron River NFH.



-USFWS
Staff from the Iron River National Fish Hatchery participated in the July 4th parade in Superior, Wisconsin. They also took this opportunity to advertise their annual open house.

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

Miles of Shoreline Surveyed for Coaster Brook Trout

BY FRANK STONE, ASHLAND NFWCO

A fishery survey on the Grand Portage Indian Reservation determined the presence and relative abundance of coaster brook trout, which once were once abundant throughout the near-shore waters of Lake Superior. Over-fishing and habitat degradation have left only a handful of waters around Lake Superior with spawning populations of these magnificent fish.

This near-shore survey was part of a Lake Superior restoration plan sponsored by the Grand Portage Band of Lake Superior Chippewa.



-USFWS

This brook trout was captured during a fishery survey on the Grand Portage Indian Reservation to determine the presence and relative abundance of coaster brook trout.

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

Lake Whitefish Survey Conducted in Lake Michigan

BY TED EGGEBRAATEN, GREEN BAY NFWCO

In June, biologists Dale Hanson, John Netto, Rick Westerhof and Ted Eggebraaten from the Green Bay NFWCO completed lake whitefish surveys in the 1836 Treaty Waters of Lake Michigan, surveying two whitefish management units near Elk Rapids and Frankfort, Mich.

Catches from the survey provide a fisheries-independent set of data on lake whitefish and lake trout abundance and health in four randomly selected tracts. Unlike commercial fishing operations, the fishery-independent survey incorporates a statistical design that can provide managers with a more accurate picture of fish abundance and population age structure than would be available from commercial fishery data alone. The sets produce catch-per-effort

Biological data collected included species caught,

length, numbered Floy tag and tissue samples for genetic analysis. This information will help Grand Portage and Fish and Wildlife Service fishery managers gain a broader understanding of the abundance of coaster brook along the Minnesota's North Shore.

Crews conducted this two night survey using an electrofishing boat, starting from the mouth of the Pigeon River and moving southward along the north shore. During the survey, the crew focused on netting only brook trout. Adverse weather cut short the second night of the survey, but crews managed to cover 25 miles and collect 8 coasters, an increase compared to 3 brook trout collected in 2006. Additional yearly assessments will help determine whether these fish are beginning to re-establish the North Shore.

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.



-USFWS/DaleHanson

Green Bay National Fish and Wildlife Conservation Office biologist Ted Eggebraaten retrieves a gill net set in Lake Michigan to sample lake whitefish and lake trout.

information to track the relative abundance of whitefish and lake trout populations from year to year and across management units of the lake. Biological data such as length, weight, sex, maturity and lamprey wounds are recorded on the catch and aging structures (scales and otoliths) are collected. These structures provide estimates of age based on the number of annuli, or growth rings, that can be counted.

The Fish and Wildlife Service, State of Michigan, and five tribes collaborate to assess the fishery, and each agency has responsibilities to conduct the lake

whitefish surveys. Information is supplied to the Modeling Sub-Committee, a multi-agency group of fishery analysts who incorporate the data into the catch at age models used to forecast whitefish stock size and ultimately establish recommended total allowable catches for each management unit. By combining an assessment survey data source in addition to the commercial fishery data, it is anticipated that the catch at age models will be able to make more accurate predictions of stock size and enhance the management capabilities in the 1836 Treaty Waters

For further info about the Green Bay NFWCO: <http://www.fws.gov/midwest/Fisheries/library/StationSpotlightArticles/Green%20Bay%20FRO.pdf>

Cooperative Lake Sturgeon Management Continues on the Menominee Reservation

BY ANN RUNSTROM, LA CROSSE NFWCO

Representatives from several Menominee Tribal Offices, the Wisconsin DNR, La Crosse NFWCO, Genoa NFH, Green Bay NFWCO and Green Bay Ecological Services Field Office met on the Menominee Reservation to continue cooperative efforts to restore and manage lake sturgeon on tribal lands. The team reviewed last year's efforts and discussed plans for the upcoming year.

The presence of Viral Hemorrhagic Septicemia (VHS) in nearby Lake Winnebago was a big topic for discussion, as it will affect management actions in the near future. The group agreed to temporarily suspend all management actions that might contribute to the spread of this disease. This will likely mean that efforts to restore lake sturgeon in the Wolf River through transfer of adults will not take place this

year. In addition, tribal representatives outlined the emergency rules that they have put in place to prevent spread of disease into Reservation waters by the public. Planning for the 2008 sturgeon ceremony will need to begin early so that Wisconsin DNR can still provide fish for this culturally significant event and not risk spreading VHS into the Wolf River upstream of Lake Winnebago. Management efforts on Legend Lake will proceed as in the past, but VHS samples will be collected during the fall assessment. The team proposed opening Legend Lake to year-round hook and line for sturgeon. The tribe will work to move this forward to its legislature. Ideas were discussed to increase interest and awareness of the lake sturgeon population and opportunities for harvest.

