



U.S. Fish & Wildlife Service - Midwest Region

Fisheries & Aquatic Resources Program

Fish Lines



**Planting a
Butterfly Garden
at Wilson Elementary**

**Menominee Tribe
Celebrates Lake Sturgeon
Restoration**

**Oronto Creek Fish
Habitat and Watershed
Protection Project**

**Endangered Mussels get
Pumped-up in the Upper
Mississippi River**



Vol. 6 No. 12
September 2008

Fish Lines

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

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

Features

4 Planting a Butterfly Garden at Wilson Elementary

The Alpena NFWCO partnered with Wilson Elementary School to plant a butterfly garden on their playground.
BY HEATHER RAWLINGS, ALPENA NFWCO

6 Menominee Tribe celebrates Lake Sturgeon Restoration

Menominee Department of Conservation and the La Crosse NFWCO hosted a lake sturgeon celebration on the Menominee Indian Reservation.
BY ANN RUNSTROM, LACROSSE NFWCO

7 Oronto Creek Fish Habitat and Watershed Protection Project

The Oronto Creek project was completed early this summer with the help of many Lake Superior watershed partners.
BY TED KOEHLER, ASHLAND NFWCO

8 Endangered Mussels get Pumped up in the Upper Mississippi River

Biologists, working alongside state and Federal partners, had the privilege of helping bring a species back from near extinction this past month.
BY DOUG ALOISI, GENOA NFH



-Tatsuaki Nakato
Scott Gritters of the Iowa Department of Natural Resources holds a Higgin's eye pearly mussel that was found 19 miles below the stocking site, after the devastating 2008 floods.

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-USFWS

A young boy is fascinated with a turtle at Genoa National Fish Hatchery's 75th anniversary celebration.

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Conservation Briefs 9-22

- 9 **Habitat Projects toured by Matt Rudig of Congressman Obey's Office**
BY PAM DRYER, ASHLAND NFWCO
- 9 **Partnerships formed to Propagate Mussels for Illinois**
BY TONY BRADY, GENOA NFH
- 10 **Paddlefish Database Updates**
BY BRIAN ELKINGTON AND AARON WALKER, COLUMBIA NFWCO
- 10 **Adaptive Management Breaks Ground on the Missouri River**
BY WYATT DOYLE, COLUMBIA NFWCO
- 11 **A Quest for Small Fish**
BY COLBY WRASSE, ADAM MCDANIEL AND BRETT WITTE, COLUMBIA NFWCO
- 11 **Endangered Pallid Sturgeon stocked into the Missouri River**
BY MELLISSA CHENNG, NEOSHO NFH
- 12 **Alpena NFWCO assesses Walleye in the St. Mary's River**
BY ADAM KOWALSKI, ALPENA NFWCO
- 12 **Endangered Freshwater Mussels thrive in spite of the 2008 Iowa Floods**
BY TONY BRADY, GENOA NFH
- 13 **Genoa NFH and U.S. Geological Survey join Forces to Combat Zebra Mussels**
BY TONY BRADY, GENOA NFH
- 14 **La Crosse NFWCO plans Events to "Leave No Child Inside"**
BY ANN RUNSTROM, LACROSSE NFWCO
- 14 **Rainbow Trout for Lake Taneycomo**
BY JAMIE PACHECO, NEOSHO NFH
- 15 **Genoa Hatchery and Dairyland Power Cooperative combine to Provide Outdoor Recreational Opportunities**
BY DOUG ALOISI, GENOA NFH
- 15 **Slimy Sturgeon Scutes – A Fishy Learning Festival**
BY CHRIS MCLELAND AND ANDY PLAUCK, COLUMBIA NFWCO
- 16 **Fishery Exploration provided for Sandborn Elementary**
BY ANJANETTE BOWEN, ALPENA NFWCO
- 17 **Fall Walleye Surveys for the Great Lakes Indian Fish & Wildlife Commission**
BY FRANK STONE, ASHLAND NFWCO
- 17 **Stock Assessment Model updated for 1836 Treaty Waters**
BY AARON WOLDT, ALPENA NFWCO
- 18 **Regional Scoring of the 2009 Tribal Wildlife Grants**
BY FRANK STONE, ASHLAND NFWCO
- 18 **Local Volunteers Help Tag Lake Sturgeon For Ongoing Restoration**
BY NICK STARZL, GENOA NFH
- 19 **Record Sturgeon Production provides Fish for Research**
BY DOUG ALOISI, GENOA NFH
- 20 **Oxbow Creek Culvert Replaced**
BY ANDREA ANIA, ALPENA NFWCO
- 20 **Whittlesey Creek Farm Wetland Project**
BY TED KOEHLER, ASHLAND NFWCO
- 21 **Wrapping-up the Construction Season**
BY HEATHER RAWLINGS, ALPENA NFWCO
- 21 **Great Lakes Basin Fish Habitat Partnership Inaugural Meeting**
BY PAM DRYER, ASHLAND NFWCO
- 22 **Bottom Trawling demonstrated to Northland College Students**
BY GARY CZYPINSKI, ASHLAND NFWCO

Congressional Actions	23
Midwest Region Fisheries Divisions	24
Fisheries Contacts	25
Fish Tails	26

Planting a Butterfly Garden at Wilson Elementary

BY HEATHER RAWLINGS, ALPENA NFWCO

The Alpena National Fish and Wildlife Conservation Office (NFWCO) partnered with Wilson Elementary School second and sixth graders on October 10 to plant a 20 x 40 ft. butterfly garden on their playground. This was the first of what we hope are many projects with this school to encourage unstructured play of the elementary school students. This opportunity allowed children to learn how to properly plant native plants. Fourteen different types of wildflowers and grasses were purchased from Wildtype Nurseries in Mason, Michigan, and all plants were native to Michigan. Plants were chosen for their hardiness in a sunny environment, height, color and attractiveness to insects and birds. Biologists Andrea Ania and Heather Rawlings chose the plants and organized the project. The funds to purchase the plants, topsoil, mulch and some hand tools required to complete the project were provided by the Partners for Fish and Wildlife Program.



-USFWS/HeatherRawlings

Second graders from Wilson Elementary School in Alpena, Michigan, plant a butterfly garden on their school grounds in cooperation with the Alpena National Fish and Wildlife Conservation Office.

parents used their tractor with a small backhoe to remove the sod from the garden area, and the kids finished the sod removal manually with shovels. On the morning of Friday, Oct. 10, biologist Andrea Ania and Rawlings were on-site with several strong sixth graders to direct the delivery of topsoil and mulch furnished by contractor Sharboneau and Sons. The trucks were able to back right up to the garden to dump the soil, but 30 yards of soil had to be manually spread throughout the garden. The second grade class with teacher Mrs. Lisa Syma planted the garden in the afternoon. Once the plants were in the ground, mulch was carefully spread throughout the garden to cut down on weeds and to retain more water for the plants during precipitation events.



-USFWS/HeatherRawlings

This second grader is intent on planting her flowers in the butterfly garden at Wilson Elementary School.

