U.S. Fish & Wildlife Service - Midwest Region

Fisheries & Aquatic Resources Program

Fishlines

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Conserving America's Fisheries
U.S. Fish & Wildlife Service

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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

-USFWS

Students from William Thorne Elementary learn about Great Lakes invasive species.

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

Fish Lines

2010 Vol. 8 No. 1

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Sarah Bauer of the La Crosse Fish Health Center explains fish anatomy to some very interested children.

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

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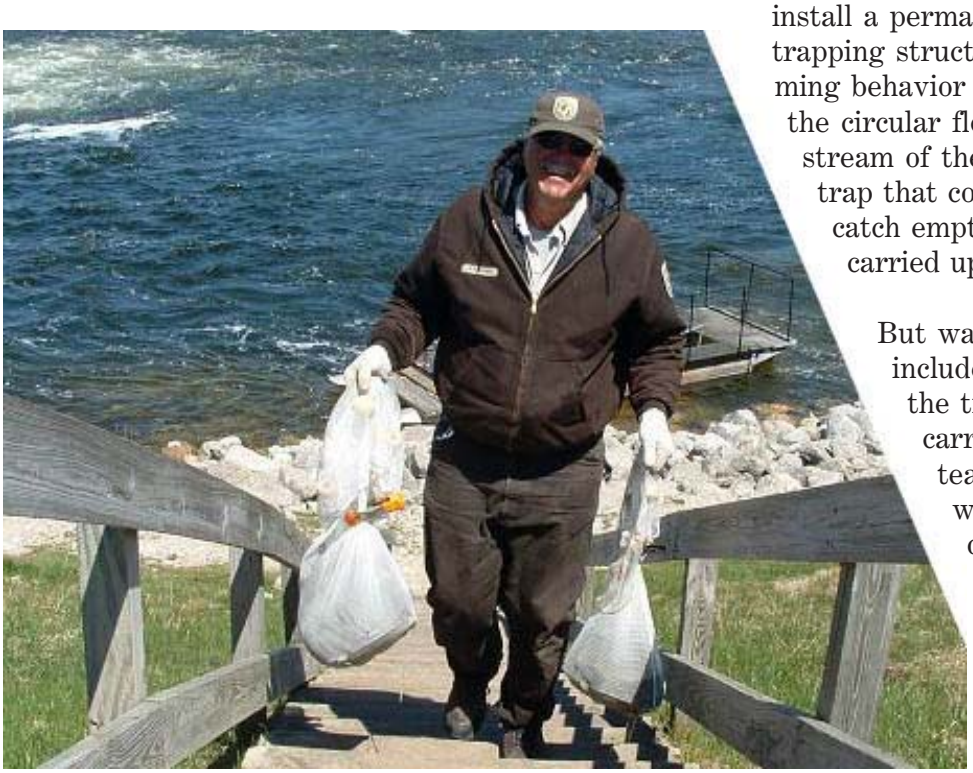
To Fetch a Pail of Lampreys ... Lamprey Trap Catches Thousands

BY JESSICA BARBER, MARQUETTE BIOLOGICAL STATION

Once upon a time a sea lamprey team dreamt of a permanent, spawning-phase sea lamprey trapping structure at the Cheboygan River in Cheboygan, Mich. that would accommodate changing water levels and increase the efficiency of operations. In the good old days, you see, Dick and Bruce would fetch the invasive sea lampreys from several traps and carry them in a pail or mesh bag up to the waiting stagecoach (i.e. fish truck). This would not be an easy task as this was no small hill and they were not "spring chickens." So after a hard day's work, the team would fall into a deep slumber while visions of permanent traps danced in their heads.



-USFWS

Technician Dick Kitchen fetches a bag of invasive sea lampreys from the Cheboygan River spawning-phase assessment trap. The trap can be seen near the river bank behind Dick.

Sea lampreys invaded the Great Lakes in the early 20th century, causing significant damage to the fishery. During its life as a parasite, each sea lamprey can kill 40 or more pounds of fish, so it is important to remove as many sea lampreys as possible during the spring spawning migration.

And, thus, begins our story. Historically, four to six spawning-phase sea lamprey traps were placed along the shoreline of the Cheboygan River. The traps were efficient, but were susceptible to changing water levels, required frequent modification, and were labor intensive to empty. Hmmm… there had to be a better way.

Several years ago, a team made up of sea lamprey management personnel, regional office engineering personnel, the Michigan Department of Natural Resources and local contractors collaborated on a project to refurbish the Cheboygan River dam and install a permanent trapping structure. The new trapping structure was designed to exploit the swimming behavior of sea lampreys and take advantage of the circular flow pattern unique to the area downstream of the dam. The result was a two-chamber trap that could be serviced by two people and the catch emptied directly into a sorting bucket and carried up the hill to the fish truck.

But wait! Those visions of permanent traps included an access road leading directly to the trap site so the crew would not have to carry sea lampreys up the hill. So, the team went back to the drawing board where a cooperative agreement was drafted with the Michigan Department of Natural Resources to construct an access road leading to the trap.

The new permanent trap made its debut in the spring of 2009 with the access road leading right up to the trap. The trap can simply be raised over the fish truck and the sea lampreys emptied directly into the cool, oxygenated water. The trap captured 12,518 sea lampreys during 2009 and achieved an efficiency of 67 percent. Slight modifications to the trap in future years should only prove to increase the outstanding efficiency of the operation. This is a true success story from every angle including coordination, design, construction and operation.

And, Great Lakes fish live happily ever after.

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

Friends of Pendills Creek Fish Hatchery

BY KAY HIVELY, NEOSHO NFH

The *Friends of Pendills Creek Fish Hatchery* are gearing up for a busy year. With some new officers in place for 2010, group president Molly McGrail and her executive committee are establishing new subcommittees, working to finish old projects and taking on some new ones.

Russell and Kay Hively, of Neosho, Mo. were guests at the October meeting. The Hively's are members of the *Friends of the Neosho National Fish Hatchery* (NFH) as well as the Pendills Creek Friends group.

-Kay Hively

Pendills Creek National Fish Hachery Manager Curt Friez (center) poses with Missouri Friends, Russell and Kay Hively. Russell and Kay participated in the *Friends of Pendills Creek Hatchery* meeting and offered encouragement to the Friends group.

President McGrail invited Kay to express some of her views about Friends groups. Kay has been a volunteer at Neosho NFH for about 30 years and has good experience working with Friends organizations.

Kay praised the work the organization is doing at Pendills Creek and Sullivan Creek NFHs, and encouraged members to support the hatchery in any way possible, noting that while Friends groups don't get much attention, their work is important and appreciated.

Some of the upcoming projects for the *Friends of Pendills Creek Hatchery* include work on the new boardwalk and pedestrian bridge. These projects are necessary improvements to meet Federal accessibility standards. With these improvements, people will no longer have to wade through sand at the public access site.

The group also has several goals including efforts to raise awareness in the area about the hatchery and showcase the excellent work done by hatchery manager Curt Friez and his staff.

But, like all friends, a bit of fun is included in the group's plans, beginning with the Christmas party in December.

Because of limited space at the hatchery for meetings, efforts are underway by the group to move the meetings to the local township hall which will accommodate more people and more activities. This will be extremely helpful as membership grows.

Before the end of the meeting, Friez presented the Hively's with coffee mugs and shoulder patches in appreciation for their 1,000 mile trip to attend the meeting.

After the meeting, the new officers posed for pictures and everyone enjoyed a big selection of refreshments. Officers for the upcoming year are Molly McGrail, president; Denise Deford, vice-president; Marge Godby, acting secretary, and Violet Patton, treasurer.

Anyone interested in joining this great group of volunteers may contact the hatchery at 906-437-5231 or by e-mail at: curt_friez@fws.gov. You can even write an old-fashioned note or letter and include a donation or a membership to the Friends of Pendills Creek Hatchery, P. O. Box 32, Brimley, Michigan, 49715.

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

Mussels for the Illinois Natural History Survey

BY TONY BRADY, GENOA NFH

The use of freshwater mussels as test organisms for toxicity testing is growing as researchers and the public realize the vulnerability of these sessile animals to lower concentrations of toxins than fish or aquatic insects historically used for such tests. With only a handful of facilities across the country able to provide mussels for toxicity testing, demand can quickly surpass supply. Genoa National Fish Hatchery (NFH) has been helping meet the demands for test organisms for the past two years.

Most recently in September 2009, Genoa NFH was contacted by the Illinois Natural History Survey (INHS) about providing some newly metamorphosed mussels, known as transformers, for the completion of an ongoing series of toxicity tests. The INHS was looking for a mussel species that they could not get from their current suppliers. After discussing options available from Genoa NFH, the INHS requested washboard mussels as the species they would like to test.

Having a reproducing population of washboard mussels just south of the hatchery in Prairie du Chien, Wis., and an abundance of host fish (blue catfish) made meeting the request possible. Hatchery SCUBA divers, part of the Region 3 dive team, spent a few hours in the Mississippi River in Prairie du Chien collecting four gravid females and returned them to the hatchery.

-USFWS

A newly metamorphosed mussel called a "transformer" uses its foot to crawl around in search of food.

