U.S. Fish and Wildlife Service - Midwest Region

Fisheries & Aquatic Resources Program

Fish Tales

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at Genoa NFH

Vol. 9 No. 6
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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

-Jeff Jones

Biologists seine rainbow trout out of a culture pond at the Neosho National Fish Hatchery.

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

Fish Lines
2011 Vol. 9 No. 6

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USFWS/EricLeis
Sarah Bauer of the La Crosse Fish Health Center shows parents and their children the anatomy of a rainbow trout.

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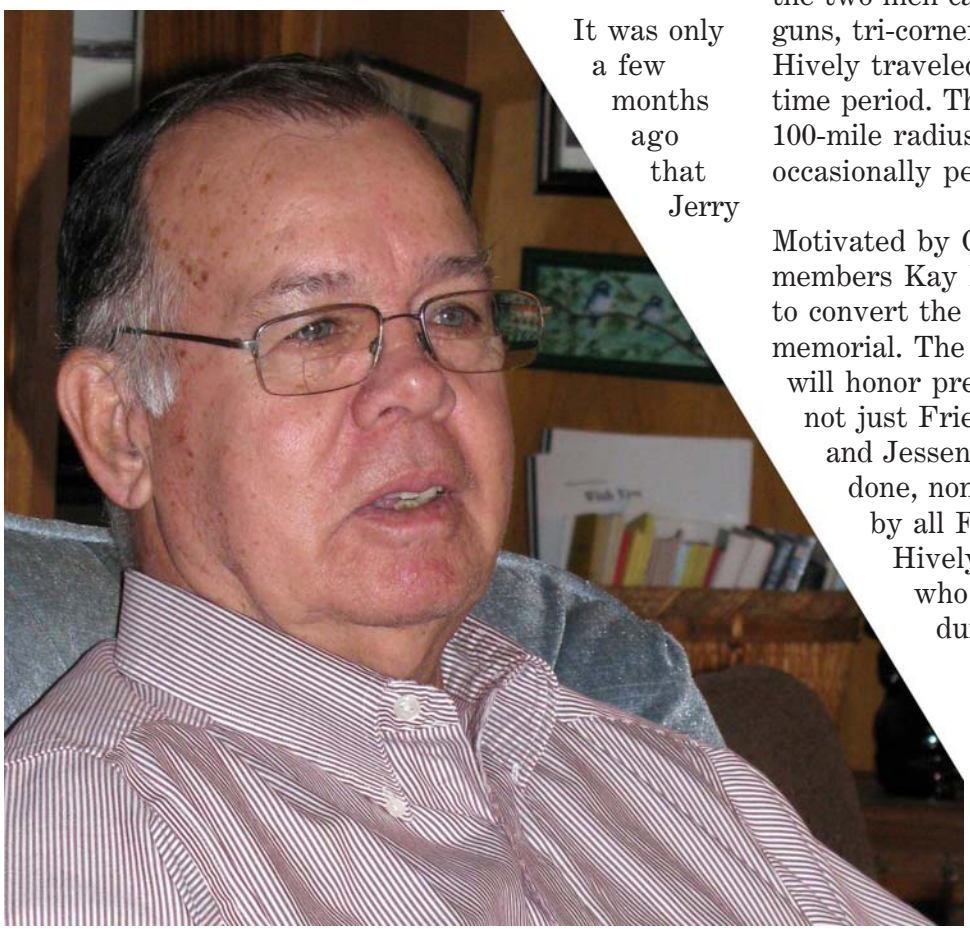
Past President of Neosho NFH Friends Group Will Be Missed

BY MELISSA CHEUNG, NEOSHO NFH

On the morning of March 7th, Jerry Christian, former president of the *Friends of the Neosho National Fish Hatchery*, passed away. Christian was more than just a long-time Friends group member, Master Gardener and retired science teacher. A man who understood the meaning of giving back, Christian was involved in countless aspects of community life. His sudden departure is a huge loss to Neosho. Please visit the Neosho National Fish Hatchery (NFH) blog to read more about his impact on the community at: http://www.neoshonfh.blogspot.com/.



-Neosho Daily News

The 2010 *Friends of the Neosho National Fish Hatchery* President Jerry Christian.

It was only a few months ago that Jerry Christian commemorated the grand opening of the hatchery's new visitor center. As the 2010 president of the *Friends of the Neosho National Fish Hatchery*, Christian advocated for the hatchery and its Friends group. Being a member of the National Fisheries Friends Partnership board was just one of the ways that he helped others. The partnership's main goal is to help other facilities form new friends groups and to encourage existing friends groups in their endeavors. As a Master Gardener, Christian landscaped and maintained the hatchery flowerboxes, in addition to his many other community activities.

Christian worked with Friends group member Russell Hively to portray Lewis and Clark before schools, civic clubs, garden clubs and anyone with an interest. Acting the part somewhere between 150-200 times, the two men came equipped in full costume including guns, tri-corner hats and leggings. Christian and Hively traveled around the country over a four-year time period. They covered all of the schools within a 100-mile radius. Although mostly together, they occasionally performed their roles separately.

Motivated by Christian's passing, Friends group members Kay Hively and Denise Jessen are planning to convert the hatchery's old display room into a memorial. The room, once the project is completed, will honor previous supporters of the fish hatchery, not just Friends group members. Although Hively and Jessen are still brainstorming how this will be done, nominees to be recognized will be voted on by all Friends group members. As an example, Hively recalled Gene Taylor, a congressman who showed support for the fish hatchery during the 1970s.

With a bit of elbow grease and some creativity, Jessen and Hively's goal for the room will be to showcase the old hatchery as it used to be. They plan to assess what historic artifacts can be added or removed. Hively's husband, Russell, restored a bookshelf that was original in a hatchery superintendent's house from the late 1800s. This find, along with past photos and artwork that exhibit the original character of the historic hatchery, will be displayed in the room.

Jerry would certainly be proud to have his life remembered in this way.