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

Sharing Information for Productive Aquaculture

BY FRANK STONE, ASHLAND NFWCO

The Ashland NFWCO has the unique distinction of providing technical assistance for development of numerous tribal fish hatchery operations. One of the ways we contribute to these programs is by publishing a quarterly newsletter. The Midwest Tribal Aquaculture Network (MTAN) is dedicated to assisting tribal hatcheries through the sharing of cool/cold water fish culture information, such as the information Frank Stone learned at a recent aquaculture field day in Red Cliff, Wisconsin.

Productivity in aquaculture can often be increased by incorporating techniques learned from others. The information gained from the workshop Stone attended will be featured in future issues of the MTAN, which has been assisting tribal fish hatchery programs for the past 16 years. The reward from this kind of technical assistance is in knowing we are providing information that enables hatchery programs to better use their resources and provide a healthier product for the fishery. The MTAN has also helped to educate fish hatchery workers and direct them to other areas so they can better research their specific needs.

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

Research Examines Link between Trout Diet, Reproductive Success in Lake Michigan

BY DALE HANSON, GREEN BAY NFWCO

The instability of Lake Michigan's food-web—caused by the establishment of non-native species such as alewives, zebra and quagga mussels—is thought to be the reason lake trout are still not reproducing naturally in the lake. Scientists already know that nutritional deficiencies associated with inadequate levels of thiamine (vitamin B1) in eggs cause high mortalities of yolk sac stages of several salmonid species in the Great Lakes. Mortality driven by thiamine deficiency, commonly referred to as early mortality syndrome (EMS), is a likely effect of high levels of thiaminase, an enzyme that degrades the vitamin, thiamine, which is found in prey species such as alewife and rainbow smelt. Because alewife is a major component of the lake trout diet in Lake Michigan, EMS may be a significant hindrance to natural reproduction of this species; however, researchers have been unable to determine the specific source for EMS since thiaminase levels in alewives and other forage are highly variable and the direct link to high egg mortality is poorly understood.

Recently, Green Bay NFWCO fish biologist Dale Hanson teamed up with researchers from the U.S. Geological Survey (USGS)-Great Lakes Science Center and Illinois Natural History Survey (INHS) to review emerging research using fatty acid signatures to examine food web dynamics and reproductive success among lake trout in Lake Michigan. Fatty acids are essential to the physiological processes for all animals, and fish must get certain types of fatty acids from their diet. Remarkably, the structure of these fatty acids remains intact as they pass through the food-web, so, a fish's diet history can be inferred by comparing its fatty acid composition to that of potential prey. Preliminary results from principal investigators Jacques Rinchard (USGS) and Sergiusz Czesny (INHS) show that forage fish do, in fact, have unique fatty acid signatures that can be used to assess food-web dynamics.

Fatty acid compositions are also indicators of fish health. Deficiencies in essential fatty acids may lead to serious health risks, including high mortality. Preliminary data indicate that certain fatty acids in the eggs correlate with survival of lake trout embryos and in concert with thiamine levels, which explains up to 60 percent of lake trout embryonic and early life stages mortality.

Rinchard and Czesny are in the initial stages of the project, funded by the Great Lakes Fishery Commission. They have been assessing the fatty acid signatures of potential lake trout prey in northern and southern locations on Lake Michigan. In May, both researchers accompanied Hanson and biologist Ted Eggebraaten on a forage sampling trip near Clay Banks Reef in Lake Michigan. Using gill-nets, trawls, beach seining and zooplankton netting, crews sampled different habitats near Clay Banks Reef to collect diverse forage species. This fall, the group will also collect lake trout eggs from spawning females. Some eggs will be run for fatty acid signatures while the rest will be fertilized and hatched in a laboratory to assess egg and larval survival.

This project highlights the Fish and Wildlife Service's commitment to developing cooperative partnerships that will advance the goal of lake trout restoration in Lake Michigan. Though this work is currently in the initial stages, it is anticipated that additional field collections and lab studies will provide new information on the interactions between lake trout diet, reproductive success, and the role of food-web disruption brought about by non-native species.

For further info about the Green Bay NFWCO: <http://www.fws.gov/midwest/Fisheries/library/StationSpotlightArticles/Green%20Bay%20FRO.pdf>

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.