Blue catfish were inoculated in mid September and half of the fish were placed in 38 liter aquaria supplied with heated (20° C) well water. The other half was placed in a 38 liter aquaria supplied with 10° C well water for one week, delaying their transformation time in order to meet the request of two batches of mussels shipped a week apart. The first batch of mussels dropped off the fish and was shipped on October 14 with the second shipment going out exactly one week later on October 21.

Correspondence with INHS indicated that the mussels arrived in great condition and that they did well for their test. Genoa NFH is currently in the practice of retaining gravid mussels through the fall and winter, with a supply of potential host fish available in case any such transformer request is made during the winter months when other facilities may not be able to meet these demands.

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

Great Lakes Partners Unite to Educate the Public

BY JEFF SLADE, LUDINGTON BIOLOGICAL STATION

The Great Lakes Fishery Commission teamed up with Shedd Aquarium for a media tour highlighting invasive sea lamprey. Dr. Marc Gaden, Great Lakes Fishery Commission's Secretariat (GLFC), Ann Arbor, Mich., and Elizabeth Latenser, Shedd Aquarium, Chicago, Ill., coordinated a media tour to enhance public awareness regarding the destructive nature of invasive species and how to reduce their spread, and to inform the public about the Great Lakes Restoration Initiative, a major program that will improve habitat for native species, clean up toxic hot spots and help to control invasive species.

-Shedd Aquarium/ElizebethLatenser

Jeff Slade of the Ludington Biological Station (lt.) and James Clark of Shedd Aquarium (middle) discuss the importance of reducing the spread of invasive species with *Daybreak* anchor Brett Thomas.

Experts on fish biology and management brought live sea lamprey to television and radio stations, and to schools, where they showed off the power of the their sucker-like mouth, their devastating teeth and rasping tongue. The experts explained the importance of the sea lamprey management program in protecting the $7 billion Great Lakes fishery.

In Grand Rapids, on October 7, James Clark from the Shedd Aquarium, Jeff Slade from the Ludington Biological Station and Gavin Christie from the GLFC participated in live TV interviews on NBC Wood TV, FOX 17 TV, and ABC WZZM TV. Marc Gaden and James Clark were interviewed by Shelly Irwin on WGVU radio. Members of this group also gave a presentation about sea lampreys and other invasive species to fourth grade students at the Coit Art Academy in Grand Rapids, Mich. that was covered by the *Grand Rapids Press*.

Roger Bergstedt from the U.S. Geological Survey and Eve Poynter from Shedd Aquarium participated in live TV interviews with Fox 2 TV and ABC 7 TV in Detroit on October 21. The interviews were followed by a presentation about sea lampreys and other invasive species to fourth and fifth grade students at the William Thorne Elementary School in Dearborn Heights, Mich. that was covered by CBC (Windsor).

In addition to the direct contact with over 300 elementary school students, these media outreach events are estimated to have reached over 432,000 people in these important population centers. The sea lamprey management program continues to work closely with partners to control populations of sea lampreys in tributaries of the Great Lakes. The Fish and Wildlife Service delivers a program of integrated sea lamprey control in United States waters of the Great Lakes in partnership with the Great Lakes Fishery Commission.

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

Sturgeon Can Expand their Range on the White Earth Reservation

BY SCOTT YESS, LA CROSSE FWCO

A fish passage structure was installed below a dam which now allows passage of lake sturgeon to Many Point Lake and Little Bemidji Lake on the White Earth Reservation. This project was a fantastic partnership between the White Earth Natural Resources Department and the Fish and Wildlife Service. Rock and boulders were placed in the river below the dam to elevate the bottom and create a 4 percent slope which will allow fish to pass over the dam. Three weirs were added utilizing large boulders which will create shallow pools and help dissipate energy. Boulders were also placed along the banks for stabilization.

-USFWS

Construction begins on a project to modify the lower portion of this dam to provide uninhibited fish passage for lake sturgeon.

Lake sturgeon are stocked in Round Lake which is connected to Many Point and Little Bemidji lakes by the Ottertail River. We expect lake sturgeon to move into Little Bemidji Lake and also into Elbow Lake which opens up over 1,000 acres of lake habitat and over seven miles of streams.

This structure was recommended for fish passage in the Lake Sturgeon Management Plan written for the White Earth Reservation. Racer Construction did a fantastic job with the heavy lifting. At the end of the second day this project was reality, it was a true partnership and will provide fish passage for many years.

Funding for this project was provided by a Fish and Wildlife Service grant with matching funds from the White Earth Department of Natural Resources.

-USFWS

A construction crew puts the finishing touches on this fish passage project which will provide for a natural stream gradient through this the old dam structure.

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

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.

Fort McCoy concerned with Viral Hemorrhagic Septicemia Virus

BY SARAH BAUER, LA CROSSE FHC

The arrival of invasive species into the Midwest has many biologists concerned. An invasive pathogen of interest to many biologists is Viral Hemorrhagic Septicemia virus (VHSv). The virus has the ability to infect a variety of fish species and has resulted in fish kills in the Great Lakes since 2005. In 2007, the virus was isolated in Muskellunge from Clear Fork Reservoir in Ohio. This was the first isolation of the virus outside of the Great Lakes drainage.

Biologist John Noble of the Department of Defense was concerned about the fish populations he manages on Fort McCoy and contacted the La Crosse Fish Health Center (FHC) about surveillance for VHSv and other pathogens and parasites of concern. An interagency agreement was developed to screen for diseases and parasites in bluegill, largemouth bass, brook trout and brown trout.

-USFWS

This image shows a bluegill from Fort McCoy with a tapeworm extending from its intestines.

Fort McCoy is a military installation in Sparta, Wis., which is comprised of approximately 60,000 acres with ten lakes and numerous trout streams. The bodies of water are managed and regulated by Fort McCoy biologists. Over the summer and fall, close to 500 fish from ten bodies of water made up of five species were delivered to the La Crosse FHC for virus and bacterial pathogen screening. Currently, no viruses or bacterial pathogens were isolated from any of the fish. In addition to routine wild fish health surveillance, approximately 200 of the fish will undergo a diet analysis and be screened for parasites. This work is thesis research being done by Sarah Bauer, a University of Wisconsin-La Crosse graduate student and career experience student at the La Crosse FHC.

The interagency agreement is a three year contract. Over the next two years, additional fish from Fort McCoy will be screened for parasites, viruses and bacterial pathogens. The results from this surveillance will assist Fort McCoy biologists in making informed management decisions.

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

Lake Sturgeon Recovery Efforts Highlighted in "Megafish"

BY JAMES BOASE, ALPENA FWCO

Biologist James Boase of the Alpena Fish and Wildlife Conservation Office (FWCO) gave presentations at Livonia Stevenson and Clarenceville High Schools in late May. Boase presented information on the daily life of a biologist and educated students about the mission and goals of the Fish and Wildlife Service. Following his presentation, Boase was approached by a group of students, asking if there were any possibilities to job shadow biologists in the field. Seeing an opportunity to potentially inspire students to seek a career as a biologist, Boase agreed to schedule a day for students interested in participating in a job shadow. After confirming participation with partners from the Michigan Department of Natural Resources (DNR), Ontario Ministry of Natural Resources (MNR) and United States Geological Survey (USGS) in a job shadow event, the students were contacted and the date was set for August 12th in Algonac, Mich.

On July 31, film producer Clare Nolan from National Geographic contacted Boase about filming a segment on lake sturgeon and asked if there would be any opportunities in the coming weeks. It was decided by both parties that the footage Ms. Nolan was looking for could likely be captured during the job shadow event. On August 12, producer Clare Nolan and Mega-fish host Zeb Hogan met with biologists Mike Thomas from the Michigan DNR, Karen Soper from Ontario MNR, Greg Kennedy from USGS and James Boase from Alpena FWCO.

-MargaretHutton

Mega-fish host Zeb Hogan and Michigan Department of Natural Resourses biologist Mike Thomas watch James Boase insert a passive integrated transponder tag into an adult lake sturgeon.

The goal was to capture both large and small lake sturgeon using setlines to provide the students an opportunity to handle these magnificent fish and see the differences between individual fish up close, while also enabling the National Geographic film crew to obtain footage. A total of five setlines were placed in the St. Clair River the day before. Three setlines were lifted with no fish on the lines and it looked questionable if there would be any film footage shot that day; however, two lake sturgeons were found hooked on the fourth line. One fish was small, measuring 24 inches and the second fish was large, measuring 60 inches. The 60 inch fish put up a good fight, providing excellent footage.

A total of three fish were captured that day. All fish were landed in the boat and then transferred to a holding tub on a pier where the Stevenson and Clarenceville high school students were waiting. After a long day of filming and answering questions, the fish were tagged and released safely back into the St Clair River. The Mega-fish series featuring the Great Lakes lake sturgeon is scheduled to air on the National Geographic Channel in February 2010.

What was originally planned to be a job shadow opportunity for a small group of local high school students turned out to be a mega-media event as filmmakers from National Geographic came to Michigan to capture footage of lake sturgeon.

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

Genetic Guidelines for Stocking Lake Sturgeon submitted for Publication

BY ROB ELLIOTT, GREEN BAY FWCO

An important document titled *Guidelines for the Stocking of Lake Sturgeon in the Great Lakes Basin* has been completed and is being sent to the Great Lakes Fishery Commission for publication.