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

Status of Lake Trout Rehabilitation in Lake Michigan

BY TED TRESKA, GREEN BAY FWCO

At the 2011 Lake Committee Meetings in Ypsilanti, Michigan, Green Bay Fish and Wildlife Conservation Office (FWCO) biologist Ted Treska presented on the status of lake trout rehabilitation efforts in Lake Michigan to an audience of managers and researchers from around the Great Lakes. While native lake trout have been rehabilitated in Lake Superior and are increasingly abundant in Lake Huron, they remain elusive in Lake Michigan, likely due to a number of factors.

-USFWS/JimWebster

(Left to Right) Green Bay Fish and Wildlife Conservation Office biologists Dale Hanson and Ted Treska pick lake trout from a gillnet fished in Lake Michigan while Allen Lane records data.

While spring survey results in many of the management areas in the lake had recently been showing slight increases in abundances of lake trout, 2010 survey results indicated sharp declines in many areas. Factors likely leading to this trend include poor lake trout egg survival due to a lack of thiamin in lake trout eggs caused by consumption of non-native alewife, increased lamprey predation on lake trout, commercial exploitation, and insufficient spawner densities to sustain natural reproduction. In response to the above factors, the following management actions have been initiated in an attempt to minimize the negative impacts on lake trout numbers.

Since the late 1990's, the Fish and Wildlife Service's (Service) stocking rates for yearling lake trout have increased over 30% to 2.9 million yearlings in 2010. To further increase the probability of survival, more of these fish are being stocked offshore into areas of the lake that are protected from fishing and contain abundant spawning habitat, namely the Northern and Mid-lake refuges. Service hatcheries are also developing two additional strains of lake trout for stocking by 2013: the "humper" strain that originates from deeper water areas of Lake Superior and the Parry Sound strain which is native to the Parry Sound area of eastern Lake Huron. These strains perform well in their native range and biologists expect these deeper water inhabitants will be less susceptible to lamprey predation and colonize reefs that are underutilized by the lean strains that are currently stocked.

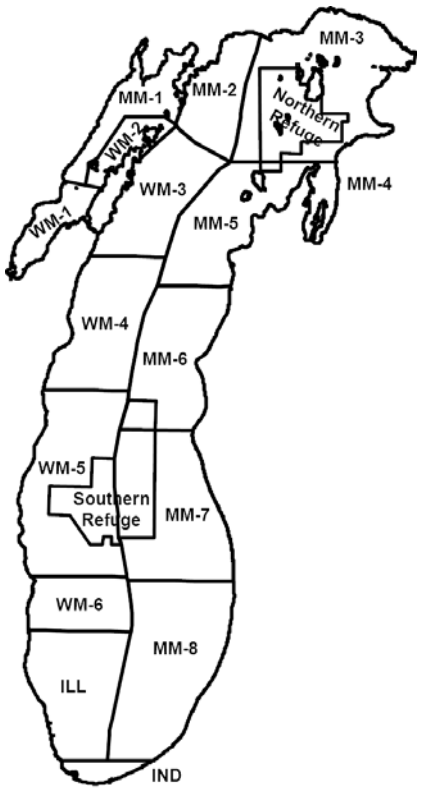
The Service has also addressed the elevated lamprey predation that has been indicated in the lake trout data collected by the member agencies and tribes of the Lake Trout Working Group (LTWG). Recently, a large area of lamprey spawning habitat was identified in the Manistique River leading to consecutive years of targeted lampricide application in an attempt to reduce the number of juvenile lamprey and the subsequent high lamprey wounding that has been observed on lake trout in the northern part of the lake. This effort by the Service's sea lamprey control program is in addition to the multiple lampricide treatments and lamprey trapping efforts that occur around the lake.

Within the 1836 treaty waters, the Chippewa Ottawa Resources Authority is testing the conversion to legged gill nets fished for whitefish. The goal is to allow bottom-dwelling lake trout to swim under the nets set to catch whitefish and achieve a reduction in the number of lake trout caught incidentally.

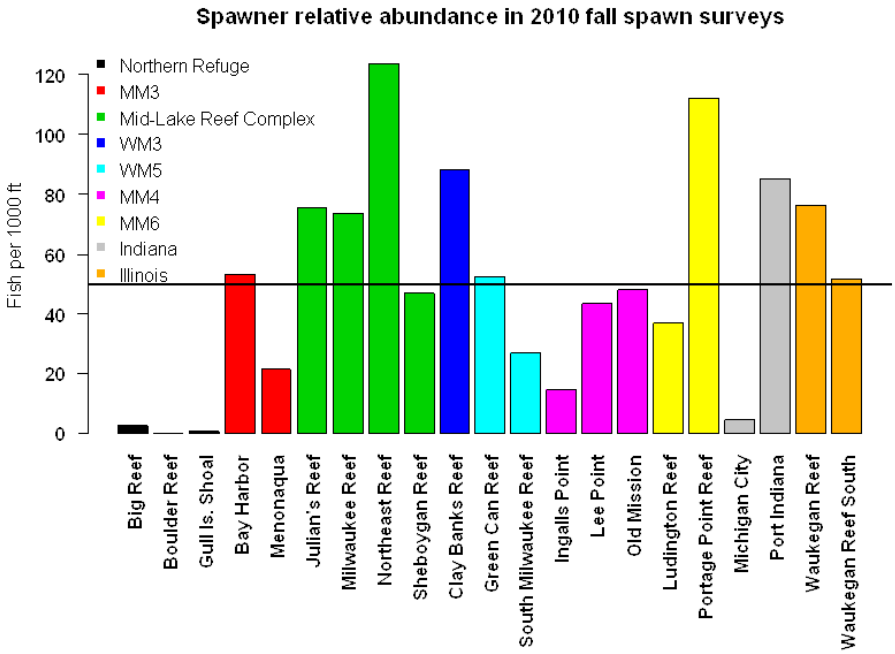
With the further development of the mass marking program and the subsequent coded-wire tagging of all lake trout stocked into the lake, biologists will know the exact age, strain and stocking location of individual trout stocked after 2009. With this information, the LTWG will be able to examine to the extent of possible, natural reproduction in addition to determining the survival of specific strains and stocking locations when these fish start to be caught in survey, commercial and recreational gears.