-USFWS/DaleHanson

Alewife is an invasive forage fish species that has become a major component of native lake trout diets in Lake Michigan.

Genoa NFH Mussels help Minneapolis Monitor Water Quality

BY TONY BRADY, GENOA NFH

Freshwater mussels have always been associated with clean water. As filter feeders, mussels are considered good biological indicators of water quality. Because they are unable to leave a contaminated water body, mussels must endure chemicals released into the water. Their only mechanism for surviving a short term chemical exposure is by “clamming up”—closing their shells to avoid the chemical.

The Minneapolis Water Works and the Environmental Protection Agency (EPA) have plans to use mussels as a “canary in the coal mine” to ensure safe water in Minneapolis. To accomplish this monitoring, the agency had to build a device to measure the closing response of mussels when exposed to harmful chemicals. The next step was getting enough sub-adult mussels. After being contacted last year, Genoa NFH agreed to help.

Last summer, Genoa NFH staff inoculated large-mouth bass with parasitic mussel larva (glochidia) from fatmucket mussels, then placed the inoculated fish in three floating cages in Ice Harbor located in Dubuque, Iowa. The three cages produced a total of 1,600 mussels. A portion of these mussels were retained and overwintered in Dubuque and harvested this past May. After a good scrubbing and a 30-day quarantine to ensure there were no invasive zebra mussels attached, 50 fatmuckets were shipped to the Minneapolis Water Works to report to work. On June 20, these mussels were placed into the measuring device and started monitoring water quality for the residents of Minneapolis.

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



-EPA/JoelAllen

This monitoring chamber will be used by the Minneapolis Water Works and the Environmental Protection Agency to measure the closing response of mussels when exposed to harmful chemicals. Mussel will “clam up” when elevated levels of chemicals are present in the environment.

Thermal Criteria for Winged Mapleleaf Mussels

BY MARK STEINGRABER, LA CROSSE NFWCO

Results of winged mapleleaf mussel early life history investigations conducted by Fish and Wildlife Service investigators from the La Crosse NFWCO and colleagues from the U.S. Geological Survey recently appeared in the *American Midland Naturalist* (Volume 157, pp. 297-311). The article, *Thermal criteria for early life stage development of the winged mapleleaf mussel*, presents detailed analyses of water temperature and mussel metamorphosis data collected over three years.

At the outset, these studies were intended solely to identify suitable host fish for an endangered mussel species; however, after modifying the original study protocol, investigators conducted lab tests of channel catfish—a species that ultimately proved to be a suitable host—at three different temperature regimes rather than one. The introduction of a single

variable in this replicated series of tests provided the opportunity to compare the time required for encysted mussel larvae to metamorphose into juveniles at different temperatures under different thermal regimes, and develop a quantitative model to describe this thermal-temporal relation. The information derived from the model is being used to guide juvenile winged mapleleaf propagation for restoration efforts in the St. Croix National Scenic Riverway.

Journal publication of these peer-reviewed findings allows other scientists to use this model as a framework to determine thermal criteria for early life development of other mussel species and improve juvenile mussel production in propagation programs. This article will be available on the Midwest Fisheries Web site at <http://www.fws.gov/midwest/Fisheries/pubpolicy.html>.

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

Gingell Road Stream Crossing Completed

BY SUSAN WELLS, ALPENA NFWCO

The Otsego County Road Commission completed a culvert replacement at the Gingell Road crossing on Saunders Creek in northern, lower Michigan on June 4. The project identified an undersized and perched



-USFWS/Susan Wells

Replacement of a perched culvert with this bottomless culvert at the Gingell Road crossing on Saunders Creek in northern, lower Michigan opened approximately three miles of aquatic habitat for native brook trout.

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

culvert that hindered native brook trout passage in the Black River watershed. The culvert also contributed to ponding of water upstream that caused water temperatures to warm. Workers replaced the old inadequate culvert with a bottomless structure that allows brook trout movement into the upper reaches of Saunders Creek, a headwater tributary to the Black River and opening approximately three miles of aquatic habitat for native brook trout. During and after the installation, workers saw brook trout swimming upstream through the new structure. Alpena NFWCO biologist Susan Wells provided oversight for this project, and funding was provided by the Region 3 Fish Passage Program, the Otsego County Road Commission and Trout Unlimited. Additional partners included Huron Pines Resource Conservation & Development, the Upper Black River Restoration Committee and Michigan DNR.