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

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

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

Friends of Pendills Creek Hatchery, Fall News Letter

Hatchery News
Construction is coming to an end on the raceway replacement project after two years. The project was originally slated to last one year. Paving around the raceways is now complete and the final series of raceways still needs some finish work but everything should be completed by the end of October baring any other delays.

Soon the solicitation will go out for the new metal building to be constructed over the new raceways at Pendills Creek NFH with construction scheduled to begin this next spring.

Personnel changes, the hatchery will soon be advertising thru USA Jobs for a full time Biological Technician to replace one of our Biologist vacancies we currently have. We are also working on completing twelve new (Animal Caretaker), Fin Clipper hires that were advertised last summer.

We recently had two visitor's from the Neosho National Fish Hatchery Friends Group in Missouri attend the October monthly FPCH meeting. Kay Hively and her husband traveled roughly the 1000 miles to visit and tour both of our hatcheries. They also attended and contributed to the monthly meeting with words of encouragement and the need for Friends Group Members to support the hatchery anyway possible. She was very persuasive in letting the members in attendance know that we need to get 501C non profit tax exempt status and our President agrees. She also gave FPCH a copy of a recent book she co-authored about the history of the oldest Federal Hatchery still in operation, Neosho National Fish Hatchery and stressed the importance of record keeping and maintaining those records for future historians.

Kay and Russel Hively – Friends of Neosho NFH

New Executive Committee Officers Take Over the Helm

With a desire to continue the hard work previous Executive Committee Members have accomplished since the inception of the group. Our new Executive Committee has assumed their roles.

From Left to Right
Treasure – Violet Patton
President – Molly McGrail
Vice President – Denise Deford
Acting Secretary - Marge Godby

Note: Marge Godby is standing in for Phylis Taylor during her absence

The Fish and Wildlife Service welcomes the new Officers and wishes them and all members of FPCH a very productive year. **Please welcome these new officers for stepping up and taking on their new roles. They will need each and every members support during the year so please get involved. Call an Officer or attend a meeting and get involved with an activity or work bee. Without support from volunteer members very little will get accomplished.**

FPCH President's Article

Hi, members of FPCH. My name is Molly McGrail, I'm your new President and I'm at your service. My husband Jack and I are residents of Brimley and have been for about six years. We are happy and busy here, both retired but more involved in the community than we ever were at our former homes. We've worked our way north from Detroit to Sterling Heights to Atlanta to Brimley. I'm glad we found the hatchery under Curt's direction; I'm hoping to bring more local people into our small organization and show the whole community the work the hatchery does as well as enjoy the area, which we are helping to improve. A big thank you goes out to former President George Goetz for his suggestion and implementation of our first Kids Fishing Day. It was a huge success and we hope to keep it as an annual event.

We have a new Executive Committee and all are ready and eager to take on our new responsibilities so please come on out and visit, the more new ideas the better the organization. Try and make the regular meeting on Wednesday, November 18 at 7:00 PM at the Bay Mills Township Hall. Our Christmas Party, which is always a good time, will be December 5 at 5:00 PM and is pot luck. Please bring a gift to share, three dollars or less in value. Please think about attending.

No formal meetings during the hard winter months of December, January, February and March but don't let that stop you from forming and discussing any new ideas you may have for us. Please feel free to call any one of us listed on the Executive Committee, we are here to serve, and we look forward to a very active up coming year. The next news letter will be in the spring of 2010. Have a safe Holiday Season!

Calendar of Events:
November – Monthly Meeting (11/18) Location Bay Mills Township Hall 7:00P
December – Christmas Party (12/05) Location Bay Mills Township Hall, 5:00 P (pot luck and bring a gift under $3 to pass)
January – Winter Hiatus No Meeting
February – Winter Hiatus No Meeting
February – Initial Children's Fishing Event Meeting hosted by event Chairperson Denice Friez, Date and Time TBD
March – Winter Hiatus No Meeting
April – Spring, Monthly Meetings Resume and are tentatively scheduled for the third Wednesday each month at 7:00P, location TBD.
May – Monthly Meeting third Wednesday at 7:00P, location TBD
May – Maintenance Chair Jack McGrail hosts work bee, public access site, volunteers needed, time and date TBD

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.

Driftless Area NWR Steeles Branch Proves to be a Great Stream!

BY HEIDI KEULER, LA CROSSE FWCO

One warm fall day with colorful leaves on the trees, sounds of "crunch, crunch, crunch" underfoot, and the honking of migrating geese above, I couldn't believe I was getting paid to be a biologist. Most biologists only hear "splash, splash, splash" underfoot, but on this particular October day, we had to stumble down a steep forest slope before we reached our little oasis in the Driftless Area National Wildlife Refuge (NWR). Tim Yager (manager of the Driftless and Upper Mississippi - McGregor District NWR's) led volunteer photographer Owen Johnson, volunteer Grant Risch, and I out to a little haven in the Driftless Area NWR for a fishery survey.

-USFWS/OwenJohnson

Biologists perform a fisheries survey in the Steeles Branch at the Driftless Area National Wildlife Refuge.

The beautiful property supports not only an algific talus slope with unique vegetation, but also a spring waterfall flowing into a stream that I've only seen once in a dream. With its fast flowing clear waters, cool temperatures, structure and depth diversity, it was no surprise when we found smallmouth bass, darters, southern red belly dace, stonerollers and much more in our electrofishing survey. The La Crosse Fish and Wildlife Conservation Office (FWCO) and Iowa Department of Natural Resources plan to sample aquatic invertebrates and stream temperatures next year and then discuss management options with Refuge staff.

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

Columbia FWCO Samples Dalbey Bottoms on the Missouri River

BY ADAM MCDANIEL, CLAYTON RIDENOUR AND JOE MCMULLEN, COLUMBIA FWCO

Dalbey Bottoms is located on the Missouri River between northwest Missouri and northeast Kansas near river mile (RM) 417. The U.S. Army Corps of Engineers (Corps) has proposed to build a side channel chute along this stretch of the river. The project would be part of the Missouri River Recovery Plan aimed at restoring habitat for pallid sturgeon. Columbia Fish and Wildlife Conservation Office (FWCO) and the Corps are cooperating to study Missouri River habitat at Dalbey Bottoms before and after construction of the side channel. Fish are being studied to assess the ecological impact of the constructed chute on pallid sturgeon and other native Missouri River fishes. Previous sampling trips to Dalbey Bottoms were dominated by trawling efforts to collect young fishes and assess the fish community.

During the third week of October, biologists from the Columbia FWCO completed sampling with trotlines to assess abundance of adult pallid sturgeon. We caught 14 pallid sturgeons and a lake sturgeon over the three day trip. One of the pallid sturgeons

-USFWS

Technician Adam McDaniel holds a large pallid sturgeon that was captured at Dalbey Bottoms which is located on the Missouri River between northwest Missouri and northeast Kansas.

marked a new length record for the Columbia office, exceeding a meter in length. The crew, while examining the large pallid, noticed a scar on the fish's belly which was identified as a scar from an implanted ultrasonic transmitter. The U. S. Geological Survey (USGS) uses these transmitters to study fish movement in the Missouri River. We notified USGS that we had captured one of their telemetry fish, and they later sent us details that the fish was a male caught and tagged in 2008 near Omaha, Neb.

Construction of the Dalbey Bottoms side channel is scheduled for the winter of 2009, and we plan to return in the spring to continue monitoring the fish community after construction. This side channel will add to the diversity of Missouri River habitat. Along with other projects up and down the river, habitat projects will aide in the recovery of the endangered pallid sturgeon as well as other species of concern. This cooperative effort provides an avenue to apply adaptive management and supports the Fish and Wildlife Service's Strategic Habitat Conservation program.

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

Pond Draining at Genoa Floods Midwest with Fishing Opportunities

BY NICK STARZL, GENOA NFH

The crew of the Genoa National Fish Hatchery (NFH) with the assistance of several volunteers from local schools wrapped up the 2009 pond production season with a great fall harvest! Walleye, yellow perch, black crappie, channel catfish, largemouth bass, smallmouth bass and bluegill are the main species cultured and harvested from the ponds at the hatchery. All of these fish are annually produced in order to fulfill fisheries requests throughout the region, as well as serve as vital host fish for ongoing native mussel restoration.

Fall fingerlings, which range in size from 3 to 6 inches depending on species, are in high demand by fish management biologists due to their increased survivability in the wild. Other management objectives include enhancing recreational fishing opportunities, research, tribal trust programs and biological control of invasive carp.

Overall 26,532 fall fingerling walleye; 70,648 yellow perch; 131,000 black crappie; 1,118 channel catfish; 4,179,450 fathead minnows; 33,538 largemouth bass and 10,835 smallmouth bass were harvested this fall. The majority of the fish were distributed to state, tribal and National Wildlife Refuge waters in the Midwest Region, while some are being retained on station until next spring for use as host fish for the endangered Higgins' eye pearlymussel program. A grand total of 10,821 pounds of fish were harvested from the hatchery ponds this fall.