The butterfly garden was planted adjacent to the playground, so the entire school can play in it, watch it grow, and observe fauna that come to use the garden. The tallest plants and grasses were planted in the back (big bluestem, switch grass and giant sunflower) and can reach 6-7 ft. tall. All of the classes (kindergarten through six) will use this site as a part of their school curriculum, but the second

grade will have specific assignments involving the garden and will maintain it. Each year the Alpena NFWCO would like to add another component to this playground to eventually create a natural area on Wilson School's property to allow nature to be more tangible to the kids, and to encourage imagination, unstructured play and a relationship with nature that the children may not be receiving at home. The Alpena NFWCO has "adopted" this second grade class and is making an effort to be in the classroom once a month to assist the



-USFWS/HeatherRawlings

Students fill buckets with mulch which will be carefully placed around flowers in the new butterfly garden.

teacher by incorporating more experiences in nature with the children. Sixty-five elementary school students assisted in the construction and planting of the butterfly garden, and the entire school will eventually benefit from these efforts.



-USFWS/HeatherRawlings

Second graders from Wilson Elementary School proudly pose in front of their new butterfly garden, created with the assistance of staff from the Alpena National Fish and Wildlife Conservation Office.

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

Menominee Tribe celebrates Lake Sturgeon Restoration

BY ANN RUNSTROM, LACROSSE NFWCO

Menominee Department of Conservation and the La Crosse National Fish and Wildlife Conservation Office (NFWCO) hosted a lake sturgeon celebration day Saturday, September 27 on the shores of Legend Lake near Keshena, Wis., on the Menominee Indian Reservation. The main purpose of the event was to conduct outreach to Tribal members about sturgeon management efforts and the significant sturgeon population now present in the lake, and to encourage Tribal members to try their hand in harvesting a sturgeon. The Fish and Wildlife Service has worked closely with the Tribe and the Wisconsin Department of Natural Resources since 1992 to establish a harvestable population of lake sturgeon. Management efforts, such as stocking 60,000 lake sturgeon, have been successful and the lake is now home to more than 1,000 sturgeon. There are numerous lake sturgeon present that exceed 50 inches and 35 pounds. The lake has been open to sturgeon harvest for two years, but no fish have been harvested as there has been very little effort. The day's event was held to increase awareness of the quality fish present in the lake. Menominee Historical Preservation Office,



-USFWS/PamThiel

Folks of all ages enjoy seeing a live lake sturgeon up-close-and-personal at the Menominee Tribe's sturgeon celebration in Keshena, Wisconsin.

Green Bay NFWCO, Menominee Department of Environmental Services, Menominee County Fire Department, Legend Lake Property Owners Association and Menominee County Extension Office all assisted in making the day a huge success.

Four large sturgeon, on display in a 2,000 gallon fire department water tank, were the main attraction. Young and old alike appreciated the chance to get up close and personal with these giants of the lake. There were fish painting and casting events for children, samples of smoked and grilled sturgeon, a sturgeon cleaning demonstration, boat rides, and door prizes provided by the Menominee Department of Conservation. Information was provided on invasive species, sturgeon management and regulations, fishing techniques, sturgeon cleaning and cooking and Menominee history. The event was well attended and will likely become an annual occasion.



-USFWS/Pam Thiel

The face on this girl tells it all at the Menominee Tribe's sturgeon celebration.

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

Oronto Creek Fish Habitat and Watershed Protection Project

BY TED KOEHLER, ASHLAND NFWCO

The Oronto Creek project was completed early this summer with the help of many Lake Superior watershed partners. The large and complex project stabilized 650 feet of catastrophically failing bank on Oronto Creek in Iron County, Wis. Oronto Creek is a Lake Superior tributary and hosts a population of native brook trout as well as other important recreational fish species such as brown and rainbow trout. The

project took place near the Oronto Creek confluence with Lake Superior and had the added benefit of protecting many acres of mature riparian forest habitat important to migratory birds.

Past land use practices had destabilized the project area. The current landowner, Iron County Land



-USFWS
The Oronto Creek fish habitat and watershed protection project stabilized 650 feet of catastrophically failing bank.

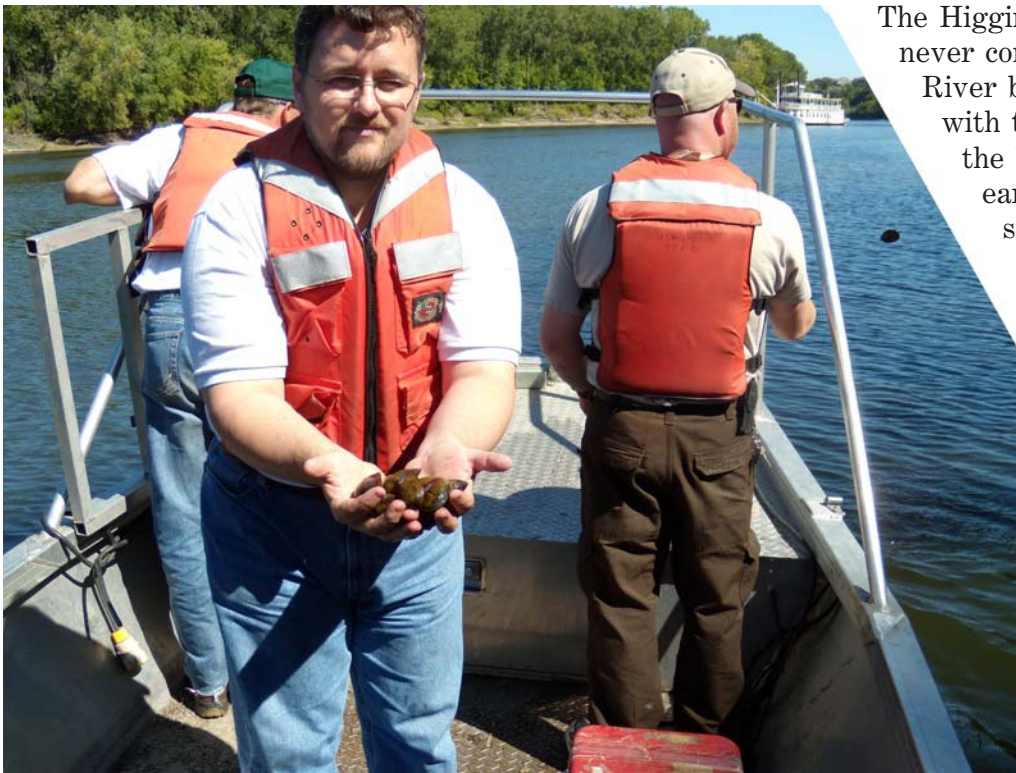
and Water Conservation Department, Iron County, Wisconsin Department of Agriculture – Trade and Consumer Protection, and the Fish and Wildlife Service partnered to fix the problem. The Ashland National Fish and Wildlife Conservation Office (NFWCO) worked through the Partners for Fish and Wildlife Program to provide coordination, funding and technical assistance. Working together, the banks were stabilized to prevent siltation of in-stream and Lake Superior habitat. To further benefit fish and the Lake Superior watershed, stream barbs were incorporated into the stabilization to provide fish habitat and bank protection. A local contractor, Ross Peterson Construction of Hurley, Wis., was hired to complete the project and a Partners for Fish and Wildlife Program Habitat Development Agreement was signed with the landowner to protect the project for a period of ten years.