In many areas of the lake, the levels of adult spawners, younger age classes, and successful reproduction are less than hoped. Of the goals set forth in the 2008 "Guide for the Rehabilitation of Lake Trout in Lake Michigan", only the southern waters of the lake are achieving target levels for the goals of overall spawner abundance (50 per 1000' of gillnet), while all units in the lake are below the overall population goals of 25 fish per 1000' in spring gillnet surveys. Populations in the southern part of the lake are showing a greater age range with fish over 20 years old collected, while the northern part of the lake is comprised mainly of younger fish, with many locations reporting few if any fish over 10 years old. This is likely due to the much higher lamprey predation in the northern part of the lake and propensity of lamprey to target larger trout. While the lake-wide abundance of mature lake trout remains low, there is optimism that lake trout eggs and newly hatched larvae may now be surviving; whereas, in the recent past, these eggs were deficient in thiamine and did not contribute to natural reproduction. Alewives, which are high in a thiamine-depleting enzyme, have been declining in the lake, and lake trout are now consuming a more diverse diet. These trends correspond with increased egg thiamine levels, as since 2008, eggs have exceeded the minimum required threshold of 4 nmol/g needed for normal juvenile development. Limited egg collection sampling done by the Michigan Department of Natural Resources on spawning reefs in the northern part of the lake show egg densities to be far below the goal of 500 per square meter.

This summary of lake trout rehabilitation was the result of the "State of the Lake" report that is produced by the member agencies and organizations of the Lake Michigan Committee every five years, with data being contributed by members' representatives on the Lake Trout Working Group. Without the contributions and support of these numerous state, federal and tribal entities, this update on lake trout rehabilitation would not be possible.



Map of Lake Michigan with management units and refuges.



Spawner abundance values (number of fish per 1000' of gillnet) from fall spawning surveys in various locations around the lake. Colors represent different management units and refuges.

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

Love is in the Water at Genoa NFH

BY JENNY BAILEY, GENOA NFH

Genoa National Fish Hatchery's (NFH) staff and volunteers prepare for spring by harvesting captive brood fish from overwintering ponds and stocking them into spring brooding ponds to spawn. Over 900 fish of 6 species (largemouth bass, smallmouth bass, yellow perch, black crappie, bluegill and channel catfish) were paired up and stocked into brooding ponds to meet station production needs. Largemouth and smallmouth bass and channel catfish are an integral part of the station's efforts to produce freshwater mussels for restoration in the upper Mississippi watershed. They act as hosts for larval freshwater mussels during the larval stage of the mussel life cycle. Bass and catfish as well as crappie, bluegill and perch also help in providing sport and recreational fishing opportunities for Boy Scouts, veterans, Native American tribes, Army installations, National Wildlife Refuges, and state partners.

This year, the staff had help with harvest from Ken Visger, Chuck Chihak and Lloyd Lorenz of the *Friends of the Upper Mississippi Fishery Services* (FUMFS) and Al Hammes of Stoddard, Wisconsin. Each year, brood minnows must be separated from smaller forage minnows. The larger fish are stocked into a brooding pond where they will produce forage food (fingerling fathead minnows) for the walleye and bass species that are raised in the hatchery's production ponds. Smaller minnows are then stocked into production ponds to become quick and tasty treats for young bass fingerlings.

In addition to main stage production species are some novel mussel host species at Genoa NFH. Over 100 captive wild golden shiners will be stocked this month into a brooding pond to produce small fish to be used as sheepnose mussel host fish, and 140 adult mudpuppies (the cute yet ferocious salamander species) were paired up and stocked into their own breeding pond. Station manager Doug Aloisi hopes that Genoa will be the first NFH to successfully breed this salamander mussel host in captivity. If breeding is successful this year, it could significantly enhance restoration efforts for the threatened salamander mussel in Wisconsin.

Managing nine separate brood stocks to produce quality fingerlings for many different programs is no easy undertaking. Fish must receive the best food, care and handling throughout their life cycle to ensure the highest quality eggs, fry and fingerlings. Wild fish are captured from disease-free waters every five years to supplement existing brood stocks and introduce new genetics to stocks. After many years of hard work as a brood fish, fish must be retired from the stock. This year, 58 largemouth and smallmouth bass were retired to the Dairyland Power fishing pond. This pond was designated in 2008 as a fishing pond for people with limited mobility. A fishing pier provided by Dairyland Power of La Crosse, Wisconsin, helps make this pond accessible for recreational fishing to local groups with limited access to fishing opportunities and local nursing homes.

-USFWS

Two of the captive brood stock cultured at the Genoa National Fish Hatchery include bluegill (left) and yellow perch (right).

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

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.

Region 3 Mass Marking Program Update Presented at the Lake Committee Meetings

BY CHARLES BRONTE, GREEN BAY FWCO

Charles Bronte of the Green Bay Fish and Wildlife Conservation Office (FWCO) and coordinator of the Great Lakes Mass (Fish) Marking Program gave an update of activities from 2010 and those proposed for 2011 at the Plenary Session of the annual Lake Committee meetings of the Great Lakes Fishery Commission in Ypsilanti, Michigan, on March 23. This invited presentation detailed the first year's (2010) activities of the mass marking program that resulted in more than 5.3 million fish being coded-wire tagged at both federal and state fish hatcheries including 4.7 million lake trout and 1.1 million Chinook salmon. The program also supported New York Department of Environmental Conservation efforts to tag all Chinook salmon stocked into Lake Ontario and assisted with tag recoveries and data extractions.

The program will allow staff to coded-wire tag 4.8 million Chinook salmon at eight state hatcheries in Michigan, Illinois, Indiana and Wisconsin this spring and have this task completed by early May. Beginning in August, about 4.6 million lake trout at three federal hatcheries will also receive coded-wire tags and fin clips to study rates of natural reproduction, relative survival, and movement among various strains and other experimental groups. Assistance to tag an additional 1 million lake trout raised by Region 5 for lakes Erie and Ontario will also be attempted as will further assistance to New York's program.