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

Task Group Conducts Fish Community Assessment of the St. Marys River

BY ANJANETTE BOWEN, ALPENA FWCO

During the month of August, the St. Marys River Fishery Task Group (SMRFTG) completed a coordinated fish community survey of the St. Marys River. A total of 45 sites from the upper river to Potagannissing Bay were sampled with variable mesh gillnets. Information was collected on the diversity and relative abundance of all fish species and age, diet, lamprey wounding and maturity data were collected from the sport fish species. The survey was conducted through the partnership of SMRFTG member agencies and resource partners including the Michigan Department of Natural Resources (DNR); Ontario Ministry of Natural Resources, Department of Fisheries and Oceans Canada; Chippewa Ottawa Resource Authority; Bay Mills Indian Community; Lake Superior State University (LSSU) and the Alpena Fish and Wildlife Conservation Office (FWCO).

The Alpena FWCO and LSSU partnered as a survey crew and deployed assessment gear at seven sites in Lake Nicolet and the Munuscong Channel during the week of August 24th. Biologists Adam Kowalski and Anjanette Bowen coordinated preparation for the Fish and Wildlife Service/LSSU assessment. The survey crew consisted of LSSU students Tyler Jones, Robert Morgan and Dan Operhall, and Alpena FWCO biologists Kowalski and Bowen and student employee Kyle Krajniak. We are grateful for

assistance that was provided by Ashley Moerke and Roger Greil of LSSU and by Mark Ebener and staff.

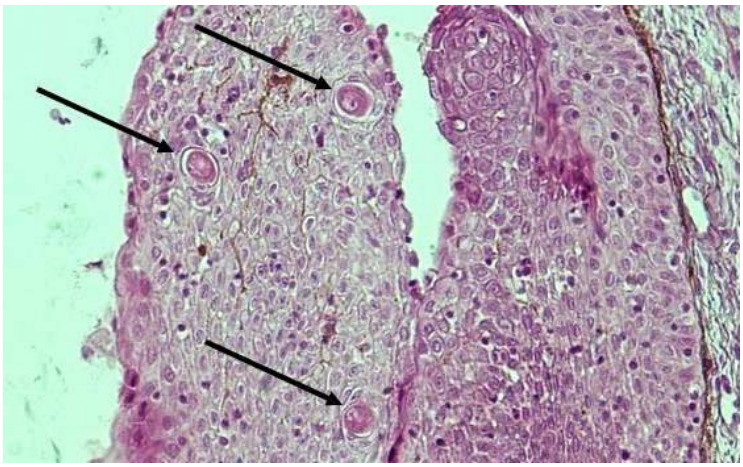
This St. Marys River fish community survey is conducted approximately every five years. It was initiated by the Michigan DNR in 1975, and in 2002 the SMRFTG agreed to assist with the survey. Results will be compiled and prepared into a report to be hosted on the Great Lakes Fishery Commission's website. For results from the 2006 fish community assessment titled *Population Dynamics of the St. Marys River Fish Community 1975-2006* or for other SMRFTG reports, visit the Great Lakes Fishery Commission's website at: http://www.glfc.org/lakecom/lhc/lhchome.php.

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

Inspection Completed at Neosho NFH

BY CORY PUZACH, LA CROSSE FHC

In late October, Corey Puzach from the La Crosse Fish Health Center (FHC) completed the Neosho National Fish Hatchery (NFH) fall inspection with assistance from hatchery biologist Melissa Cheung. Samples were taken from 240 rainbow trout and 34 pallid sturgeons. All fish were screened for bacterial pathogens such as Aeromonas salmonicida, Yersinia ruckeri, Edwardsiella ictaluri and Renibacterium salmoninarum. In addition, fish were screened for viral pathogens such as Infectious Pancreatic Necrosis virus (IPNv), Onchorhynchus Masou Virus (OMv), Viral Hemorrhagic Septicemia virus (VHSv) and Infectious Hematopoietic Necrosis virus (IHNv). The rainbow trout were also screened for the parasite Myxobolus cerebralis, more commonly referred to as Whirling Disease.



-USFWS/SarahBauer

Cells infected with irido virus are identified with arrows in this fin section from a sturgeon. This disease was not detected in the pallid sturgeon being reared at the Neosho National Fish Hatchery.

The Neosho NFH has a very high priority to raise pallid sturgeon. Pallid sturgeon is a federally endangered fish which inhabits the Missouri River from central Montana to St. Louis, Missouri, and the Mississippi River from St. Louis, Missouri, to the Gulf of Mexico. These important fish are propagated by many state and federal agencies. With unique fish come unique pathogens, and the La Crosse FHC must screen the fish for these pathogens as well.

One unique pathogen is an irido-like sturgeon virus found in many different types of sturgeon. Screening for the irido virus is different than the methods used to screen for other viruses. To screen for the irido virus, a piece of pectoral fin is removed from the fish, sectioned and a histological slide is made. The slide is then examined under a microscope for the presence of infected cells. Samples currently are negative, but some tests are still pending.

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

Lake Trout Feed Study to be Conducted by USGS

BY JAIME MASTERSON, PENDILLS CREEK NFH

Over the course of the next three years, the U. S. Geological Survey (USGS) out of Bozeman, Montana, has been approved to conduct a feed study on adult female lake trout brood stock at the Sullivan Creek National Fish Hatchery (NFH) in Michigan and Saratoga NFH in Wyoming. The study will investigate the effects of conjugated linoleic acid on lake trout reproduction, fatty acid deposition and embryo survival and hatchability. Principal investigator Jackson Gross and his assistant started the study on October 14 by selecting their study fish and marking them with pit tags. They also took initial samples of fat, eggs and livers of the study fish.

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

Annual Early Detection and Monitoring for Aquatic Invasive Fish Species

BY ANJANETTE BOWEN, ALPENA FWCO

The Alpena Fish and Wildlife Conservation Office (FWCO) conducted an annual survey to detect new populations and to monitor existing populations of invasive fish species. Bottom trawling gear was used during the survey to detect new populations of Eurasian ruffe and round goby, and to monitor existing populations of round goby. Sampling was conducted at a total of six near-shore locations in United States waters of Lake Huron and six near-shore locations in the St. Marys River. No new populations of the invasive species were discovered; however, round goby continue to persist at all locations where they were previously found.

-USFWS/AnjanetteBowen

Biologist Jim Boase measures round gobies captured from Port Dolomite in northern Lake Huron during an annual survey to detect and monitor new and existing populations of invasive round goby and Eurasian ruffe.

Eurasian ruffe and round goby are two invasive fish species that are thought to compete with native species for food and habitat resources. They are native to Eurasia and were unintentionally introduced into the Great Lakes. Eurasian ruffe have been found in lakes Superior, Huron and Michigan, but are currently thought to be absent from Lake Huron. Round goby have been found in each of the five Great Lakes and are also in the Mississippi River system. Although both species have been found in the upper Great Lakes, only round goby has been detected in the St. Marys River, which is the connecting waterway between Lake Superior and lakes Huron and Michigan. Round goby were captured in the St. Marys River for the first time during the summer of 2008 by recreational anglers.

Aquatic Invasive Species

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

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

Invasive New Zealand Mudsnail Sampling in Thunder Bay, Lake Huron

BY ANJANETTE BOWEN, ALPENA FWCO

Biologist Anjanette Bowen of the Alpena Fish and Wildlife Conservation Office (FWCO) assisted researcher Dr. Ed Levri of Penn State Altoona with obtaining bottom sediment samples from Thunder Bay, Lake Huron, in an effort to search for the New Zealand mudsnail. The New Zealand mudsnail is a small snail that is native to New Zealand. The snail has reached high densities in rivers of the western United States and it threatens to disrupt food web dynamics within these systems. It has been unintentionally introduced in the Great Lakes, and is currently known to be present in lakes Michigan, Superior, Ontario and Erie. Dr. Levri has studied the mudsnail in New Zealand and is analyzing the distribution and impacts of the mudsnail in North America.

Thunder Bay sediment samples were collected with a ponar grab sampler along specific depth contours. The mudsnail was not identified in a preliminary examination of the sediment samples at the time of collection. The samples were preserved to conduct a more intensive examination back at the laboratory.

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

Butterfly Garden gets a Boost from the Badgerland Girl Scouts

BY JENNY BAILEY, GENOA NFH

Junior Girl Scout Troop 4069 of the Badgerland Council traveled to the Genoa National Fish Hatchery (NFH) as part of their Agent of Change Leadership Journey. The Girl Scout leadership experience aims to engage girls in discovering self, connecting with others, and taking action to make the world a better place. What better place to start than the Genoa NFH?

Scouts visited with biologist Jenny Bailey about how the Fish and Wildlife Service helps make the world a better place by conserving sport and recreational fisheries and recovering threatened and endangered fish and mussel populations. Scouts learned about ways that they can help with wildlife conservation by volunteering to help create habitat for wildlife, and by learning about careers in conservation.

-USFWS

Pictured is Genoa National Fish Hatchery's butterfly garden.

After a tour of the programs and facilities and a delicious pot luck lunch, Scouts went outside for a conservation experience working in the Children's Butterfly Garden. After weeding and mulching, Scouts planted big bluestem prairie grass to provide habitat, food and a windbreak for pollinators; showy goldenrod for pollinating opportunities; and Joe Pye weed for nectar production. This boosted the Garden's habitat quality and volume, and helped make the world a little bit better for people and pollinators.