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

Endangered Mussels get Pumped-up in the Upper Mississippi River

BY DOUG ALOISI, GENOA NFH

Fish and Wildlife Service biologists working alongside state (Minnesota, Wisconsin, Iowa and Illinois) and Federal (U.S. Army Corps of Engineers and National Park Service) biologists had the privilege of helping bring a species back from near extinction this past month, with the release of more than 6,500 two- and three- year old Higgin's eye pearl mussels. The Higgin's eye pearl mussel has been on the Federal Endangered Species list since the early 1970s, about the time the Endangered Species Act was established by Congress.



-USFWS

Tony Sullins of the Twin Cities Field Office holds a handful of Higgin's eye pearl mussels that will be placed into habitat free of invasive zebra mussels.

The Higgin's eye pearl mussel, although never common in the Upper Mississippi River basin, was dealt a devastating blow with the invasion of zebra mussels into the Upper Mississippi River basin in the early 1990s. This aquatic invasive species typically uses native mussels as substrate to attach and live on, reducing the native mussel's ability to breathe, feed and reproduce. Large historic mussel beds were literally wiped out when population explosions of zebra mussels covered them in layers of over 12 inches deep in some reaches of the Upper Mississippi River. This situation prompted biologists from around the basin to establish a mussel coordination team to search for answers on how to reduce the threat of extinction to the Higgin's eye pearl mussel, and subsequently other species of mussels as an additional benefit.

A major tool in the recovery of this mussel species is propagation. It was found that host fish placed in cages over suitable habitat results in good mussel production and survival, and fish species such as bass and walleye, historically used in propagation programs at the Genoa National Fish Hatchery (NFH), serve as good fish hosts for the Higgin's eye pearl mussel to be able to complete their reproductive cycle. Through these cage culture efforts, over 6,800 two- and three- year old mussels averaging over three inches in size were released from cages into suitable mussel beds with little or no zebra mussel colonization in the Wisconsin, Rock and Mississippi rivers. Propagation efforts have allowed for the production and release of over 35,000 sub-adult mussels in the past two years. Some of these mussels are now actively reproducing in their new homes, completing the loop of recovery for hopefully generations to come.

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

Habitat Projects toured by Matt Rudig of Congressman Obey's Office

BY PAM DRYER, ASHLAND NFWCO

Matt Rudig, Congressman Obey's northern representative, toured several habitat restoration projects in northern Wisconsin with staff from the Ashland National Fish and Wildlife Conservation Office (NFWCO). Ted



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(Lt. to Rt.) Ted Koehler of the Ashland National Fish and Wildlife Conservation Office (NFWCO), Michele Wheeler (Executive Director of the Bad River Watershed Association), Matt Rudig (Congressman Obey's Northern Representative), and Pam Dryer (Ashland NFWCO) pose for a picture with a recent northern Wisconsin habitat restoration project in the background.

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

Partnerships formed to Propagate Mussels for Illinois

BY TONY BRADY, GENOA NFH

On the first of August, biologists from Illinois Department of Natural Resources (DNR), Illinois Chapter of The Nature Conservancy (TNC), and Genoa National Fish Hatchery (NFH) began a partnership to propagate butterfly mussels. Illinois DNR classified the butterfly mussel as a species of greatest conservation concern in the state's Conservation Action Plan. A state wildlife grant was awarded to TNC to begin propagation efforts for the butterfly mussel.

Because of the existing relationships formed in the recovery efforts for the Federally endangered Higgin's eye pearl mussel, Illinois DNR and TNC approached Genoa NFH to provide technical assis-

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.

and Pam Dryer highlighted projects that meet strategic objectives of the Great Lakes Coastal Program, Partners for Fish and Wildlife Program and Fish Passage Program.

Michele Wheeler, Executive Director of the Bad River Watershed Association, also participated in the tour. The association is a very active partner in many of our fish passage projects in the Bad River watershed. They play a key role in coordinating with the numerous town road crews and town boards that replace culverts.

The tour included a site where wetland restorations were under construction and one that had been restored for over six years. Stream bank restoration was highlighted on a Marengo River project, which is a tributary to the Bad River and a primary producer of excess sediment into the system. A new fish passage project on a town road demonstrated how culverts can be replaced by town crews in a fish-friendly way, with technical and financial assistance from the Fish and Wildlife Service and its partners. Matt's overall assessment of the day was: "I really learned a lot!"

then excyst off the fish to begin their independent juvenile life stage.

After the freshwater drum were collected, mussel biologist Tony Brady of the Genoa NFH joined TNC and Illinois DNR at the Merwin Preserve at Spunky Bottom, Ill. After examining the mussels and finding only one female with a few larva, the biologists determined that they had missed the mussel's spawning

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

season. The biologists then decided to conduct a density study to determine how many fish to place per culture cage. Freshwater drum are easily stressed from handling and confinement which may result in high mortality. Results from the density study will help maximize effort by reducing mortality due to crowding in the cages. A second effort to propagate butterfly mussels will be attempted in May 2009.

Paddlefish Database Updates

BY BRIAN ELKINGTON AND AARON WALKER, COLUMBIA NFWCO

Columbia National Fish and Wildlife Conservation Office (NFWCO) is home to the Mississippi Interstate Cooperative Resource Association (MICRA) National Paddlefish Stock Assessment Database. The database, created in 1995, is maintained year round, and houses paddlefish information from 22 states. We also perform a comprehensive error check on the database annually. When a data request came in this month, prior to the annual comprehensive check, we gladly shifted our effort away from other projects to fill the order.

Biologists Brian Elkington and Aaron Walker worked diligently throughout the month updating the database for one of our partners. The work included extracting coded-wire tags from paddlefish rostrums, decoding those tags, entering them into the database

and proofing the data. We then examined the database for anomalous occurrences, such as paddlefish body length shrinking after their release. Such anomalies were rechecked for mistakes and, when needed, partners were contacted to sort out any remaining inconsistencies. A series of quality control checks were also performed on the database to find any errors. These errors were repaired and the checks were re-run until errors were eliminated. Once finished, the database was sent out to one of the many biologists working with MICRA. Data requests like this occur when our partners have to produce results or reports for paddlefish in their specific region. As database managers for the project, it is our role to ensure the data is available to them as well as provide data analysis on a basin-wide scale.

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

Adaptive Management Breaks Ground on the Missouri River

BY WYATT DOYLE, COLUMBIA NFWCO

Adaptive management as a concept is slowly taking form through the Habitat Assessment and Monitoring Program (HAMP) for the Missouri River. The principles behind adaptive management programs are that new science and findings will guide the future actions of the program. Since the Missouri River is essentially an unexplored frontier of fisheries science, many of the programs created for pallid sturgeon recovery have adopted the framework of "change of strategy through informed science." The first step toward this process occurred in Nebraska City with a collaborative group of program managers, engineers and biologists including representatives from the Fish and Wildlife Service's Great Plains, SD, and Columbia, MO, National Fish and Wildlife Conservation Offices. The U.S. Army Corps of Engineer's Craig Flemming

lead this effort and showed his foresight and commitment by attending a course specific to adaptive management modeling. The group was facilitated by a consultant from the University of Nebraska (Lincoln) who created a model over the four day meeting specifically for the HAMP program. Independent scientists were also at the table to provide insight relative to successes in other large rivers. Taking adaptive management from a concept to reality will prove to be hard work as there is no hand book to guide the process. Biologists are eager to prove that we can accomplish success in recovery and habitat rehabilitation through a collaborative adaptive framework and write our own handbook for success in conservation monitoring programs.