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

Kleinstieber Wetland Restoration Project

BY TED KOEHLER, ASHLAND NFWCO

The Kleinstieber Partners for Fish and Wildlife Program wetland restoration project was completed in June, restoring one site totaling two wetland acres and enhancing two acres of upland grass waterfowl nesting cover through a deferred haying/grazing agreement. The restoration took place on former agricultural land in Ashland County, Wisconsin, and will provide resting and nesting habitat for many species of migratory songbirds and waterfowl.

Species benefiting from the habitat restoration and protection project include migratory waterfowl such as wood duck and mallard and migratory songbirds such as bobolink and yellow warbler. Partners in the project included the Ashland Bayfield Douglas Iron - Land Conservation Department and the landowner. The landowner provided heavy equipment and operational time to the project. A Fish and Wildlife Service Habitat Development Agreement was signed to protect the restored area for 10 years.

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

Mitigation Side-Channels Ease Flood Impact

BY KYLE WINDERS, COLUMBIA NFWCO

Ever wish you were alive back when Lewis and Clark explored the Missouri River to witness how it looked before alteration? Alterations have drastically reduced shallow-water habitat that once served as spawning grounds for many fish species. Recent flooding events are steadily helping restore some of the diversity of the mighty Missouri River by creating side-channels that provide critical shallow-water habitat and increase diversity and structure for spawning and rearing of fish larvae.

The U.S. Army Corp of Engineers (Corps) is building side-channels along the river to help speed up diversification. The Missouri River Mitigation Project is designed to mitigate, or compensate, for fish and wildlife habitat losses resulting from past channelization of the river. The project will develop approximately 166,750 acres of land in separate locations along the River in Nebraska, Iowa, Kansas and Missouri. The Corps has built 15 pilot mitigation side-channels and is currently constructing four more. Another 21 side-channels will be opened in the future. High water events such as the flood of 2007 will



-USFWS/Andy Starostka

Tadpole chute is being constructed as part of the Missouri River Mitigation Project. The project is designed to mitigate, or compensate, for fish and wildlife habitat losses that resulted from past channelization of the river.

continue naturalizing these man-made side-channels and with the help of man and Mother Nature, maybe one day the Missouri River will resemble the fish and wildlife haven Lewis and Clark witnessed.

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

Fish Community Surveyed for Spawning Season in Middle Mississippi River

BY MATT MANGAN, CARTERVILLE NFWCO

Carterville NFWCO completed pre-project monitoring of the fish community during the spawning season in the Herculaneum reach of the Middle Mississippi River for the Stone Dike Alterations Project. The U.S. Army Corps of Engineers' St. Louis District is planning a project that will alter the configuration of dike fields in this reach to restore some habitat diversity in the river. Notching wing dikes and building chevron dikes will create island and side channel habitat that this particular reach lacks. From March through June, the Carterville NFWCO conducted surveys of the fish community in this reach to obtain baseline data for evaluating potential benefits of restoration. Crews used a suite of fishery gears (electrofishing, mini-fyke nets, hoop nets, gill nets and trawling) to capture a wide range of species. Crews also conducted surveys at a similar "control" reach located near Trail of Tears State Park in Missouri. This will help to determine whether any changes in the fish community at Herculaneum are systemic or the result of restoration activities.



-USFWS

Carterville National Fish and Wildlife Conservation Office technicians Matt Mangan and Mike Stahl hold up invasive bighead and silver carp caught during a pre-project fish community survey in the Herculaneum reach of the Middle Mississippi River.

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

Keeping Biologists Safe

BY ADAM KOWALSKI, ALPENA NFWCO

Adam Kowalski (Alpena NFWCO), Stewart Cogswell (Green Bay NFWCO), and Kevin Butterfield (Ludington Biological Station) put on a three day Motorboat Operators Certification Course (MOCC) in Ludington, Michigan, this past summer. MOCC is designed to provide training to Department of the Interior employees before they are allowed to operate watercraft.



For many biologists, this course is a great starting point for learning to operate vessels safely. If you are interested in taking the course, please contact Dave Wedan at 608/783-8435.

Topics covered during the course were: surviving in the water, using floatation devices correctly, anchoring correctly, required and recommended equipment for Department of the Interior vessels, changing a propeller, how to properly connect a boat trailer to a vehicle, how to tow a trailer with a vehicle, rules of the road, navigational aides and proper boat handling.

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 Alpena NFWCO: <http://www.fws.gov/midwest/alpena/index.htm>

Interview with a Volunteer

BY CURT FRIEZ, PENDILLS CREEK NFH

I decided to interview our most recent volunteer to get some feedback on how we are treating her and how she feels about volunteering at the Pendills Creek/Sullivan Creek NFH's. The questions/answers follow:

Q: What is your full Name? A: Tiffany St. John-Wood.