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

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.

Columbia FWCO Fish for Walleye at DeSoto NWR

BY AARON WALKER, COLUMBIA FWCO

Aaron Walker and Wyatt Doyle of the Columbia Fish and Wildlife Conservation Office (FWCO), Steve Van Riper and Steve Howerton of the DeSoto National Wildlife Refuge (NWR), and Mark Boucher and Bryan Hayes of the Iowa Department of Natural Resources teamed up to electro fish DeSoto Lake. Sampling was completed as part of a long term monitoring and management program started in the 1970s. The sampling consisted of four 30-minute nighttime electrofishing runs targeting walleye. The biggest walleye we caught was 24 inches long and weighed five pounds.

Data collected that night will be analyzed and incorporated into the annual DeSoto Lake Management Plan. Our team of interjurisdictional biologists can then make management decisions to help improve DeSoto Lake recreational fishing. The lake and its recreational fishing opportunities draws large numbers of visitors to the Refuge each year.

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

Students learn about Fish Biology at Desoto NWR

BY AARON WALKER, COLUMBIA FWCO

Aaron Walker and Wyatt Doyle from the Columbia Fish and Wildlife Conservation Office (FWCO), in conjunction with DeSoto National Wildlife Refuge (NWR), provided their knowledge in fisheries to approximately 180 seventh graders from Blair Middle School in Nebraska. This was the second annual event with Blair Middle School students at DeSoto Lake and was held October 20- 21.

Walker and Doyle discussed fish biology and the different types of gear used to collect various fishes. Fish collected from Desoto Lake were used as a visual aid for the students to learn what different species of fish inhabit their local lake and the biology of those fishes. The students appeared to really enjoy themselves, despite the spurts of mist and light rain moving through the area. The live fish demonstration was a big hit with the students, and most of them were amazed to see the 20-pound buffalo. The students and teachers provided many interesting questions for Walker and Doyle to talk about.

-USFWS/WyattDoyle

Aaron Walker of the Columbia Fish and Wildlife Conservation Office explains to Blair Middle School students how biologists use hoop nets to target catfish at DeSoto Lake.

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

-USFWS

Kinross Head Start of Kinross, Mich. made its annual visit to Pendills Creek National Fish Hatchery in October. Three classes of enthusiastic youngsters came to see the fin clipping operation, learn a little about what we do here and get their chance to hold or pet a live lake trout.

-USFWS/AdamMcDaniel

Columbia Fish and Wildlife Conservation Office and the University of Missouri (MU) School of Natural Resources Alumni ride in the *Phoenix* at the MU - Columbia homecoming parade.

Good Survival of Stocked Lake Sturgeon in the Red River Basin

BY DOUG ALOISI, GENOA NFH

Fall is harvest time, even for fish! Fish growth is regulated by water temperature, and slows to a crawl over winter; consequently warm water ponds are emptied at the Genoa National Fish Hatchery (NFH) to begin fall fish deliveries. Many fish of various species are delivered in the fall to various federal, tribal and state conservation partners to meet objectives in fishery management plans. Lake sturgeon are also distributed at this time, and this year was a productive year at Genoa with over 47,000 fall fingerling lake sturgeon being produced and released to three tribes and three state conservation agencies.

One major focus area in Genoa's lake sturgeon restoration program is the Red River basin of central Minnesota. Lake sturgeon restoration efforts began on the White Earth Reservation in 2001, with fish being supplied to the Minnesota Department of Natural Resources since 2005 and Red Lake Reservation in 2006. Restoration stockings are planned annually for at least 10 years to ensure that both population demographics and genetic diversity are high enough to ensure a high percentage of success. This year, many lake sturgeons have been caught and returned to the water by recreational anglers, in commercial fishing gear and by federal and tribal biologists doing scheduled fisheries assessments.

-USFWS

Curtis Uran of the White Earth Department of Natural Resources removes a lake sturgeon from a net.

Over the past few years, fish passage has been provided through cooperative efforts between federal, state and tribal partners which opened up new habitat to sturgeon within the basin. Through the recent efforts to provide fish passage at the Heiberg dam alone, sturgeon now have 120 more stream miles to use as available habitat during different seasons and through different life stages. This cooperative effort to restore this culturally significant species to the Red River is a long term effort, because it will take a female lake sturgeon up to 24 years just to reach maturity, when it will have its first chance to reproduce. Through the participative efforts of many different agencies and interest groups, it is hoped to see this culturally significant species make a strong comeback to the Red River basin.

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

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.

Keweenaw Bay and Grand Portage Fish Health Inspections

BY RYAN KATONA AND ERIC LEIS, LA CROSSE FHC

Terry Tot and Ryan Katona from the La Crosse Fish Health Center (FHC) conducted the annual fall hatchery inspection at the Keweenaw Bay Tribal Fish Hatchery on October 7 in L'Anse, Mich. Biologists sampled approximately 60 fish from five different lots, with each lot separated based on fish species, year class and strain. Samples will be screened separately for certifiable fish pathogens. Kidney and spleen samples were taken from each fish to screen for the presence of any target bacteria and viral pathogens. In addition, heads were taken from lake trout and brook trout and screened for the presence of Myxobolus cerebralis, a parasite that infects many members of the Salmonid family. Laboratory results from this inspection are pending.

On October 13, Eric Leis traveled to Grand Portage, Minn. to inspect the Grand Portage Tribal Fish Hatchery. The inspection included two lots of broodstock brook trout as well as one lot of production brook trout. The fish were tested for all certifiable diseases. The laboratory results are pending.

-USFWS/SarahBauer

Terry Ott takes bacterial samples from lake trout.

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

Will Adding Fall Spawn Survey Data Improve Population Models?

BY DALE HANSON, GREEN BAY FWCO

Population models are a widely used tool by the Modeling Sub-Committee (MSC) to manage lake trout within the 1836 Treaty Waters of the Upper Great Lakes. Such models rely on both commercial and spring/summer fishery independent survey data to evaluate the status of lake trout within each fishery management unit. Interestingly, these models do not incorporate fall spawn survey data. Fall spawn surveys target the older mature lake trout which congregate over specific spawning reefs for relatively short durations of time in the fall. These surveys often contain "noise" related to specific survey location and timing; however, fall spawn surveys may capture lake trout in excess of 20 years old and these old lakers may not be encountered in spring/summer or commercial data sources. This scenario is problematic because it suggests some population models may be overestimating lake trout mortality rates by not accounting for the oldest of fish present in a population.

Biologist Dale Hanson of the Green Bay Fish and Wildlife Conservation Office (FWCO) and biologist Shawn Sitar of the Michigan Department of Natural Resources are evaluating strategies to incorporate information from Lake Superior fall spawn survey data to "fix" potential problems associated with the lack of data from the oldest spawning lake trout. Hanson has aged over 300 otoliths (a bony structure that contains annual growth rings) from fish captured in spawn surveys performed in 2004. This winter, Sitar will compare fall age compositions to spring/summer ages to assess the extent to which maximum ages differ between data sources. The outcome of this evaluation will dictate whether additional fall age composition data is needed and whether the maximum ages of lake trout in the population models must be adjusted upwards.

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

Got Lampreys?

BY LISA WALTER, MARQUETTE BIOLOGICAL STATION

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.

Evolution of jawed vertebrates. Gene expression in developing embryos. Fish movement pathways and behaviors near traps. Oxygen uptake in blood vessels. Sex pheromone communication. At first glance this list of topics doesn't seem to have much in common, but these are just a few research topics that are using spawning-phase adult sea lampreys from the Sea Lamprey Control Program as study animals. Some investigations are focused on furthering our knowledge of control techniques of the invasive sea lamprey, while others use lampreys to seek answers to fundamental biological questions.

-USFWS/T.Terlecki

The Sea Lamprey Control Program and U.S. Geological Survey provide excess spawning-phase sea lampreys to researchers.

Researchers often request live lampreys to study the animal's physical or physiological reactions to stimuli. Investigation of sex pheromone communication, researched by scientists from Michigan State University and the U.S. Geological Survey (USGS) is one example of that. 2009 field trials have shown that the pheromone 3kPZS may provide an additional alternative control tool for the Sea Lamprey Control Program. Lamprey movements near traps and barriers are also frequently studied. Lampreys are tagged and released then tracked near traps using radio telemetry equipment and video cameras. The information collected from this research can lead to trap site or equipment improvements, improving capture efficiency and increasing the number of lampreys available for both researchers and the Sterile-Male-Release-Technique program.

Lampreys are used for medical and evolutionary research. Scientists at Indiana University and the Mercer University School of Medicine are collaborating on a project that investigates hypertension using sea lampreys to test physiological responses of cardiovascular stress. Lampreys, considered one of the most primitive of all vertebrates, also provide evolutionary biologists with a key developmental and genetic base model for the procession from jawless to jawed species. Scientists at the University of Colorado-Boulder are working towards furthering their knowledge of evolutionary processes by comparing developing larval lamprey head skeletons with that of jawed fishes.

Dead lampreys or lamprey tissues are requested for genetic analysis. Researchers at the University of Washington use lampreys to investigate the phenomenon of chromatin diminution, a process in which portions of chromosomes are eliminated from somatic cells.