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

A Quest for Small Fish

BY COLBY WRASSE, ADAM MCDANIEL AND BRETT WITTE,
COLUMBIA NFWCO

An old Irish saying states, “May the holes in your net be no larger than the fish in it.” This rings especially true when trying to catch larval sturgeon. These slivers of fish, less than an inch long, floating about in the vastness of the Missouri River are very much needles in a haystack. It takes specialized gear to catch these tiny fish. Traditional fishery assessment gears such as electrofishing, mini-fyke nets and trammel nets do not capture these small sturgeon; however, stern trawling with a small mesh net has proven quite effective.



-USFWS

Stern trawling with small mesh nets is an effective technique for collecting small sturgeon in the Missouri River.

Closer examination of our big September catch yielded some interesting insights. The range of sizes of YOY sturgeon collected once again suggested a protracted spawn, with some sturgeon likely spawning well into late August and early September. The abundance of YOY sturgeon suggested that environmental conditions during 2008 were conducive for successful sturgeon spawning. Over the course of the four days, it became apparent that certain habitat types consistently produced small sturgeon, where other habitats seemed devoid of these fish.

Our ability to consistently catch larval and YOY sturgeon represents a positive step forward in sturgeon research on the Missouri River. Even though sturgeon are widely researched, the early life histories and spawning characteristics of these fish still remain mysterious to some degree. This lack of knowledge is in large part due to small sample sizes. Our greater efficiency in collecting larval and YOY sturgeon will lead to a better understanding of sturgeon in the Missouri River and provide for wise management of these unique fish.

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

Endangered Pallid Sturgeon stocked into the Missouri River

BY MELLISSA CHENNG, NEOSHO NFH

Biologists from the Neosho National Fish Hatchery (NFH) stocked endangered pallid sturgeon into the Missouri River near Bellevue, Neb., on September 23. The 401 fish were marked with pit tags the previous week and were from the 2007 brood year. Originating from wild brood stock that was captured in the Missouri River, these pallid sturgeon were delivered by plane from Garrison Dam NFH as small fry. Hatchery staff at Neosho NFH reared them on brine shrimp and bloodworms to obtain the stocking length of 9.58 inches.

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

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.

Over the past six years, Columbia National Fish and Wildlife Conservation Office (NFWCO) has been continually improving net design and trawling techniques in order to more effectively sample the unique fish community of the Missouri River. The end result has been greater efficiency in collecting fish, especially small sturgeon. The years of trial and error, experimentation, and financial investment have paid off in big ways. These achievements were highlighted during a four day period in September when we collected a remarkable 183 small, likely young-of-the-year (YOY), sturgeon. To put these numbers in perspective, our four day total exceeded annual totals captured for an entire season of sampling.



-USFWS

Neosho National Fish Hatchery staff prepare to stock “Federally endangered pallid sturgeon near Bellevue, Nebraska.

Alpena NFWCO assesses Walleye in the St. Mary's River

BY ADAM KOWALSKI, ALPENA NFWCO

Biologist Adam Kowalski traveled to Sault Ste. Marie, Mich., in early October to assess walleye in the St. Mary's River. Using the Alpena National Fish and Wildlife Conservation Office's (NFWCO) electrofishing vessel, Kowalski along with Chuck Payment of the Michigan Department of Natural Resources (DNR) and Ben Turschak and Dan Operhall of Lake Superior State University sampled five sites (three in Lake Nicolet and two in a Lake Nicolet side channel) over two nights. The objective of this work is to determine the percentage of hatchery reared walleye in the St. Mary's River walleye population and to index juvenile walleye abundance.

Hatchery stocked walleye are immersed in oxytetracycline (OTC) prior to release which leaves a mark on calcified structures like otoliths and vertebrae that

is detectable in the lab under a black light. Data collected in this annual survey are used by management agencies to determine appropriate stocking levels and stocking locations for the St. Mary's River. The St. Mary's River is part of 1836 Treaty waters, and stocked walleye help support recreational and tribal subsistence fishing. This work is a priority for the St. Mary's River Fishery Task Group of the Lake Huron Technical Committee and is accomplished through the cooperative efforts of the Chippewa Ottawa Resource Authority, Michigan DNR, Ontario Ministry of Natural Resources, Department of Fisheries and Oceans Canada and the Fish and Wildlife Service.

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

Endangered Freshwater Mussels thrive in spite of the 2008 Iowa Floods

BY TONY BRADY, GENOA NFH

In a 10-month time span, Iowa rivers have undergone two major flood events including the record setting flood of June 2008. The effects of the floods on the inhabitants living along Iowa rivers were well documented by local and national news organizations, but what about the inhabitants that make their homes on the bottom of these rivers? Biologists from Genoa National Fish Hatchery (NFH), Iowa Department of Natural Resources (DNR) and Minnesota DNR set out to see how the freshwater mussels in the Wapsipinicon River in northeast Iowa were doing after the floods. The Wapsipinicon River is one of the sites where Federal and state agencies have been working for the past seven years to reintroduce the Federally endangered Higgin's eye pearl mussel.

Surveys conducted around the Central City area in 2005 and 2006 produced a total of 10 Higgin's eye pearl mussels, indicating that the recovery effort was working. A second recovery site on the Wapsipinicon River, located below the dam in Anamosa, had never been surveyed until this August when biologists converged on the site to determine the success at the Anamosa site. Biologists were excited to find two young Higgin's eyes within the first two hours of

searching, while a third Higgin's eye was found later that afternoon. The second day of the survey took the biologists back to Central City, where an amazing 16 Higgin's eye pearl mussels were found in a four-mile stretch of river.

One of the 16 mussels was recaptured from the 2006 survey as indicated by the number tag that was glued to the shell after its first collection. The documentation of Higgin's eye in this four-mile stretch of river raised the question, "How far downstream from Central City have the Higgin's eye gone?" Day three of the survey took biologists 19 miles further downstream to Stone City, located between Central City and the Anamosa Dam. On this chilly, rainy day a single Higgin's eye was found along a muddy bank of the Wapsipinicon River just upstream from Stone City, indicating that the recovery effort has produced sub-adult Higgin's eye pearl mussels in over 30 river miles of the Wapsipinicon River.

A total of 29 Higgin's eyes have been collected and tagged from the Wapsipinicon River, yet only a fraction of the river has been surveyed indicating that there could be thousands of this mussel species now living in the Wapsipinicon River.

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

Genoa NFH and U.S. Geological Survey join Forces to Combat Zebra Mussels

BY TONY BRADY, GENOA NFH

The U.S. Geological Survey's Upper Midwest Environmental Science Center (UMESC) has a long standing reputation for testing Investigational New Animal Drugs to be used in aquaculture. Their work has aided Fish and Wildlife Service hatcheries by providing data on the safety of different chemicals used to treat fish and mussels. Just one of their



-USFWS

These native black sandshell mussels are covered with invasive zebra mussels which inhibits the mussel's ability to open its shell to feed and reproduce.

mussels have caused major problems not only for native mussels, but also to humans, by clogging water intake systems, costing companies millions of dollars for zebra mussel removal.