The use of coded-wire tags (combined with adipose clips) in hatchery fish assists in determining relative survival, the efficacy of stocked fish to restore native species, the ability to limit harvest of wild fish (unmarked), and leads to improve hatchery operations.

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

A Chance to Mix and Mingle With the Mussel Experts

BY ROB SIMMONDS, CARTERVILLE FWCO

That is the best way to describe the recent American Fisheries Society – North Central Division Rivers and Rivers and Streams Technical Committee meeting (maybe a bit better would be to change mussel to "fish and mussel" as we had plenty of both expertises at the meeting). This was another opportunity for Carterville Fish and Wildlife Conservation Office (FWCO) Project Leader Rob Simmonds to present and get input on the latest on fish habitat assessments being completed for the Ohio River Basin Fish Habitat Partnership (ORBFHP) and other Fish Habitat Partnerships (FHP) in the Midwest, particularly given the dual focus of fish and mussels for the ORBFHP. The feedback and connections made were very helpful, and it won't be long before results from the basin wide habitat assessments start to roll in. Those assessments will help to inform and focus efforts of Midwest FHPs. They will hopefully help our efforts to be more effective and to get more partners to work together to make a difference for aquatic habitat.

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

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.

Lake Trout Distribution Begins early at Jordan River NFH

BY WAYNE TALO, JORDAN RIVER NFH

The spring 2011 distribution season got an early start, in anticipation of potential government shutdowns and employee furloughs. Springtime releases usually do not begin until early April. This scheduling reduces the chances of driving a very expensive fish truck, carrying thousands of fish that we have invested more than a year's worth of feed and labor into, on dangerous snow- and ice-covered roads. This also allows more time for warmer temperatures to melt the ice off the Great Lake harbors, and for weight restrictions (the seasonal banning of heavy vehicles from county roads) to be lifted.

-USFWS

Lake trout are stocked from shore at a Lake Michigan stie.

The weather was kind to us. All the roads were clear and dry, and the places scheduled for stocking had open water. We also applied for and received an exemption from Antrim County, Michigan, to drive our fish distribution truck on seasonally closed roads.

The releases took place on March 14, 15, and 16 at Michigan City, Indiana; Ludington, Michigan; and Manistee, Michigan, respectively. These releases were done from shore, as opposed to offshore plants via the Fish and Wildlife Service's stocking and fisheries assessment vessel, the *M/V Spencer F. Baird*. The total number released over all three sites was 125,534 fish at an average length of approximately 5.35 inches.

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

Lake Sturgeon Streamside Rearing Unit is Completed and Deployed

BY DOUG ALOISI, GENOA NFH

An exciting day occurred at the Genoa National Fish Hatchery (NFH) at the end of March when the Genoa maintenance staff completed all of the life support systems for the lake sturgeon streamside rearing unit.

Then came the big moment - when the trailer was wheeled off and hauled over to the Kalamazoo River site in Michigan by the Genoa NFH staff. The unit was placed on a river site location prepared by the Michigan Department of Natural Resources (DNR). Electrical power and a shallow groundwater well were connected to serve as a clean water source for the trailer. The well water will cool the river water once the summer sun warms the Kalamazoo River to temperatures that approach the upper limits of the lake sturgeons' optimal environmental temperature. This method will help to ensure that the lake sturgeon inside the trailer will be in good condition when they are released as 8-10 inch fall fingerlings this coming September.

Lake sturgeon larval survival is low in the wild due to the many predators that enjoy an egg and fry meal at the expense of the spawning sturgeon. Normal survival through the first year of life is typically less than 1%. In populations where adult spawning populations have been depressed due to overharvest, water pollution and habitat destruction, sturgeon egg deposits often do not have the critical mass in numbers to overcome all of the pressures that predation and habitat loss can place on them. Streamside rearing units should help control some of these predatory pressures - protecting the sturgeon until they are large enough to avoid most predators.

The streamside rearing unit also makes use of water which is from the sturgeon's birth or "natal" river. Use of the river water allows sturgeon to

locate their home stream (in this case the Kalamazoo) when they are old enough to reproduce, some 15-20 years later. This "homing" response is thought to be formed at a young age, while the fish are still living in their birth streams. If the fish are successfully reared in the trailers using river water during the development of this homing response, it is expected that they will return to the very same river to continue their legacy to the next generation.

As of this writing, egg traps are being deployed by the Michigan DNR, Green Bay Fish and Wildlife Conservation Office, Genoa NFH and our other tribal and "Sturgeon for Tomorrow" partners. The traps are being placed in hopes of capturing eggs and fry to culture within the trailer throughout the spring and summer months. Lake sturgeon have been reported moving up the river from Lake Michigan in their trip home to spawn. As temperatures in the river begin to exceed 50 degrees Fahrenheit, we hope to begin seeing sturgeon spawning behavior and soon after that, to observe eggs on our carefully placed traps.

-USFWS

The streamside rearing unit, built by Genoa National Fish Hatchery staff, will be used at the Kalamazoo River, Michigan, this year to rear lake sturgeon eggs and fry captured from the river.

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

Annual Fish Health Inspections

BY SARAH BAUER, LA CROSSE FHC

La Crosse Fish Health Center (FHC) provides fish health inspections to six national fish hatcheries in the Midwest Region. In March, several staff members of the La Crosse FHC traveled to Pendills Creek National Fish Hatchery (NFH), Sullivan Creek NFH, Jordan River NFH and Genoa NFH for their annual spring fish health inspections. The inspections are important part of hatchery production, by ensuring hatchery fish are disease free prior to transportation and stocking in the wild.