Lampreys are also provided to the La Crosse Fish Health Center (FHC) for disease screening as a part of the ongoing National Wild Fish Health Survey, a surveillance program designed to monitor for emerging invasive fish pathogens. During 2009, the Sea Lamprey Control Program provided the FHC with 60 lampreys from four rivers for disease screening. No pathogens were found.

Excess adult female sea lampreys are available to researchers during seasonal trapping operations (May through early July). Researchers requesting lampreys are asked to provide a written study description to the USGS Hammond Bay Biological Station and the Sea Lamprey Control Program during the previous winter. Those requesting live animals are required to provide written proof of notification to the respective state or provincial research agency, and additional requirements exist if live lampreys will be shipped to locales where they are not present in the wild. Researchers funded by the Great Lakes Fishery Commission are given priority for receiving excess female lampreys.

Male spawning-phase sea lampreys are used for the Sterile-Male-Release-Technique, an ongoing alternative control strategy used in the St. Marys River, and are generally not available for research.

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

Pilot Study Relocates Native Mussels to the Detroit River IWR

BY JAMES BOASE, ALPENA FWCO

Researchers from the Michigan Department of Natural Resources (DNR) Mt. Clemens Field Station, Ontario Ministry of Natural Resources (MNR) and Alpena Fish and Wildlife Conservation Office (FWCO) met to conduct a pilot study to relocate native mussels back into the Detroit River International Wildlife Refuge (IWR). The goal of the project was to determine if native mussel species could survive in the Refuge and if placed in the correct environment would avoid being parasitized by invasive zebra and/or quagga mussels. During a 2006 study conducted by the Michigan Natural Features Inventory, researchers were unable to find any native mussels surviving in the Refuge. Although water pollution, habitat loss and the loss of fish host species have impacted native mussel populations in the Detroit River, in the last two decades invasive zebra mussels and, more recently, quagga mussels have had the greatest negative impact on native mussels. In addition to out-competing native mussels for food (due to their sheer numbers), zebra and quagga mussels negatively impact native mussels by attaching to their shell, which inhibits movement, reproduction and respiration, eventually destroying native mussel populations.

The mussels used for the project were collected from the St. Clair River Delta (Delta) in Goose and Fisher bays. The native mussel known as the fatmucket was used because it is one of the few remaining species still found in the Delta in fairly high numbers. In shallow areas of Goose and Fisher bays, fatmuckets were collected by hand using snorkeling gear. Most of the native mussels collected were not significantly impacted by zebra or quagga mussels. Those that were parasitized by invasive mussels were cleaned in the field using a scrub pad to remove the invaders and any attachment fibers. The fatmuckets were then taken to the Mt. Clemens Field Station to be individually measured and tagged. Once processed, the fatmuckets were transported and relocated in the lower Detroit River at four locations. Over the next two summers, attempts will be made to relocate all of the fatmuckets to determine growth and survival rates, and impacts by invasive zebra and quagga mussels.

-MichiganDNR/MikeThomas

A fatmucket mussel receives an individual identification tag.

Funding for this project was provided by the Fish and Wildlife Service's Challenge Cost Share Grant Program with in-kind support provided by the Michigan DNR and Ontario MNR. Future plans by the group are to continue to identify mussel research needs and knowledge gaps within the Huron-Erie Corridor. The Alpena FWCO will continue to promote existing partnerships and build new partnerships in an effort to solve ongoing resource problems related to native mussels in the Great Lakes basin.

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

Fishing for a Better Anesthetic

BY MARK STEINGRAEBER, LA CROSSE FWCO

Aquaculturists and fishery resource managers in the United States have struggled for many years due to a shortage of U.S. Food and Drug Administration (FDA) approved drugs and therapeutants for use in aquatic species. There are currently only a handful of approved chemical agents and the practical use of these compounds is often restricted. For example, tricaine methane sulphonate (MS-222) is registered for use as an anesthetic to temporarily immobilize fish and reduce handling stress; however, residues of this drug may remain in fish tissue for several weeks. Therefore, fish treated with MS-222 must be quarantined or conspicuously labeled as temporarily unfit for human consumption during the 21-day chemical depuration period following treatment. The efficacy of this requirement can be problematic for resource manag-

ers who intend to use MS-222 on sport fish that are captured during spawning operations, population surveys or other field activities and subsequently returned to the wild.

-USFWS

Fish that were treated with the anesthetic glove oil are marked with a yellow tag to monitor any post stress from the treatment.

Researchers from the U.S. Geological Survey's Upper Mississippi Environmental Science Center (UMESC) and Viterbo University in La Crosse, Wis. are currently gathering data from a variety of laboratory and field studies on the use of clove oil as an effective (and perhaps more practical) anesthetic than MS-222 for use on wild fish. Fish and Wildlife Service staff from the La Crosse Fish and Wildlife Conservation Office (FWCO), La Crosse Fish Health Center and Genoa National Fish Hatchery provided technical assistance to these researchers in August by helping them capture, anesthetize, measure, tag and release a variety of large sport fish residing in a pond at the UMESC. Researchers, staff and invited volunteers subsequently had the opportunity to fish from shore with hook and line the remainder of the day to help estimate the vulnerability of the fish to angling pressure shortly after treatment. Data from studies such as this will be submitted to the FDA Center for Veterinary Medicine for consideration of clove oil as an approved drug and effective tool for use by aquaculturists and fishery resource managers.

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

Sampling completed for Lake Trout Diet and Egg Survival Project

BY DALE HANSON, GREEN BAY FWCO

Biologists Dale Hanson and Ted Eggebraaten of the Green Bay Fish and Wildlife Conservation Office (FWCO) completed their "all trophic level" summer sampling in Lake Michigan waters near Algoma, Wis. during the first week of August. Hanson and Eggebraaten set large- and small mesh gillnets to capture mature lake trout and forage fish species, including alewives and invasive round gobies. Fine mesh nets were used to sample zooplankton and benthic samplers were used to capture dreissenid mussels, amphipods, isopods and other invertebrates. Hanson relied on the assistance of Scott Hansen and the Wisconsin Department of Natural Resources trawling vessel *R/V Gaylord Nelson* to capture the more elusive prey species including slimy sculpin and nine-spine stickleback.

This "all trophic level" sampling is part of a three year project to evaluate the effect of lake trout diet on lake trout egg survival, and ultimately, reproductive success. Lake trout eggs are susceptible to high mortality rates arising from a thiamin deficiency caused by a diet rich in thiaminase, a thiamin destroying enzyme. Alewives contain high levels of thiaminase while other forage species (gobies, sculpins, etc.) contain lesser amounts.

The first phase of the project is nearly complete and consists of seasonal trophic level sampling over a two year period to infer seasonal lake trout diet in waters near Algoma, Wis. and Waukegan, Ill. The biochemical composition of these samples will be analyzed by Jacques Rinchard of SUNY Brockport. The second phase of this project involves collecting eggs from lake trout within these two sites; the eggs will be fertilized and raised in Sergiuz Czesny's laboratory (Illinois Natural History Survey) so that egg mortality rates can be determined. This study is the first to use biochemical markers to examine the seasonal nature of lake trout diet and its role in regulating egg thiamin content.

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

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.

Sequoia Road Bridge passes Final Inspection

BY JOANNE GRADY, COLUMBIA FWCO

Staff from the Columbia Fish and Wildlife Conservation Office (FWCO), Missouri Department of Conservation (DOC), Miller County, and Harms Engineering participated in a ribbon cutting event. The Sequoia Road crossing over the Barren Fork project is finally complete!

The old crossing was a concrete slab with perched culverts which restricted movements of the threatened Niangua darter. Fish and Wildlife Service funding was provided by the National Fish Passage Program and the Missouri Ecological Services Field Office. Additional funding was also provided by federal and state emergency management agencies due to damages incurred during a 2008 flooding disaster. Miller County Commission provided in-kind services for bridge removal, road approaches and project oversight. Missouri DOC provided project coordination and fish monitoring.

-USFWS/MarkCorio

This new free span structure replaced a concrete slab with perched culverts on Sequoia Road over the Barren Fork, Miller County, Missouri. The project provides fish passage for the threatened Niangua darter.

The new free-span structure will allow for natural stream movement, sediment transport and movements of Niangua darters and other native aquatic organisms. In addition to celebrating the opening of this bridge crossing, we celebrated a successful partnership. Several more low water crossings in Miller County have been identified as barriers to Niangua darters by the Missouri DOC and Fish and Wildlife Service offices. We hope to work collectively to improve those sites in the future.

The new Sequoia Road crossing opens 2.3 stream miles for the threatened Niangua darter.

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

Hodges Creek Construction

BY HEATHER RAWLINGS, ALPENA FWCO

The Upper Black River in the northern Lower Peninsula of Michigan is a State of Michigan "Blue Ribbon Trout Stream" and is the only watershed in northern Michigan to solely support native brook trout. This watershed, which is part of the Cheboygan River watershed, is a Partners for Fish and Wildlife (PFW) Focus Area, and the Alpena Fish and Wildlife Conservation Office (FWCO) has been working with partners in the local area for more than 10 years.