Q: How did you develop an interest in Fish & Wildlife? A: When I was 19 years old, I decided to work in fisheries. My interest started from taking care of fish in a small fish tank.

Q: Are you required to do an internship to complete your degree requirements? A: Yes, internship is required to graduate from Hocking College.

Q: Are you going to continue on with your education? A: Yes, I will be attending West Virginia University this fall.

Q: At this point in time, what are your career goals? A: First, get my degree and then do an internship in a wildlife field to see exactly where I want to work. Then I would like to get a job with the State of Ohio, possibly at a metro park.

Q: What do you think of hatchery work? A: Hatchery work is hard work but necessary.

Q: Do you enjoy working with a live entity? A: I like it, watching it grow and seeing how your work makes a difference to them.

Q: What would you tell people about working at a fish hatchery? A: I would tell them hatchery work makes for some long days and that it's hard work, physical and enjoyable.

Q: How do you like living in a rural area? A: Rural areas are nice, they are quiet. The only thing is that you are not close to much and it can be expensive, when it comes to gas.

Q: What's the worst hatchery job you have had so far? A: The worst job is opening and closing the tent flaps over the raceways...not fun and time consuming.

Q: What's the best hatchery job you have had so far? A: Doing sample counts because it allows you to see how the fish have grown and how well they look - it lets you know that all the work is worth it.

Q: What do you think most people do not know about hatchery work? A: I don't think people know how much work actually goes into running a hatchery. Not just the physical labor but also the paper work and required skills.

Q: What do you miss most from your home? A: I miss my family, friends and dogs.

Q: How is the volunteer apartment to live in? A: Nice, big and comfortable.

Q: Is the \$17 daily subsistence adequate? A: No, not enough when you add gas to go in and purchase food etc. Twenty dollars daily would make a big difference.

Q: What could we do to make your time here more enjoyable? A: Maybe a new chair for the apartment.

Tiffany also says we need more help to get all the work done. It's nice to find out from a younger person, just getting involved with natural resource work, what their perspectives are and what we can do better to make the volunteering experience better.

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

Student Employment Program a “STEP” up for Local Natural Resource Majors

BY DOUG ALOISI, GENOA NFH

One of the most frequently asked questions when interviewing for an entry level position is “How much experience do you have ...?” To help natural resource majors with this all-important question, the Genoa NFH has used the summer field season and its increased labor demands as a means to employ two local youth in the Student Temporary Employment Program (STEP). Natural resource majors Jorge Buening and Brandon Keesler, currently enrolled in the natural resources program at the University of Wisconsin - Stevens Point, joined the staff at the Genoa NFH in June to assist with ongoing fish and mussel recovery and restoration efforts.

Jorge is a senior at Stevens Point and previously volunteered at the station while going to Viroqua High School. He caught the conservation bug early in his high school years helping the station net northern pike and walleye on the Mississippi River and tagging fingerling lake sturgeon for tribal restorations in Missouri, Minnesota and Wisconsin.



-USFWS

Brandon Keesler (left) and Jorge Buening are part of the Student Temporary Employment Program (STEP) at the Genoa National Fish Hatchery.

Brandon has been a part of the station's staff through two youth programs. He started as a Youth Conservation Corps (YCC) enrollee, and is now part of the STEP program as well. Brandon recently completed his first year at Stevens Point. Both employees are actively involved in mussel host fish trials, feeding and care of the hatchery's 40,000 fingerling lake sturgeon, and the rearing and care of the station's 20 species of fish and freshwater mussels. Through the STEP program, we hope to fill a small but crucial role in providing work experiences to these two gentlemen to further their fish and wildlife careers. For more information on the STEP program, please refer to the Region 3 Human Resources STEP Program link at: <http://www.fws.gov/midwest/HumanResources/step.html>.