Chlorine is the current chemical of choice for removal of zebra mussels in cooling systems; however, the use of chlorine harms non-target species and leads to the increase of dioxins in the environment. Dioxins are carcinogens that are known to bio-accumulate in the environment. Early studies by Rach indicate that biobullets are successful at killing zebra mussels, while not harming native mussels. Biobullets also breakdown to non-toxic chemicals if not assimilated by the zebra mussels within a few hours.

A second round of tests is scheduled for this summer. To complete his study, Rach needed native mussels encrusted with zebra mussels. In order to collect the mussels Rach asked Genoa National Fish Hatchery's (NFH) mussel biologist Tony Brady to assist in the collection of the mussels by using SCUBA gear. Fifty three ridge mussels and nearly a dozen other species of mussels were collected in about an hour's worth of diving. The native and invasive zebra mussels are being held at UMESC until the time of the test. Results from this biobullet test will indicate if zebra mussel encrusted native mussels are susceptible to the effects of the biobullet. Should the biobullets work as planned, then we may have our first target-specific chemical to combat the zebra mussel invasion without harming native mussels.

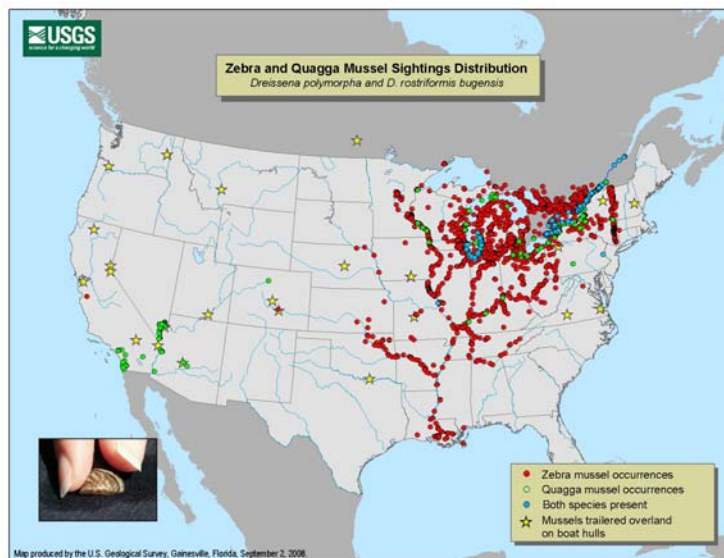
For further info about the Genoa NFH: <http://www.fws.gov/midwest/genoa/>

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.

many highlights was the work with hydrogen peroxide, which is an effective chemical for treating fish and fish eggs for fungus. Hydrogen peroxide is environmentally safe and user friendly.

Currently, UMESC's Jeff Rach is working on a new chemical known as a biobullet for the treatment of invasive zebra mussels. Upon their accidental release into the Great Lakes in the mid-1980s, zebra



The red dots on this map indicate the current distribution of invasive zebra mussels in the United States.

La Crosse NFWCO plans Events to “Leave No Child Inside”

BY ANN RUNSTROM, LACROSSE NFWCO

The community in the La Crosse, Wis., area lies adjacent to one of the most visited National Wildlife and Fish Refuges (NW&FR) in the entire Refuge system. Yet neighboring Winona, Minn., youth, who congregate less than two blocks from the mighty river that forms this Refuge, have never been on its natural shore, dipped a paddle, or cast a line in its



-USFWS/AnnRunstrom

Two Winona, Minnesota, youth try their hand at kayaking on the Winona District of the Upper Mississippi River National Wildlife and Fish Refuge.

District and headquarters of the Upper Mississippi River NW&FR, members of a nearby church, and the owner of Wenonah Canoe company were all contacted to see what they might be able to provide to make this a reality. Hope became reality on May 14 and July 21, 2008. The result was two beautiful summer afternoons of paddling canoes and kayaks on the NW&FR followed by a tasty meal of hotdogs. The weather was delightful, the company unique, and the Refuge, as always, a place of peace and sanctuary for human souls and wildlife alike.

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

Rainbow Trout for Lake Taneycomo

BY JAMIE PACHECO, NEOSHO NFH

Neosho National Fish Hatchery (NFH) continues to honor the Fish and Wildlife Service mission of working with others in its partnership with the Missouri Department of Conservation (MDC). Hatchery staff ensures that the mitigation commitment of 225,000 rainbow trout between 9.5 to 10 inches in length (about 100,000 pounds total) are stocked into Lake Taneycomo near Branson, Mo. Neosho NFH successfully completes this annual responsibility with the cooperation and teamwork of Shepherd of the Hills State Fish Hatchery (SFH), located in Branson.

Once the average stocking length of 10 inches is attained, Shepherd of the Hills SFH personnel trans-

port the fish at Neosho NFH with their distribution unit that hauls 3,500 pounds of fish per load, and they stock the rainbow trout into Lake Taneycomo.

Our two hatcheries also work together at many outreach events such as Neosho NFH's Kid's Annual Fishing Clinic and Derby and the Family Fishing Fair at Shepherd of the Hills SFH. This great partnership not only enhances outreach events and fishing opportunities in Missouri, but also ensures that Neosho NFH meets its yearly stocking obligation for Lake Taneycomo, thanks to the assistance from our state partner.

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 Neosho NFH: <http://www.fws.gov/midwest/neosho/>

Genoa Hatchery and Dairyland Power Cooperative combine to Provide Outdoor Recreational Opportunities

BY DOUG ALOISI, GENOA NFH

Dairyland Power Cooperative of Genoa, Wis., recently awarded a \$12,000 grant to the Genoa National Fish Hatchery (NFH) to construct and install a handicap-accessible fishing pier located at one of the hatchery ponds. The pond will be stocked with fish to allow people with disabilities to enjoy a quality outdoor fishing experience with the beautiful bluffs of the Mississippi River in the background.



-Mary Stefanski

Dairyland Power Representative John Thiel speaks at a ceremony that provided a \$12,000 grant from Dairyland Power Cooperative to Genoa National Fish Hatchery to build a handicap-accessible fishing pier at the Hatchery. Fish and Wildlife Service Director Dale Hall (far right) attended the ceremony and accepted the check for the grant.

The pier will also allow the station to expand its annual kids fishing day, a great hit with children ages 6-12. Each May, a hatchery pond is made available and stocked with rainbow trout for children to learn how to fish and enjoy quality time in the outdoors with a parent or guardian. The acquisition of the dock will allow more fishing area for the 150+ children and their guardians to safely enjoy the event. Fish and Wildlife Service Director Dale Hall was on hand at the Genoa NFH to accept the check from Dairyland Power Environmental Program Representative John Thiel. Director Hall stated, "It takes all of us working together to pass on a conservation legacy to our children, and to help all Americans have an opportunity to enjoy the outdoors. Dairyland's gift is an object lesson of how working together, we can partner together to make a lasting impact on the next generation of conservation stewards, and be inclusive in sharing outdoor opportunities for everyone." Specifications are now being distributed to various vendors and the acquisition and placement of the dock is planned to be complete by next spring.

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

Slimy Sturgeon Scutes – A Fishy Learning Festival

BY CHRIS MCLELAND AND ANDY PLAUCK, COLUMBIA NFWCO

A cloudy day on the banks of the Missouri River set the scene for a fun day with nearly 300 middle school children. Biologist Andy Plauck and technician Chris McLeland from Columbia National Fish and Wildlife Conservation Office (NFWCO) participated in the third annual River Learning Festival in St. Charles, Mo. This event took place at Columbia Bottoms Conservation Area, near the confluence of the Missouri and Mississippi rivers. The students and their teachers from the Hazelwood School District near St. Louis showed up to brave inclement weather and learn about the "Big Muddy." This event focused on exposing various aspects of the Missouri River to

children ages 10-13. The goal of the event was to raise awareness regarding Missouri River issues and spark interest in the recreational opportunities offered by the river.