A small tributary to the main branch of the Black River called Hodges Creek has only one road crossing, but the crossing has numerous problems. The PFW and fish passage coordinators at the Alpena FWCO joined forces with a number of partners to restore juvenile fish passage to this crossing and eliminate the excessive sediment loading that was occuring. This crossing was ranked as "severe" in the Black River Road Crossing Inventory (1999), and recent investigation (electrofishing surveys) by the Michigan Department of Natural Resources (DNR)

(Above) Hodges Creek road stream crossing before construction and after culvert replacement (below). This project provides uninhibited fish passage to two miles of this Black River tributary.

-USFWS photos by Heather Rawlings and Andrea Ania

has confirmed that this tributary is an important spawning and rearing stream for the native brook trout.

Huron Pines, a non-profit agency, was the lead agency on the project. The Natural Resource Conservation Service provided the engineering plans. Michigan DNR provided technical support with fisheries surveys and planning. Three Trout Unlimited chapters donated funding, and the Montmorency County Road Commission provided equipment and labor. The Fish and Wildlife Service's Fish Passage and PFW programs contributed funds toward the project. The PFW program is also providing technical assistance.

Engineering plans were drafted and provided to the group in May, 2009, and the partners met with the Montmorency County Road Commission twice at the site to discuss timing and feasibility of certain culvert structures. Construction was completed the week of October 5. A new, larger culvert at this site opened fish passage for two miles of Hodges Creek for brook trout adults and juveniles. Road approaches were hardened with sealcoat and proper ditches and turnouts were constructed to eliminate sediment loading at the crossing.

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

Silver Creek Culvert Replacement Project in Lake County, Michigan

BY RICK WESTERHOF, GREEN BAY FWCO

The Silver Creek culvert replacement project in Lake County was awarded $37,500 from the Fish and Wildlife Service through the American Reinvestment and Recovery Act (ARRA) this year. The project involves replacement of a culvert with a bottomless structure on Silver Creek. The culvert is totally blocking fish passage via a perched culvert on the downstream side and ponding of sand is occurring on the upstream side.

Rick Westerhof of the Green Bay Fish and Wildlife Conservation Office (FWCO) and Chris Pierce of the Conservation Resource Alliance (CRA) visited the site on September 8, 2009. The situation had worsened at the site due to additional ponding of sediment above the culvert and several major erosion sites downstream of the culvert. The creek bed below the culvert has been covered with sand as the result of stream bank blowouts. Construction work began at the end of September to replace the culvert and remedy the negative impacts on the creek. Silver Creek is a tributary to the Pine River and the project will open up approximately four miles of important nursery habitat for numerous coldwater fish species.

Other partners involved in the project are the U.S. Forest Service (ARRA funds awarded too), CRA, Michigan Department of Natural Resources, National Forest Foundation, Pine River Area Trout Unlimited, Pine River Restoration Committee, Michigan Department of Environmental Quality and Lake County Road Commission.

-USFWS

The project to replace this perched culvert on Silver Creek is funded through the American Reinvestment and Recovery Act.

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

HAMP Wraps up another Season on the Big Muddy

BY COLBY WRASSE & ADAM MCDANIEL, COLUMBIA FWCO

The 2009 Habitat Assessment Monitoring Program (HAMP) field season came to an end after seven months of intensive sampling. Nearly every day of the season, HAMP had at least one field crew trawling the Missouri River between Kansas City and St. Louis. Standard fish sampling gears for HAMP included large (38mm) mesh and small (4mm) mesh stern trawl nets and a small (4mm) mesh push trawl net. These trawl nets excel at capturing young-of-year and other small bodied fish (e.g. minnows). We also experimented with trotlines (effective at capturing pallid sturgeon) and night trawling.

-USFWS/ColbyWrasse

These young-of-the-year sturgeon were captured in a single sample with a small mesh trawl in September as part of the 2009 Habitat Assessment Monitoring Program.

Because field work was just completed, we have not yet analyzed this data; however, some interesting trends were apparent to field crews during the season. It appeared we collected greater numbers of young-of-year sturgeon, sicklefin chubs and sturgeon chubs in 2009 when compared with previous years. We also identified discrete habitats and structures that seemed to consistently produce higher catch rates for certain species.

This was the fifth year of fish sampling for HAMP, which monitors the fish community's response to instream channel modifications. When the river was modified for navigation and flood control, much of the natural shallow water habitat was lost as the river became deeper, straighter and swifter. With the loss of critical shallow water habitat came declines in many species of fish and wildlife. It is hoped that modifications to dikes within the river will create shallow water habitat that will benefit native fishes. The data collected during the 2009 HAMP field season should provide us with greater insight into the fish community's usage of shallow water habitat and the effectiveness of habitat modifications.

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

Cedar River Site Tour with the Antrim Conservation District

BY RICK WESTERHOF, GREEN BAY FWCO

Staff from the Antrim Conservation District and Rick Westerhof from the Green Bay Fish and Wildlife Conservation Office (FWCO) toured the Cedar River near Bellaire, Mich. The purpose of the tour was to put together a proposal for the FY2010 National Fish Passage Program to provide for instream habitat restoration.

The Cedar River is a beautiful coldwater river that is in need of instream fish habitat restoration in the lower section. Large amounts of sediment has been deposited in the stream from man-made activity and most of the woody debris has been washed out, leaving very little habitat (cover) for fish and other aquatic organisms. Currently, the river supports brook trout, but at very low densities because of the lack of cover. With the addition of woody debris, stop logs and minor channel modification, the river could support higher numbers of fish and increased fishing opportunities.

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

MU Fisheries Techniques River Field Day Year 5

BY ANDY STAROSTKA, COLUMBIA FWCO

The sun doesn't always shine and the birds don't always sing when it comes to conducting field work. On a windy, wet gray day in October, students from the University of Missouri-Columbia (MU) met on the banks of the Missouri River or "Big Muddy" and found out just that. The students come to learn big river fish sampling techniques from the well versed field crews of the Columbia Fish and Wildlife Conservation Office (FWCO) and were well prepared for the weather, which did not dampen the interest of the group.

For the past five years, Columbia FWCO has teamed up with Dr. Douglas Noltie and MU to teach the big river component of his fisheries techniques course. As with most Midwest fish tech classes, Dr. Noltie's is largely focused on small impoundment management. Realizing riverine fisheries management is a growing area of fisheries sciences, Dr. Noltie has enlisted the help of the Columbia FWCO.

Nineteen students met us at the boat ramp ready to work on the Big Muddy. Students were divided into four teams to get hands-on training with push trawl, stern trawls, set lines and trammel nets. Project Leader Tracy Hill kicked off the field trip with a "10,000 foot view" of what our office does on the Missouri River and our efforts to recover the endangered pallid sturgeon. Objectives of working on the river were discussed as well as our different Missouri River projects. The students enjoyed experiencing a different aspect of fisheries management and a change in scenery from the ponds they had been working on all semester. A change in fauna from bass, bluegill and channel catfish to sturgeon, flathead catfish, drum, buffalo, blue suckers and Asian carp was refreshing to the students as well.

In the past, working with upper classmen from MU has enabled the Columbia FWCO to shed light on new developments in riverine sampling techniques and to get to know prospective student interns. We are honored to be respected by the University enough to have been selected to help train tomorrow's biologists.

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 Columbia FWCO: http://www.fws.gov/midwest/columbiafisheries/

LSSU Career Fair

BY JULIE TIMMER, PENDILLS CREEK NFH

Approximately 32 businesses arrived at the Cisler Center of Lake Superior State University (LSSU) campus, offering a multitude of careers for the LSSU Career Fair held on October 6. My objective was to introduce the various career opportunities with the Fish and Wildlife Service, concentrating primarily on Student Career Experience Program and biological science technician positions.

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

Congressional Actions

S. 1214 (is) To conserve fish and aquatic communities in the United States through partnerships that foster fish habitat conservation, to improve the quality of life for the people of the United States, and for other purposes. [Introduced in Senate]

H.R. 2565 (ih) To conserve fish and aquatic communities in the United States through partnerships that foster fish habitat conservation, to improve the quality of life for the people of the United States, and for other purposes. [Introduced in House]

H.R. 146 (enr) To designate certain land as components of the National Wilderness Preservation System, to authorize certain programs and activities in the Department of the Interior and the Department of Agriculture, and for other purposes. [Enrolled bill]

S. 22 (es) To designate certain land as components of the National Wilderness Preservation System, to authorize certain programs and activities in the Department of the Interior and the Department of Agriculture, and for other purposes. [Engrossed in Senate]

S. 22 (pcs) To designate certain land as components of the National Wilderness Preservation System, to authorize certain programs and activities in the Department of the Interior and the Department of Agriculture, and for other purposes. [Placed on Calendar Senate]

H.R. 3086 (ih) To coordinate authorities within the Department of the Interior and within the Federal Government to enhance the United States' ability to conserve global wildlife and biological diversity, and for other purposes. [Introduced in House]

H.R. 2192 (ih) To establish an integrated Federal program to protect, restore, and conserve the Nation's natural resources in response to the threats of climate change and ocean acidification. [Introduced in House]

S. 1933 (is) To establish an integrated Federal program that protects, restores, and conserves natural resources by responding to the threats and effects of climate change, and for other purposes. [Introduced in Senate]