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

Congressional Actions

S. 1248 (pcs) To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. [Placed on Calendar Senate]

H.R. 1495 (eas) [Engrossed Amendment Senate]

H.R. 767 (ih) To protect, conserve, and restore native fish, wildlife, and their natural habitats at national wildlife refuges through cooperative, incentive-based grants to control, mitigate, and eradicate harmful nonnative species, and for other purposes. [Introduced in House]

H.R. 1533 (ih) To provide for the establishment of a national mercury monitoring program. [Introduced in House]

S. 843 (is) To provide for the establishment of a national mercury monitoring program. [Introduced in Senate]

S.J.Res. 17 (is) Directing the United States to initiate international discussions and take necessary steps with other Nations to negotiate an agreement for managing migratory and transboundary fish stocks in the Arctic Ocean. [Introduced in Senate]

S.J.Res. 17 (rcs) Directing the United States to initiate international discussions and take necessary steps with other Nations to negotiate an agreement for managing migratory and transboundary fish stocks in the Arctic Ocean. [Reference Change Senate]

H.R. 1495 (eh) To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. [Engrossed in House]

H.R. 1495 (pcs) To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. [Placed on Calendar Senate]

H.R. 3227 (ih) To direct the Secretary of the Interior to continue stocking fish in certain lakes in the North Cascades National Park, Ross Lake National Recreation Area, and Lake Chelan National Recreation Area. [Introduced in House]

H.R. 1495 (ih) To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. [Introduced in House]

H.R. 1495 (rh) To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to

rivers and harbors of the United States, and for other purposes. [Reported in House]

S. 1766 (is) To reduce greenhouse gas emissions from the production and use of energy, and for other purposes. [Introduced in Senate]

H.R. 2643 (rh) Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2008, and for other purposes. [Reported in House]

H.R. 2643 (eh) Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2008, and for other purposes. [Engrossed in House]

H.R. 2643 (pcs) Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2008, and for other purposes. [Placed on Calendar Senate]

S. 1696 (pcs) Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2008, and for other purposes. [Placed on Calendar Senate]

H.R. 2337 (ih) To promote energy policy reforms and public accountability, alternative energy and efficiency, and carbon capture and climate change mitigation, and for other purposes. [Introduced in House]

H.Con.Res. 184 (ih) Expressing the sense of the Congress opposing removal of dams on the Columbia and Snake Rivers for fishery restoration purposes, supporting the renewable energy that the dams produce, and agreeing that their removal does not make sound environmental nor fiscal sense. [Introduced in House]

H.R. 3089 (ih) To secure unrestricted reliable energy for American consumption and transmission. [Introduced in House]

H.R. 2262 (ih) To modify the requirements applicable to locatable minerals on public domain lands, consistent with the principles of self-initiation of mining claims, and for other purposes. [Introduced in House]

H.R. 2338 (ih) To establish the policy of the Federal Government to use all practicable means and measures to assist wildlife populations in adapting to and surviving the effects of global warming, and for other purposes. [Introduced in House]

S.Res. 208 (ats) Encouraging the elimination of harmful fishing subsidies that contribute to overcapacity in the world's commercial fishing fleet and lead to the overfishing of global fish stocks. [Agreed to Senate]

H.R. 2337 (rh) To promote energy policy reforms and public accountability, alternative energy and efficiency, and carbon capture and climate change mitigation, and for other purposes. [Reported in House]

Source is <http://www.gpoaccess.gov/bills/index.html>
Searched database by keyword = "fish"

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.

National Fish and Wildlife Conservation Offices

National 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 fisher-

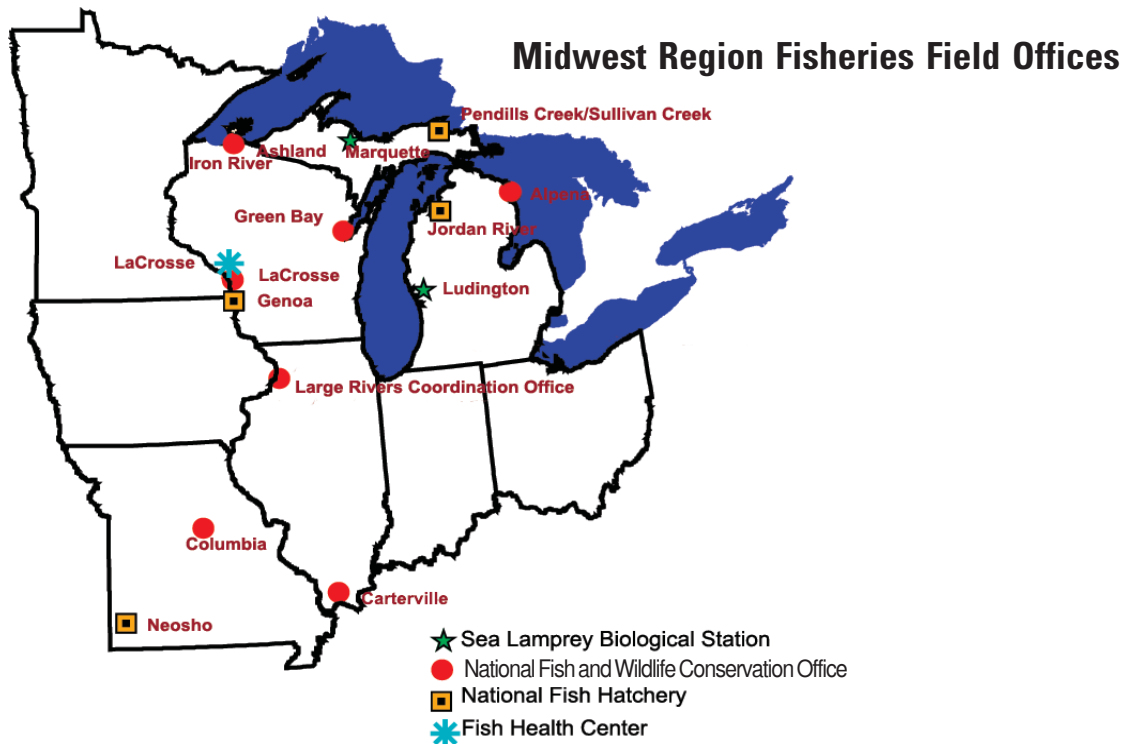
ies databases; provide technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and re-licensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments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