McLeland and Plauck discussed "Fisheries Management on a Big River Ecosystem" which included the endangered pallid sturgeon and other riverine species. To reinforce the topic, some of the local Missouri River inhabitants were on display. Live catfish, gar and shovelnose sturgeon were a big hit with the participants. Only a handful of these kids had been fishing, leaving the majority having never experienced an encounter of the "fishy" kind before. Just

about every group shouted out “catfish” when asked what fish swim in the Missouri River; however, none of them expected to see the dinosaur-like shovelnose sturgeon to be pulled from our tank. Most children were reluctant to even touch the sharp scutes of the sturgeon, although a brave few faced their uncertainty and held the fish. The three-foot long nose splashed at least one child every time we pulled it out of the tank. Hearing a child say, “Wow, I’ve never touched a fish before,” was a real eye-opener for someone who grew up playing in ponds and trudging about creeks as a child. Over all, this event definitely reinforced the need for outreach to children living in urban areas.

As with any large event, it took the cooperation of many people from multiple agencies to pull it off. We partnered with Missouri Department of Conservation, Missouri State Water Patrol, U.S. Geological Survey, Missouri Horseman’s Association, U.S. Forest Service, and Missouri River Relief, just to name a few. By turning the school’s field trip into a major event, the children are more likely to retain some of this information into their adult lives.

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



-USFWS/ChrisMcLeland

Andy Plauck of the Columbia National Fish and Wildlife Conservation Office talks about the Missouri River with local middle school students.

Fishery Exploration provided for Sandborn Elementary

BY ANJANETTE BOWEN, ALPENA NFWCO

The Alpena National Fish and Wildlife Conservation Office (NFWCO) provided a fishy experience for Alpena Public School’s Sanborn Elementary fifth and sixth grade Science class on September 30. The event was held on the grounds of the Federal Building along the Thunder Bay River in Alpena, Mich.



-USFWS/ScottKoproski

Alpena National Fish and Wildlife Conservation Office biologist Andrea Ania teaches Sandborn Elementary students how to use a dichotomous key to identify fish.

Students learned how to identify the parts of a fish’s anatomy and how to use a dichotomous key to distinguish fish species. They were able to handle and recognize a number of fish species including the round goby (an aquatic invasive species), yellow perch and spottail shiner. Students also viewed and learned about how different fish sampling nets are used, including a beach seine, trap net and bottom trawl. A bottom trawling demonstration was also provided to allow students to view fish sampling in action. The trawling was part of a fishery study to detect and quantify aquatic invasive species in the Thunder Bay River and other areas of Lake Huron and the St. Mary’s River.

This event was a great opportunity to introduce students to fish and fish sampling. Approximately 28 students participated in the experience. They were very interested and had many questions. The *Alpena News* attended the event and printed a photo in the Oct. 1 newspaper of biologist Andrea Ania talking with students.

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

Fall Walleye Surveys for the Great Lakes Indian Fish & Wildlife Commission

BY FRANK STONE, ASHLAND NFWCO

Frank Stone, fishery biologist with the Ashland National Fish and Wildlife Conservation Office (NFWCO), started his first week of a five-week project assisting the Great Lakes Indian Fish and Wildlife Commission in determining recruitment levels of juvenile walleye. The objectives of these surveys are to estimate relative abundance of young-of-the-year walleye in several lakes of northern Wisconsin and northern Michigan. The data from these surveys will be used in conjunction with spring population estimates, to set walleye safe harvest levels for the 2009 tribal spearing season. During the length of the project, Stone will

conduct a total of 19 fishery surveys.

These sampling efforts take place at night, when walleye activity is the highest and catch efficiency is maximized. Using a boat electrofishing system, fish collection is relatively fast and efficient. Both length data and scale samples are collected. These data reflect the lake's current walleye recruitment values.

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 U.S. Fish and Wildlife Service have distinct and unique obligations toward tribes based on trust responsibility, treaty provisions and statutory mandates. The Ashland NFWCO 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 Federal Indian trust land and in treaty reserved areas.

Conserving this Nation's fish and other aquatic resources cannot be successful without the partnership of Tribes; they manage or influence some of the most important aquatic habitats both on and off reservations. In addition, the Federal government and the Service have distinct and unique obligations toward Tribes based on trust responsibility, treaty provisions, and statutory mandates. The Fisheries Program plays an important role in providing help and support to Tribes as they exercise their sovereignty in the management of their fish and wildlife resources on more than 55 million acres of Federal Indian trust land and in treaty reserved areas.



-USFWS

Frank Stone of the Ashland National Fish and Wildlife Conservation Office worked with Greg Smart (left) and Louis Plucinski of the Great Lakes Indian Fish & Wildlife Commission to conduct walleye surveys in northern Wisconsin and northern Michigan lakes.

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

Stock Assessment Model updated for 1836 Treaty Waters

BY AARON WOLDT, ALPENA NFWCO

Biologist Aaron Woldt of the Alpena National Fish and Wildlife Conservation Office (NFWCO) updated the WFH05 stock assessment model in Lake Huron in September. This model is updated annually to assess the status of the lake whitefish population in WFH05 (Alpena, Mich., area) and to set safe harvest limits for tribal commercial fishers in accordance with the Year 2000 Great Lakes Consent Decree. As stipulated in the 2000 Great Lakes Consent Decree, preliminary lake whitefish harvest limits must be

calculated by the Modeling Subcommittee (MSC), reviewed by the Technical Fisheries Committee (TFC), and presented to the parties to the decree by November 1 each year.

Woldt summarized and formatted commercial catch and survey data provided by Mark Ebener of the Chippewa Ottawa Resource Authority and also data from the Fish and Wildlife Service, to put into the stock assessment model. The updated WFH05 lake whitefish model yielded a recommended prelimi-

nary tribal lake whitefish harvest limit of 961,800 pounds. Woldt will continue to run model diagnostics and consult with MSC members prior to producing a final recommended harvest limit for this unit.

Preliminary lake whitefish harvest limits for all management units in 1836 Treaty waters of the Great Lakes were presented to the TFC for review on October 22. The MSC will complete final lake white-

fish harvest limits and present them to the TFC at its November meeting.

MSC produced harvest limits, when reviewed by the parties and approved, will become binding 2009 lake whitefish harvest limits for 1836 Treaty waters. These harvest limits will allow lake whitefish fisheries to be executed while still protecting the biological integrity of the lake whitefish stocks.

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

Regional Scoring of the 2009 Tribal Wildlife Grants

BY FRANK STONE, ASHLAND NFWCO

Frank Stone, biologist with the Ashland National Fish and Wildlife Conservation Office (NFWCO), assisted Regional Tribal Liaison John Leonard with scoring proposals submitted for the Fish & Wildlife Service's 2009 Tribal Wildlife Grant (TWG) program. This was a regional scoring process of resource proposals submitted by tribes throughout Region 3. Stone reviewed nine proposals. Additional proposals were also scored by other program staff including Sean Kelly (Migratory Birds), Lynn Lewis (Ecological Services), Dan Sobieck (National Wildlife Refuges), Jim Luoma (Fisheries), and Bob Jackson (Bureau of

Indian Affairs). Once all the TWG proposals have been scored, the top 75 percent will be sent in for the National scoring portion of this grant program.