H.R. 2996 (rs) Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2010, and for other purposes. [Reported in Senate]

H.R. 2454 (rh) To create clean energy jobs, achieve energy independence, reduce global warming pollution and transition to a clean energy economy. "Calendar year Required annual percentage [Reported in House]

H.R. 2454 (eh) To create clean energy jobs, achieve energy independence, reduce global warming pollution and transition to a clean energy economy. "Calendar year Required annual percentage Calendar year Required annual percentage [Engrossed in House]

H.R. 2454 (pcs) To create clean energy jobs, achieve energy independence, reduce global warming pollution and transition to a clean energy economy. "Calendar year Required annual percentage Calendar year Required annual percentage [Placed on Calendar Senate]

H.R. 2996 (pp) Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2010, and for other purposes. [Public Print]

H.R. 1080 (ih) To strengthen enforcement mechanisms to stop illegal, unreported, and unregulated fishing, and for other purposes. [Introduced in House]

H.R. 1080 (eh) To strengthen enforcement mechanisms to stop illegal, unreported, and unregulated fishing, and for other purposes. [Engrossed in House]

H.R. 1080 (rfs) To strengthen enforcement mechanisms to stop illegal, unreported, and unregulated fishing, and for other purposes. [Referred in Senate]

H.R. 1080 (rh) To strengthen enforcement mechanisms to stop illegal, unreported, and unregulated fishing, and for other purposes. [Reported in House]

H.R. 2055 (ih) To establish a Salmon Stronghold Partnership program to protect wild Pacific salmon, and for other purposes. [Introduced in House]

H.R. 2807 (ih) To sustain fish, plants, and wildlife on America's public lands. [Introduced in House]

S. 817 (is) To establish a Salmon Stronghold Partnership program to conserve wild Pacific salmon, and for other purposes. [Introduced in Senate]

H.R. 3198 (ih) To authorize the Secretary of the Interior to provide international wildlife management and conservation programs through the Wildlife Without Borders Program in the United States Fish and Wildlife Service, and for other purposes. [Introduced in House]

H.R. 1105 (ih) Making omnibus appropriations for the fiscal year ending September 30, 2009, and for other purposes. [Introduced in House]

H.R. 1105 (enr) Making omnibus appropriations for the fiscal year ending September 30, 2009, and for other purposes. [Enrolled bill]

H.R. 1105 (eh) Making omnibus appropriations for the fiscal year ending September 30, 2009, and for other purposes. [Engrossed in House]

H.R. 1105 (pcs) Making omnibus appropriations for the fiscal year ending September 30, 2009, and for other purposes. [Placed on Calendar Senate]

S. 1333 (is) To provide clean, affordable, and reliable energy, and for other purposes. [Introduced in Senate]

H.R. 2996 (enr) Making appropriations for the Department of the Interior, environment, and related agencies for the fiscal year ending September 30, 2010, and for other purposes. [Enrolled bill]

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

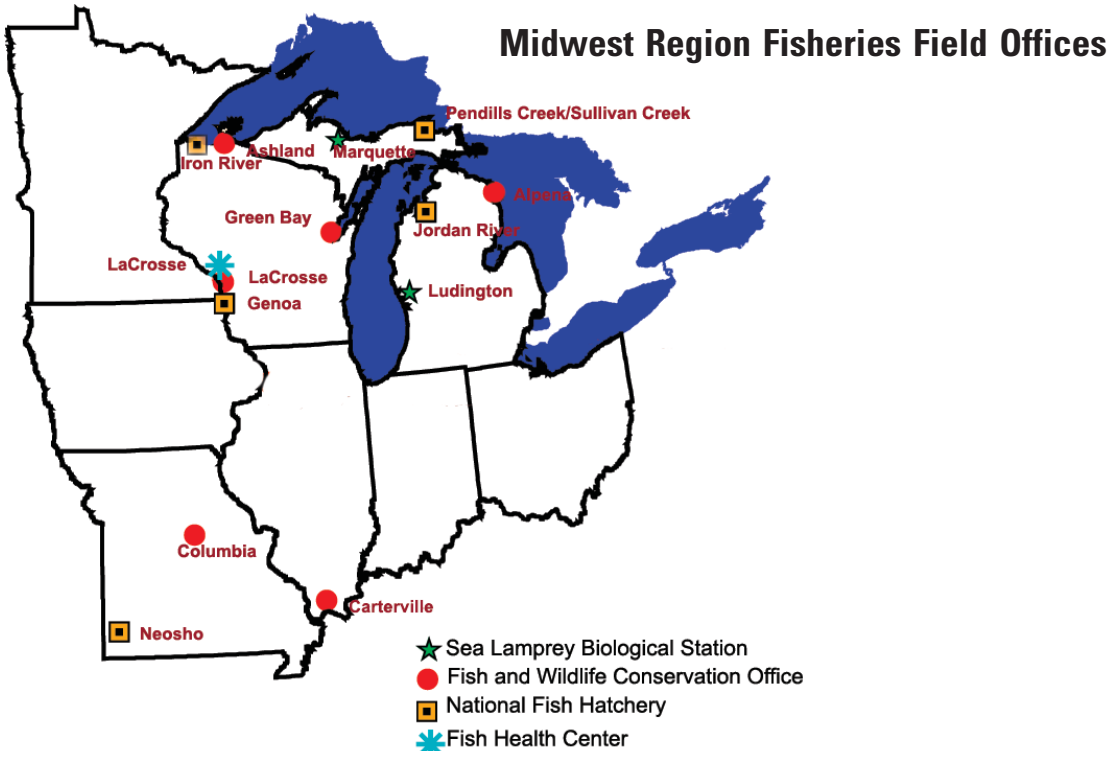
Midwest Region Fisheries Divisions

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

- Big Manistee River Partnership Meeting
  - Rick Westerhof, Green Bay FWCO
- Conservation Workshop Hosted By Congresswoman Candice Miller
  - James Boase, Alpena FWCO
- Genoa partners with La Crosse Area Fisheries Offices to Supplement Captive Largemouth Bass Stocks
  - James Luoma, Genoa NFH
- La Crosse FHC Helps Students Gain Laboratory Experience
  - Eric Leis, La Crosse FHC
- Pallid Sturgeon Recovery Team Meeting
  - Tracy Hill, Columbia FWCO

Aquatic Species Conservation and Management

- Great Lake Trout
  - Joe McMullen and Adam McDaniel, Columbia FWCO
- Green Bay FWCO completes fishery independent surveys near Escanaba, MI
  - Dale Hanson, Green Bay FWCO
- La Crosse FHC Conducts Genoa National Fish Hatchery's Fall Inspection
  - Sarah Bauer, La Crosse FHC
- Rainy Day Pallid Sturgeon
  - Patty Herman, Columbia FWCO

Aquatic Invasive Species

- Alpena FWCO Participates in Thunder Bay River Invasive Species and Water Quality Investigation with Sandborn School 5th/6th Grade Science Class
  - Anjanette Bowen, Alpena FWCO
- Zebra and Quagga Mussels Are Topic of Interest for Elementary Students
  - Anjanette Bowen, Alpena FWCO

Public Use

- Columbia FWCO Continues to Reconnect People with Nature through Wonders of Wildlife Events
  - Cliff Wilson, Columbia FWCO
- Fish of the Big Muddy make a big splash with Columbia Cub and Boy Scouts
  - Andy Starostka, Columbia FWCO
- Going to the Fair – The Otsego County Fair
  - Rick Westerhof, Green Bay FWCO
- MU Homecoming "Bloat"
  - Adam McDaniel, Columbia FWCO

Cooperation with Native Americans

Leadership in Science and Technology

- Lake Sturgeon Research Presented at the 139th Annual AFS Meeting
  - James Boase, Alpena FWCO

Aquatic Habitat Conservation and Management

- Baldwin Dam Site Tour
  - Rick Westerhof, Green Bay FWCO
- Boardman River Dams Implementation Team Selects a Project Manager
  - Rick Westerhof, Green Bay FWCO
- Engineering and Feasibility Study for Fish Passage Improvements at Elsie Dam
  - Rick Westerhof, Green Bay FWCO
- Lyons Dam Site Visit
  - Rick Westerhof, Green Bay FWCO
- Osceola County Potential Fish Passage Project Tour
  - Rick Westerhof, Green Bay FWCO
- Pere Marquette River Restoration Committee Meeting
  - Rick Westerhof, Green Bay FWCO

Workforce Management

- Columbia FWCO lends a helping "squeeze" to Iron River NFH spawning efforts
  - Joshua Schloesser, Andy Starostka and Mark Corio, Columbia FWCO
- Fish and Wildlife Service Lunch Cookout
  - Tracy Hill, Columbia FWCO
- Regional Office Detail Expands Horizons
  - Brian Elkington, Columbia FWCO

Region 3/Region 5 Coordination Meeting

The Region 3/Region 5 (Midwest and Northeast Regions) Coordination Meeting was held in Port Clinton, Ohio, to discuss fisheries topics that are shared by both regions. The meeting was facilitated by Ryan Aylesworth (Congressional Affairs Liaison) and was attended by district congressional staffers from across Ohio, a policy advisor from the governor's office, Ohio Department of Natural Resources staff, and staff from Fish and Wildlife Service offices that work in Ohio.