Fisheries Contacts

Gerry Jackson (gerry_jackson@fws.gov)

Michigan

Alpena National Fish and Wildlife Conservation Office
Federal Building; 145 Water Street
Alpena, MI 49707
Jerry McClain (jerry_mcclain@fws.gov)
989/356-3052

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

Ludington Biological Station
229 South Jebavy Drive
Ludington, MI 49431
Dennis Lavis (dennis_lavis@fws.gov)
231/845-6205

Marquette Biological Station
3090 Wright Street
Marquette, MI 49855-9649
Katherine Mullett (katherine_mullett@fws.gov)
906/226-6571

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

Missouri

Columbia National Fish and Wildlife Conservation Office
101 Park Deville Drive; Suite A
Columbia, MO 65203
Tracy Hill (tracy_hill@fws.gov)
573/234-2132

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

Illinois

Carterville National Fish and Wildlife Conservation Office
9053 Route 148, Suite A
Marion, Illinois 62959
Rob Simmonds (rob_simmonds@fws.gov)
618/997-6869

Wisconsin

Ashland National Fish and Wildlife Conservation Office
2800 Lake Shore Drive East
Ashland, WI 54806
Mark Brouder (mark_brouder@fws.gov)
715/682-6185

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

Green Bay National Fish and Wildlife Conservation Office
2661 Scott Tower Drive
New Franklin, WI 54229
Mark Holey (mark_holey@fws.gov)
920/866-1717

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

LaCrosse Fish Health Center
555 Lester Avenue
Onalaska, WI 54650
Richard Nelson (rick_nelson@fws.gov)
608/783-8441

LaCrosse National Fish and Wildlife Conservation Office
555 Lester Avenue
Onalaska, WI 54650
Pamella Thiel (pam_thiel@fws.gov)
608/783-8431

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

- [Alpena NFWCO Hosts Lake Huron Lake Trout Stocking Media Days](#)
 - Aaron Woldt, Alpena NFWCO
- Hatchery Friends Group Hosts Open House
 - Curt Friez, Pendills Creek NFH

- A Day on the Big Muddy for Missouri Lawmakers
 - Andy Plauck and Tracy Hill, Columbia NFWCO
- Challenges to Rehabilitate Deepwater Population of Lake Trout
 - Charles Bronte, Green Bay NFWCO

- [Refuge Executives Tour the Middle Mississippi River](#)
 - Rob Simmonds, Carterville NFWCO
- [Ashland NFWCO Assists with Bald Eagle Monitoring and Banding in the Apostle Islands](#)
 - Glenn Miller, Ashland NFWCO
- [Focus on Fish & Wildlife Newsletter](#)
 - Frank Stone, Ashland NFWCO

Fish Tails *(continued)*

Aquatic Species Conservation and Management

- Final Trammel Netting for the 2007 Sturgeon Sampling Season
 - Patty Herman, Columbia NFWCO
- Columbia Plays Tag with Shovelnose Sturgeon
 - Wyatt Doyle, Columbia NFWCO
- Carp Virus Discovered in Upper Mississippi River
 - Rick Nelson, La Crosse FHC
- Wild Fish Surveys, Inspection and Diagnostic Cases
 - Rick Nelson, La Crosse FHC
- Green Bay Yellow Perch Assessment Model Updated
 - John Netto, Green Bay NFWCO
- Coaster Abundance Climbs
 - Henry Quinlan, Ashland NFWCO
- Fish Distribution Truck Drivers Log Extensive Miles
 - Curt Friez, Pendills Creek NFH