At each hatchery, all species and year classes of fish were examined for certifiable pathogens. These pathogens are: *Yersinia ruckeri*, *Edwardsii ictaluri*, *Renibacterium salmoninarum*, *Aeromonas salmonicida*, Infectious Pancreatic Necrosis Virus (IPNV), Infectious Hematopoietic Necrosis Virus, Viral Hemorrhagic Septicemia Virus (VHSV), Spring Viremia of Carp Virus (SVCV), Largemouth Bass Virus (LMBV), and *Myxobolus cerebralis*. These bacterial, viral and parasitic pathogens are a concern to fish health biologists and hatchery managers due to their economic and environmental impacts, as well as, their ability to cause high mortality events in hatchery settings.

Fish health inspections at the hatcheries take place twice a year, with the hatcheries water supplies tested at least once a year. These inspections are a critical aspect of fish health management and hatchery production.

-USFWS

Eric Leis and Sarah Bauer of the La Crosse Fish Health Center take tissue samples from fish at the Pendill's Creek National Fish Hatchery.

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

Asian Carp Watch

BY NICK BLOOMFIELD, LA CROSSE FWCO

On April 4th I met Brad Rogers and Jeff Stewart from the Carterville Fish and Wildlife Conservation Office (FWCO) in Chicago, Illinois. Our goal that week was to electrofish at five fixed-sites located between the electrical fish barriers and Lake Michigan in the Chicago Area Waterways. These locations are searched every other week for Asian carps that may have breached the barriers. The Fish and Wildlife Service, Illinois Department of Natural Resources, and U.S. Army Corps of Engineers provide the resources necessary for this surveillance. While we found no Asian carps, other aquatic invasive species were noted including large numbers of round goby and an oriental weatherfish (my first). Native species including largemouth bass, walleye and bluegill were also observed.

The trip was completed without major hiccups and was a success. The mostly pleasant spring weather was also a nice change of pace from a dreary winter spent in the office. The La Crosse FWCO will continue to provide support for Asian carp issues throughout the year.

Aquatic Invasive Species

Aquatic invasive species are one of the most significant threats to fish and wildlife and their habitats. Local and regional economies are severely affected with control costs exceeding $123 billion annually. The Fisheries Program has focused its efforts on preventing introductions of new aquatic invasive species, detecting and monitoring new and established invasives, controlling established invasives, providing coordination and technical assistance to organizations that respond to invasive species problems, and developing comprehensive, integrated plans to fight aquatic invasive species.

-USFWS

The Chicago skyline has become a familiar scene for Fish and Wildlife Conservation Office crews during invasive Asian carps surveillance efforts.

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

Fish Go To School

BY NIK GRUENEIS, IRON RIVER NFH

Mrs. Pearson's 3rd grade class at Northwestern Elementary School in Poplar, Wisconsin, had some new faces in class this February. The students had been learning about water quality and fish. Biologist Nikolas Grueneis from the Iron River National Fish Hatchery (NFH) was asked to give a presentation about the hatchery. Nik brought live specimens from all life stages into the classroom for the students to view. The class was able to pass around and take a good look at live eggs, sac fry, fingerlings and yearling fish. The life cycle of trout and fish physiology was explained. The importance of good water quality, the history of Great Lakes restoration and the Fish and Wildlife Service's part in it were discussed, along with the water cycle and watersheds of the United States. The class had a lot of excellent questions and the highlight of the visit was meeting their new fishy friends.

-USFWS

Northwestern Elementary School students learned about water quality and fish from biologist Nikolas Grueneis of the Iron River National Fish Hatchery.

As the population in the United States continues to grow, the potential for adverse impacts on aquatic resources, including habitat will increase. At the same time, demands for responsible, quality recreational fishing experiences will also increase. The Service has a long tradition of providing opportunities for public enjoyment of aquatic resources through recreational fishing, habitat restoration, and education programs and through mitigating impacts of Federal water projects. The Service also recognizes that some aquatic habitats have been irreversibly altered by human activity (i.e. - dam building). To compensate for these significant changes in habitat and lost fishing opportunities, managers often introduce non-native species when native species can no longer survive in the altered habitat.

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

A Visit with Local Staff Assistants for Senator Kohl and Congressman Kind

BY BECKY LASEE, LA CROSSE FHC

Fisheries Project Leaders Doug Aloisi of the Genoa National Fish Hatchery, Pam Thiel of the La Crosse Fish and Wildlife Conservation Office (FWCO), and Becky Lasee of the La Crosse Fish Health Center met with Senator Herb Kohl's staff assistant John Medinger and Congressman Ron Kind's staff assistant Karrie Jackelen in their downtown La Crosse offices. Topics discussed included economic value of hatcheries, Asian carp and eDNA testing, baitfish pathogens, outreach and much more. These meetings are held annually with current congressional representatives and senators to keep them informed about the role the fisheries offices play in the preservation, education of the public and monitoring population, and disease status of the aquatic resources.

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

Boots on the Ground at Neosho NFH

BY KAY HIVELY, *FRIENDS OF THE NEOSHO NFH*

The Neosho National Fish Hatchery (NFH) may have an important role in the far-away and war-torn country of Afghanistan.

On Monday April 18th, eleven members of the Missouri National Guard came to the hatchery for a tour. These eleven men, along with a support team, will deploy to Afghanistan in June. Their mission there is to work in agriculture to help local farmers and other producers be better able to feed themselves and their neighbors - And they may be called upon to establish a fish hatchery.

This group of soldiers call themselves the Agribusiness Development Team #5 (AD#5) because they are the fifth team from Missouri to go to Afghanistan to help local farmers and people with agriculture related business. The first team went to Afghanistan in 2008.

Agribusiness teams of the past have a history of doing such things as working directly with farmers; digging wells and canals for irrigation; and even building a slaughter house and a flour mill.

Prior to their deployment, AD#5 members are training for the work they will face. They have partnered with the University of Missouri and with Purdue University in Indiana for agriculture training. Each member of the team is already well schooled. They were chosen for this mission because they are involved in agriculture. Team members have agricultural degrees, are agriculture teachers, or are farmers and ranchers. This training is their greatest asset, because they will face some of the problems they have at home.