The TWG program will provide new funding opportunities to tribes for activities that protect and restore habitats that benefit fish and wildlife species of tribal significance. The TWG program also supports the efforts of tribal governments to develop or augment the capacity to manage, conserve, or protect fish and wildlife species of concern through the provision of additional funding and technical support.

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

Local Volunteers Help Tag Lake Sturgeon For Ongoing Restoration

BY NICK STARZL, GENOA NFH

During the summer of 2008, the crew of the Genoa National Fish Hatchery (NFH) and *Friends of the Upper Mississippi River Fisheries Services* (FUMFS) volunteers Chuck Snyder, Gill Gainsworth, Chuck Chihak and daughter Laura coded-wire tagged 23,000 of its approximately 60,000 6" lake sturgeon for stocking into the White Earth and Red Lake Reservations of Minnesota.

The entire tagging operation took approximately 80 hours to accomplish. Each fish received a tiny stainless steel sliver of metal wire injected intramuscularly. The tag is approximately 1/16th of an inch long and cannot be seen on the fish once it is injected; however, with the use of a metal detecting wand, the tag can be identified. This method aids biologists in determining the effectiveness of each restoration

program by distinguishing between hatchery and wild fish. Each year, the sturgeon are tagged in a different location in order to differentiate year classes during sampling. Since 1994, the Genoa NFH has been working to restore lake sturgeon populations which have declined due to the loss of habitat, pollution and overfishing.

The species is considered either threatened or endangered in all but one (Wisconsin) of the historical 20 states within its range. The Genoa NFH cooperates with the La Crosse National Fish & Wildlife Conservation Office and the La Crosse Fish Health Center to annually provide sturgeon to the states of Missouri and Minnesota, as well as tribal governments in Wisconsin and Minnesota.

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

Record Sturgeon Production provides Fish for Research

BY DOUG ALOISI, GENOA NFH

The Genoa National Fish Hatchery (NFH) raises lake sturgeon for ongoing research and restoration efforts involving three states and



-USFWS

Fingerling lake sturgeon are stocked into Red Lake, Minnesota.

four Native American reservations. This summer saw a record 63,000 lake sturgeon raised to 6-7 inches, which met or exceeded all existing stocking commitments. This large amount of fish being successfully reared allowed sturgeon to become available for a number of research projects. Working closely with Dr. Chunbo Zhang and graduate research assistants with the Illinois Institute of Technology, lake sturgeon at many stages of development were provided by the Hatchery to the University to examine sturgeon olfactory development. This research may determine whether sturgeon return to their natal streams to spawn by using their sense of smell. Other ongoing research being conducted by the Missouri Department of Conservation is examining lake sturgeon migration and movements after the fish are stocked, by tagging sturgeon supplied by Genoa NFH with passive integrated transponder (PIT) tags. In addition, Southern Illinois University also acquired 800 (8-inch) lake sturgeon to study the feasibility of long term marking sturgeon with isotopes. Restoration programs also received over 58,800 fall fingerling sturgeon to meet stocking requests made in long term sturgeon restoration plans. This 2008 year class, accompanied with subsequent years of production and careful habitat conservation, will ensure the chances that lake sturgeon populations in the Midwest will be restored and viable for future generations to enjoy.

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

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.

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-USFWS

Lake sturgeon gather to spawn in the Wolf River system in Wisconsin.

Oxbow Creek Culvert Replaced

BY ANDREA ANIA, ALPENA NFWCO

On September 17, a 5-foot elliptical culvert was installed on Oxbow Creek at Oxbow Creek Road, providing 7.5 miles of unimpeded fish passage for native brook trout in the Black River watershed. The Cheboygan County Road Commission installed the new culvert to re-



-USFWS/Andrea Ania

An inadequately sized culvert at the Oxbow Creek Road stream crossing on Oxbow Creek (inset) often plugged and was a water velocity barrier to native brook trout. Within a few hours after culvert replacement, the back-water drained and the channel began to redefine itself.

Brook trout are a native species to northern Michigan river systems. They have lost much of their habitat to development and increased road-stream crossings that were inadequately designed to handle water flow conditions and fish movement. This project is consistent with the Black River Watershed Stewardship Initiative-Nonpoint Source Pollution Management Plan (2002). Partners for this project included Michigan DNR, Upper Black River Watershed Restoration Committee, Cheboygan County Road Commission and Huron Pines.

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

Whittlesey Creek Farm Wetland Project

BY TED KOEHLER, ASHLAND NFWCO

Construction has finished on the Whittlesey Creek Farm Wetland Project. This Partners for Fish and Wildlife Program (PFWP) project consists of a quarter-acre wetland restoration site. The site is strategically located in the Whittlesey Creek priority watershed and will hopefully open the door to work with the landowner on future fish and wildlife habitat projects. The project will provide habitat for species

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

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.

place a failing, undersized (24-inch) concrete culvert that was acting as a physical and thermal barrier to upstream fish movement, and was a major source of sediment entering the system.

The increased diameter of the new culvert will reduce water velocities and thermal pollution, allowing native brook trout upstream access to spawning and rearing habitat. Based on water temperature data collected by the Michigan Department of Natural Resources (DNR) and the Upper Black River Watershed Restoration Committee, the old culvert acted like a dam, increasing summer water temperatures and creating a thermal barrier to brook trout.

Optimal and lethal water temperatures for brook trout range from 57-66 °F and 70-79 °F, respectively (Brown 1971). Water temperature data will continue to be recorded next summer to measure the benefits of the new culvert on thermal pollution. The new culvert will also reduce sediment input to the stream, which was a major source of pollution, potentially destroying valuable brook trout spawning and nursery habitat downstream.

such as mallards, wood ducks and blue-winged teal. A PFWP Wetland Development Agreement was signed to protect the project site for a period of ten years. After the design was completed, the construction contract was awarded to Ashland Construction of Ashland, Wisc. The landowner contributed to the success of this project through assisting with equipment operation and seeding.

Wrapping-up the Construction Season

BY HEATHER RAWLINGS, ALPENA NFWCO

September was a very busy month for the Alpena Partners for Fish and Wildlife Program (PFWP). Construction to restore wetlands was constant, thanks to a very wet spring and an early summer. As a result, contractors were in a hurry to finish projects before the fall rains started. Six projects were completed in September, restoring a total of 15 acres of wetlands on the properties of six different landowners. Four of the projects were located in fallow farm

fields and will provide excellent migration habitat for a variety of waterfowl and nesting habitat for the mallard duck. The other two projects were located in wooded habitat more suitable for the wood duck. One of the projects was located on a large parcel of property where the landowner and the PFWP have been working for over 10 years to restore a wetland complex. This was the sixth project completed on this property.

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

Great Lakes Basin Fish Habitat Partnership Inaugural Meeting

BY PAM DRYER, ASHLAND NFWCO

The Interim Steering Committee of the Great Lakes Basin Fish Habitat Partnership held its first meeting on Sept. 22-23 in Detroit, Mich. States from across the basin, Federal agencies involved in Great Lakes management, and basin-wide non-profit organizations attended. Meeting participants agreed to move the partnership forward to gain national recognition as a partnership by the National Fish Habitat Action Plan Board.