Aquatic Invasive Species

- Biologists Teach Invasive Species Field Course
 - Anjanette Bowen, Alpena NFWCO

Public Use

- Carterville NFWCO Helps Out at Crab Orchard Kids Fishing Derby
 - Mike Stahl, Carterville NFWCO
- Free Fishing Weekend Makes Memories
 - Courtney Culler, Columbia NFWCO
- Big Muddy Catfishing Adventure 2007
 - Jeff Finley, Columbia NFWCO
- Hubbard Lake Kids Fishing Day Held
 - Adam Kowalski, Alpena NFWCO
- Friday Night Downtown in Alpena
 - Anjanette Bowen, Alpena NFWCO
- Friends Group Sponsors Parade Entry
 - Curt Friez, Pendills Creek NFH
- Kids Go Crazy for Fish
 - Stewart Cogswell, Green Bay NFWCO
- Ducks-On-A-Stick is a Big Hit at School
 - Ted Koehler, Ashland NFWCO

Cooperation with Native Americans

- Lower Bass Lake Fishery Management Plan
 - Ann Runstrom, La Crosse NFWCO
- Students Learn About Conservation Careers
 - Stewart Cogswell, Green Bay NFWCO
- Kids Fishing Day Activities a Big Success Thanks to Hatchery Help
 - Frank Stone, Ashland NFWCO

Leadership in Science and Technology

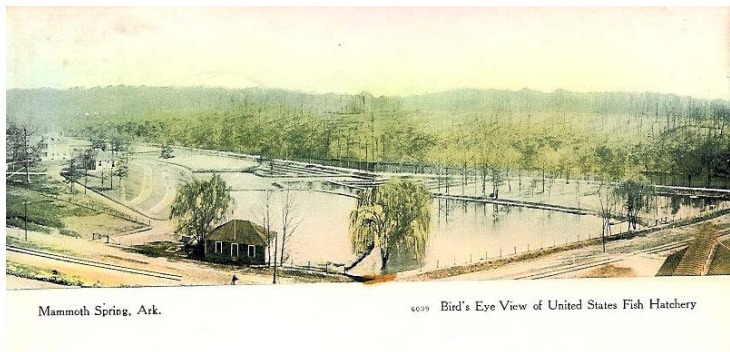
- Fish and Wildlife Service Provides Technical Assistance to Michigan
 - John Netto, Green Bay NFWCO

Aquatic Habitat Conservation and Management

- Mullett Creek Survey
 - Heather Rawlings, Alpena NFWCO
- Open Rivers Initiative Meetings Held
 - Susan Wells, Alpena NFWCO
- The Evolution of the Habitat, Assessment and Monitoring Project
 - Nick Frohnauer and Andy Starostk, Columbia NFWCO
- A Silver Lining to the 2007 Missouri River Flood
 - Colby Wrasse, Columbia NFWCO
- Spreading the Word About Aquatic Habitat
 - Henry Quinlan, Ashland NFWCO
- Ashland NFWCO Completes Electrofishing Post-Construction Survey
 - Glenn Miller, Ashland NFWCO

Workforce Management

- Carterville NFWCO Welcomes Matt Wegener
 - Matt Wegener, Carterville NFWCO
- Carterville NFWCO Welcomes Matt Mangan
 - Matt Mangan, Carterville NFWCO
- From the Prairie to Southern Illinois
 - Nathan Richards, Carterville NFWCO
- Mike Stahl Joins Carterville NFWCO Crew
 - Mike Stahl, Carterville NFWCO
- She likes the Fish
 - Kay Hively, Neosho NFH
- Young Man, Going West
 - Kay Hively, Neosho NFH
- Viterbo University Student Joins Genoa Staff as Intern
 - Doug Aloisi, Genoa NFH
- Celebrating a Two-year Anniversary
 - Angela Baran, Iron River NFH
- C.A.R.E. Program in Full Swing at Columbia NFWCO
 - Brett Witte, Columbia NFWCO
- Job Hazard Analyses Completed
 - Joanne Grady, Columbia NFWCO



Water Under the Bridge

A Glimpse into our Proud Past

The Mammoth Spring Fish Hatchery is located in Northern Arkansas near the town of Mammoth Spring. The hatchery was established in 1904, and has remained in continuous operation.

-Jerry French Postcard Collection; U.S. Fish Hatchery; Mammoth Spring, Arkansas (1906)