Because of their partnership with universities and with the Neosho NFH, they will be able to contact a partner back home when they run into a problem they can't solve. Even though they are half a world away, they will be able to get help from their partners back in the United States.

All members of the team are excited about their duty. One of the biggest jobs they will face is helping form an Afghanistan Extension Service, much like the extension service in the United States. While the men will be involved in many projects, they are there only to coach the people, the service itself will be an Afghan government program.

All members of the team are veterans who have been deployed overseas at least one time, and some have deployed several times in several places.

At the Neosho NFH, they were given a tour of the facility. Assistant manager Rod May led the tour and answered many basic questions about raising fish, the quality of water, and solving problems that show up in a fish hatchery.

As one member of the team stated, the people and cattle in the area where they will be deployed are basically on the verge of starvation. These agribusiness teams from the Missouri National Guard have only one mission: helping the people feed themselves and their livestock.

If the men get involved in a fish hatchery as they hope to, fish will be an important part of the Afghan diet.

Since the Neosho NFH is the oldest operating federal hatchery in the United States, it's ironic that the staff may be helping established a fish hatchery in Afghanistan. The Neosho staff is prepared to help these brave and excited soldiers in any way possible with an important job.

-Kay Hively

Members of the Missouri National Guard Agribusiness Development Team receive a tour of the Neosho National Fish Hatchery from Roderick May.

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

Hatchery Shows Off at the Sports Show

BY NIK GRUENEIS, IRON RIVER NFH

Iron River National Fish Hatchery (NFH) participated in the Douglas County Fish and Game League Sports Show in March. The event, hosted by the Douglas County Fish and Game League, draws thousands of visitors every year. Vendors from across the region annually gather in the Wessman Arena, located in Superior, Wisconsin, to sell their goods, promote their products and advertise their mission.

-USFWS

Children are facinated by the live trout at the Douglas County Fish and Game League Sports Show.

Because of the high turnout to the event each year, the hatchery is able to disseminate information about the federal hatchery system, national fisheries issues, stocking information, and employment opportunities with the Fish and Wildlife Service to a wide range of interested individuals. Hatchery staff set up and manned a booth throughout the three day event. Informative brochures, fish mounts and outreach materials for children (including pencils, crayons, stickers, rulers and fish tattoos) were available. An aquarium and chiller with adult coaster brook trout and yearling lake trout were also featured. Staff was kept busy answering questions about the hatchery.

Booths ranged from a variety of sporting goods and food vendors, to a kid's fishing pond and a Wild West show. Other government agencies including the Wisconsin and Minnesota Departments of Natural Resources were also represented. This is a great event for the hatchery to promote its mission.

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

Northland College Field Trip

BY NIK GRUENEIS, IRON RIVER NFH

On March 17th, Northland College Professor of Biology Andy Goyke brought 22 students from his ichthyology class for an in-depth tour of the Iron River National Fish Hatchery (NFH). The professor's goals were to expose the students to a real world career that directly applies fisheries science and gives the students a chance to view fish that weren't preserved in formalin. The class was given the deluxe tour of the facility and its operations. Staff discussed the hatchery's mission as well as career opportunities with the Fish and Wildlife Service.

-USFWS

The Northland College ichthyology class toured the Iron River National Fish Hatchery and received personal exposure to fish culture.

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

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.

Fatty Acid Signatures and Food web Patterns to be Published for Lake Michigan Forage Species

BY DALE HANSON, GREEN BAY FWCO

Biologist Dale Hanson of the Green Bay Fish and Wildlife Conservation Office (FWCO) has collaborated with a team of other federal and university researchers to evaluate the use of fatty acid signatures to assess food web patterns in Lake Michigan. Fatty acids perform key functions in all organisms; fish are unable to make several important fatty acids themselves and therefore these "essential" fatty acids must be derived from their diet. Therefore, it is possible to infer diet based on a fish's fatty acid signature, provided that the potential prey species eaten by the fish contain unique signatures.

As a first step, the team assembled a fatty acid signature "library" containing over 1,300 samples from common forage fish species and invertebrates. Analysis of this library shows that there is substantial variation between forage fish and invertebrates that can potentially be used to help infer predator diets. This work was recently accepted for publication in the "Canadian Journal of Fisheries and Aquatic Sciences" and lays the groundwork for new approaches to evaluate diet among Great Lakes predators such as lake trout. Importantly, it will provide insight in examining the relationship between diet and thiamine deficiency complex, a diet-derived condition which has historically limited natural reproduction among Lake Michigan lake trout populations.

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

Reintroduction of Deep-water Cisco in Lake Ontario

BY TED TRESKA, GREEN BAY FWCO

Green Bay Fish and Wildlife Conservation Office (FWCO) staff members Lindsey Lesmeister, Ted Eggebraaten and Ted Treska accompanied commercial chub fishermen on three trips in February to collect gametes in Lake Michigan, as part of a project to reintroduce bloaters into Lake Ontario. The eggs were collected to assist the New York Department of Environmental Conservation (DEC) and the Lake Ontario Committee in their effort to reintroduce deep-water ciscoes, commonly known as bloater or chubs, into Lake Ontario. The establishment of a viable population of bloaters in Lake Ontario will restore a native species and provide another native source of deep-water forage for the recovering lake trout population.

At 4:30 a.m., the crew set out from the ice covered Milwaukee harbor, breaking through ice up to 1 foot thick in the harbor and slicing through sheet ice on their way to gillnets set in 330-400 feet of water, 30 miles offshore. The commercial boat crew sorted the ripe male and female bloaters as they picked them out of the net and the fish were then taken to the back of the boat for egg collection. Service staff fertilized the eggs according to the protocol developed by the New York DEC and reviewed by Iron River National Fish Hatchery manager Dale Bast. Spawning eggs was not an easy task on a chub boat rolling up to 30 degrees from horizontal, and special effort must be taken when trying to decant the eggs.

Efforts from last year proved that shipping gametes separately (unfertilized eggs and milt) and shipping whole dead fish did not produce viable gametes. When the boat returned to the dock that afternoon, the fertilized eggs were packed into coolers and shipped overnight to the New York office in Cape Vincent on the northeast shore of Lake Ontario. In all, over three liters of fertilized eggs were collected from the over ten miles of gillnet set to target the bloaters. Initial examinations of the incubating eggs show that there have been issues with embryo development in the first batch, but staff is optimistic for the rest of the eggs.

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

Cloquet River Watershed Restoration Project: Us-Kab-Wan-Ka River

BY PAM DRYER, ASHLAND FWCO

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.

The Arrowhead Fly Fishers (AFF) club has been planting trees in the riparian zone of the Us-Kab-Wan-Ka River River to provide shade for fish and to stabilize the bank. The Us-Kab-Wan-Ka River is a 22 mile long tributary that flows into the Cloquet River which then flows into the St. Louis River and on to Lake Superior at Duluth, Minnesota. This project will help provide a better spawning environment for Cloquet River brown trout and also provide a better habitat for the existing brook trout population in the Us-Kab-Wan-Ka River.

-Arrowhead Fly Fishers photos

(Top) Jerry Ackers, Arrowhead Fly Fishers (AFF) member and organizer, stands next to a tamarack planted in 2009. (Right) An AFF member and an Eagle Scout candidate stand next to a cedar planted in 2010 that was enclosed with fencing to prevent deer browse.

The Fish and Wildlife Service provided $12,000 in Fish Habitat Restoration Funds to AFF to assist with their restoration efforts. The funding allowed them to plant 272 white spruce, 66 tamarack and 74 green ash trees along the Us-Kab-Wan-Ka River. They also planted 310 white cedar trees and enclosed each tree with six feet high welded wire fencing. These plantings covered about five miles of the river. A survey of the river identified 13 beaver dams. Four active dams were identified and a trapper was used to trap five beaver. Three of the dams were removed. In the past, the AFF had to avoid planting tree types that were highly desired by browsing mammals. The expense of fencing materials prohibited such a project.

There were sections of the Us-Kab-Wan-Ka River that the Wisconsin Department of Natural Resources recommended be planted with white cedar. The funding that was provided through this grant made it possible to plant white cedar. This project also made it possible for two Eagle Scout candidates to engage in worthwhile restoration projects. Other scouts and parents contributed time and effort. Lastly, members of the AFF provided many hours of help with all aspects of the project. The funds provided by the Fish and Wildlife Service helped make this project possible.

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

How can we Effectively Fund Aquatic Habitat Programs in the Midwest?

BY ROB SIMMONDS, CARTERVILLE FWCO

Focus on aquatic habitat has certainly increased in recent years, with some new programs coming on line (e.g., NFHAP – National Fish Habitat Action Plan) and others that have been around a while (e.g., NFPP – National Fish Passage Program). With new efforts come new opportunities. But what also comes along is a need to figure out how best to integrate the programs and the funding associated with each. Integration of funding was the focus of a recent meeting of Fish and Wildlife Conservation Office (FWCO) Project Leaders and Regional Office staff from the Midwest Region.

The meeting gave us a chance to try to come to consensus on recommendations identified by the Funding Allocation Team that had been working since our larger habitat meeting in January. We also discussed past, current and future budgets for the habitat program and discussed salary and operations needs to support current permanent and temporary habitat staff and operations. Finally, we worked to identify the most efficient habitat budget allocation methodology and discussed budget needs for the future.

This meeting provided a needed forum for frank discussion and a look forward. While not every challenge was fully addressed, we did make forward progress, that when built upon, will lead to a solid aquatic habitat program in the Midwest Region.

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

Ohio River Basin Alliance working closely with Ohio River Basin FHP and other Partners.

BY ROB SIMMONDS, CARTERVILLE FWCO

Carterville Fish and Wildlife Conservation Office (FWCO) Project Leader Rob Simmonds presented the latest on fish habitat assessments being completed for the Ohio River Basin Fish Habitat Partnership (FHP) and other FHP's in the Midwest. This was one of a handful of presentations at a recent Ohio River Basin Alliance meeting, designed to inform and integrate various activities in the Ohio River basin. The Alliance, a group just a couple years in the making, "Is a collaboration of over 70 partner agencies, groups and associations that includes state, local and federal governments, non-profit entities and NGO's, industrial partners and academic institutions that voluntarily work together to discuss their collective interest in the future of water resources in the Ohio River basin." It is a great platform to help launch the ideas and strategies of the Ohio River Basin FHP, and a great connection to other partners (e.g., local/regional governments, industry). The Alliance will hopefully be a key group to help elevate the profile of the Ohio River basin and help to bring additional financial resources to the basin. More information about the Alliance can be found at www.ohioriverbasin.org.

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

Volunteer of the Year

BY SARAH BAUER, LA CROSSE FHC

Volunteers are critical to operations in the Fisheries program of the Fish and Wildlife Service. Volunteers assist with many daily functions like making bacteriological media and data entry, as well as seasonal outreach events such as ice fishing. In March, the La Crosse Fish and Wildlife Conservation Office (FWCO) held their annual volunteer recognition dinner. Genoa National Fish Hatchery and La Crosse Fish Health Center (FHC) also participated in the dinner by recognizing their volunteers.

-USFWS

Nancy North was named the "2010 FWCO Volunteer of the Year" at the annual volunteer recognition dinner sponsored by the La Crosse Fish and Willdife Conservation Office.

This year, the volunteer of the year award was a tight race between three valuable volunteers at the La Crosse FHC. Robert Knauber, a Holmen High School senior, volunteered three hours every week in the bacteriology and parasitology labs for three months. Rob made bacteriology media and necropsied lake herring for parasites. Diane Waller, a biology teacher at Western Technical College, volunteered sporadically in the PCR and parasitology labs. Additionally, she has developed PCR labs and parasitology labs for her general biology and zoology classes with hands on demonstrations provided by FHC staff. And last, our "Volunteer of the Year" Curtis Slagel, a recent University of Wisconsin-La Crosse biology graduate, volunteered 25 hours a week at La Crosse FHC while working a full-time job. Curtis helped in the bacteriology lab by processing samples, making media and ensuring the bacteriology lab was clean and orderly. Curtis also assisted in dispensing various reagents for other labs.

The La Crosse FHC would like to thank all of our past and present volunteers for your time and assistance, your dedication is a very valuable asset to daily operations at the La Crosse FHC.

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 La Crosse FWCO: http://www.fws.gov/midwest/lacrossefisheries/

Congressional Actions

S. 52 (is) To establish uniform administrative and enforcement procedures and penalties for the enforcement of the High Seas Driftnet Fishing Moratorium Protection Act and similar statutes, and for...

S. 651 (is) To require the Secretary of the Interior to convey the McKinney Lake National Fish Hatchery to the State of North Carolina, and for other purposes. [Introduced in Senate]

H.R. 1160 (ih) To require the Secretary of the Interior to convey the McKinney Lake National Fish Hatchery to the State of North Carolina, and for other purposes. [Introduced in House]

H.Con.Res. 15 (ih) Expressing the sense of the Congress that the United States Fish and Wildlife Service should incorporate consideration of global warming and sea-level rise into the comprehensive conservation plans for coastal national wildlife refuges, and for other purposes. [Introduced in House]

S. 632 (is) To amend the Magnuson-Stevens Fishery Conservation and Management Act to extend the authorized period for rebuilding of certain overfished fisheries, and for other purposes. [Introduced in Senate]

H.R. 521 (ih) To amend the Federal Food, Drug, and Cosmetic Act to prevent the approval of genetically engineered fish. [Introduced in House]

S. 230 (is) To amend the Federal Food, Drug, and Cosmetic Act to prevent the approval of genetically-engineered fish. [Introduced in Senate]

H.R. 520 (ih) To amend the Federal Food, Drug, and Cosmetic Act to require labeling of genetically engineered fish. [Introduced in House]

H.R. 1646 (ih) To amend the Magnuson-Stevens Fishery Conservation and Management Act to preserve jobs and coastal communities through transparency and accountability in fishery management, and for other purposes. [Introduced in House]

S. 229 (is) To amend the Federal Food, Drug, and Cosmetic Act to require labeling of genetically engineered fish. [Introduced in Senate]

S. 471 (is) To require the Secretary of the Army to study the feasibility of the hydrological separation of the Great Lakes and Mississippi River Basins. [Introduced in Senate]

H.R. 892 (ih) To require the Secretary of the Army to study the feasibility of the hydrological separation of the Great Lakes and Mississippi River Basins. [Introduced in House]

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

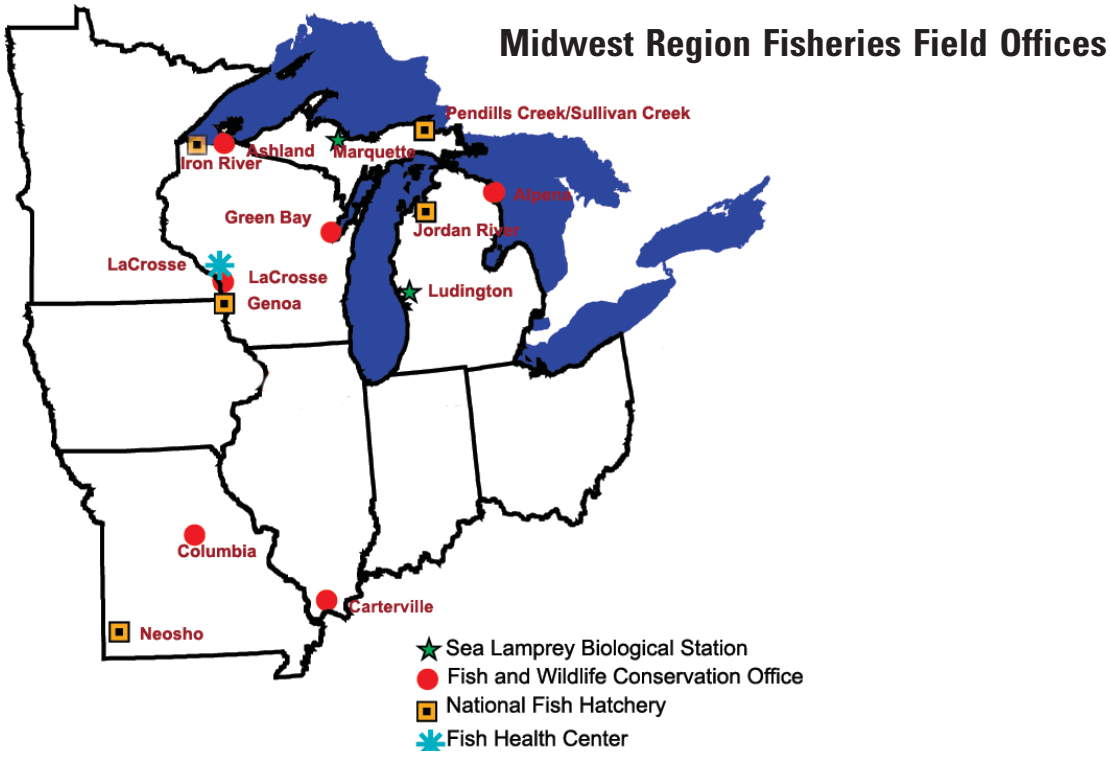
Midwest Region Fisheries Divisions

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.

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

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

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



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Fish Tails

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

Partnerships and Accountability

- **GBFWCO Staff Coordinates and Attends 40th Annual Meeting of Wisconsin American Fisheries Society**
  - **Ted Treska Green Bay FWCO**

Aquatic Species Conservation and Management

Aquatic Invasive Species

Public Use

Cooperation with Native Americans

Leadership in Science and Technology

Aquatic Habitat Conservation and Management

Workforce Management