The Great Lakes are significant for many reasons to both the United States and Canada. Lakes Superior, Michigan, Huron, Erie and Ontario form the largest surface freshwater system on Earth. The basin is home to 10 percent of the population of the United States, with more than 30 million people relying on the system. It also supports a large fishery that provides important commercial and recreational fishing. More than 300 species of fish and other aquatic organisms inhabit the rivers, streams and coastal areas of the basin and depend on these habitats during critical life-history stages.

The Great Lakes' significance and need for protection and restoration has resulted in several initiatives to restore the health of the Great Lakes by the adjacent states and provinces. Most of these initiatives, such as the Great Lakes Compact, the Great Lakes Regional Collaboration, and the Great Lakes Water Quality Agreement, have focused on water quality, but not specifically fish habitat. The Great Lakes Fish Habitat Partnership will work with these other initiatives, yet focus on the need to restore and protect fish habitat for faltering fish populations.

The next steps for the Great Lakes Basin Fish Habitat Partnership are to draft a "Memorandum of Understanding" and begin working on a strategic plan that will create the intellectual framework for advancing on-the-ground protection and restoration by complementing existing Great Lakes initiatives.

The Fish and Wildlife Service and U.S. Geological Survey acted as staff for the effort, setting up the steering committee and making all arrangements for the meeting. The meeting was facilitated by Mark Coscarelli of Public Sector Consultants.

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

Bottom Trawling demonstrated to Northland College Students

BY GARY CZYPINSKI, ASHLAND NFWCO

In cooperation with the Wisconsin Department of Natural Resources, the Ashland National Fish and Wildlife Conservation Office (NFWCO) demonstrated the fish sampling technique of bottom trawling to two classes of students from Northland College (Ashland, Wis.). Twelve students that were enrolled in the “Superior Fisheries” class and seven students that were enrolled in the “Fisheries Science and Management” class observed the operation of a bottom trawl net retrieved by a hydraulically powered winch aboard a 21-foot small craft trawler. In addition, all students participated in sorting the catches by individual fish species with the target species being invasive Eurasian ruffe.



-USFWS

Students from Northland College identify the fish captured during a fishery assessment in Chequamegon Bay, Wisconsin.

Both classes are instructed by Dr. Derek H. Ogle, associate professor of Mathematics and Natural Resources, who described each of the classes as follows: “Superior Fisheries” is a quantitative reasoning course that focuses on the application of mathematics to Lake Superior issues with a primary focus on fisheries. The trawling exercise with the Fish and Wildlife Service was an opportunity for the twelve students to experience a resource-intensive sampling gear and a fish community (small forage fishes) that they would otherwise not get to see. In addition, the data from invasive ruffe captured during the experience were used in a variety of class projects to promote learning of mathematical and statistical concepts while also learning about invasive species in the Great Lakes watershed and ruffe in Chequamegon Bay. “Fisheries Science and Management” is an upper-level course required for fisheries majors at Northland College. One aspect of this course is for students to gain experience with a variety of field gears and to understand methods of sampling fish populations. The trawling exercise with this class was more intensive than with the “Superior Fisheries” class so that students could gain more experience and see an additional fish community (deeper, off-shore communities). Ruffe captured in the trawling were used to demonstrate biological processing including measuring length, weighing and removal of calcified structures. In turn, these data were used in size structure, catch-per-unit-effort, and length-at-age growth analyses”.

During reconnaissance for this bottom trawl demonstration in Chequamegon Bay, Wis., an estimated 3,000-5,000 invasive ruffe were captured in one 5-minute tow. Overall, an estimated 6,000-7,000 ruffe were captured, including both reconnaissance and demonstration trawling. Young-of-the-year and yearlings appeared to be the primary age classes represented, which will be verified by the students.

Due to the success of the experience and the praise of the students, it is desired that this demonstration continue on an annual basis. A student project is already being considered for next year’s classes as a follow-up for that trawl demonstration.

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

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.

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Congressional Actions

H.R. 7150 (ih) To conserve the United States fish and aquatic communities through partnerships that foster fish habitat conservation and improve the quality of life for the people of the United States, and for other purposes. [Introduced in House]

S. 3552 (is) To conserve the United States fish and aquatic communities through partnerships that foster fish habitat conservation and improve the quality of life for the people of the United States, and for other purposes. [Introduced in Senate]

S. 2907 (rs) 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 other purposes. [Reported in Senate]

S. 2907 (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 other purposes. [Introduced in Senate]

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

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

H.R. 6316 (ih) To reduce global greenhouse gas emissions through the creation of a domestic carbon market and international trade measures, and to direct the revenue therefrom to public interests. [Introduced in House]

S. 3280 (is) To increase refining capacity and the supply of fuel, to open and preserve access to oil and gas, and for other purposes. [Introduced in Senate]

H.R. 4455 (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. 3891 (rh) To amend the National Fish and Wildlife Foundation Establishment Act to increase the number of Directors on the Board of Directors of the National Fish and Wildlife Foundation. [Reported in House]

S. 3366 (is) To protect, conserve, and restore native fish, wildlife, and their natural habitats at national wildlife refuges through cooperative, incentive-based grants to control, mitigate, and eradicate harmful nonnative plant species, and for other purposes. [Introduced in Senate]

S. 3213 (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. 6384 (ih) To provide a comprehensive plan for greater American energy independence. [Introduced in House]

S. 2758 (is) To authorize the exploration, leasing, development, production, and economically feasible and prudent transportation of oil and gas in and from the Coastal Plain in Alaska. [Introduced in Senate]

H.R. 3891 (eh) To amend the National Fish and Wildlife Foundation Establishment Act to increase the number of Directors on the Board of Directors of the National Fish and Wildlife Foundation. [Engrossed in House]

H.R. 3891 (ih) To amend the National Fish and Wildlife Foundation Establishment Act to increase the number of Directors on the Board of Directors of the National Fish and Wildlife Foundation. [Introduced in House]

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

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

H.R. 6001 (ih) To rebalance the United States energy portfolio, to increase and utilize the Nation's domestic energy resources and supply, to strengthen energy security and independence, and for other purposes. [Introduced in House]

S. 3669 (is) To reduce gas prices by promoting domestic energy production, alternative energy, and conservation, and for other purposes. [Introduced in Senate]

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

H.R. 3891 (rs) To amend the National Fish and Wildlife Foundation Establishment Act to increase the number of Directors on the Board of Directors of the National Fish and Wildlife Foundation. [Reported in Senate]

S. 3222 (is) To promote the energy security of the United States, and for other purposes. [Introduced in Senate]

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

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

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

Midwest Region Fisheries Divisions

National Fish Hatcheries

The Region's National Fish Hatcheries primarily focus on native fish restoration/rehabilitation by stocking fish and eggs, such as pallid and lake sturgeon and by developing and maintaining brood stocks of selected fish strains, such as lake trout and brook trout. Hatcheries also provide technical assistance to other agencies, provide fish and eggs for research, stock rainbow trout in fulfillment of federal mitigation obligations and assist with recovery of native mussels and other native aquatic species.

National Fish and Wildlife Conservation Offices

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

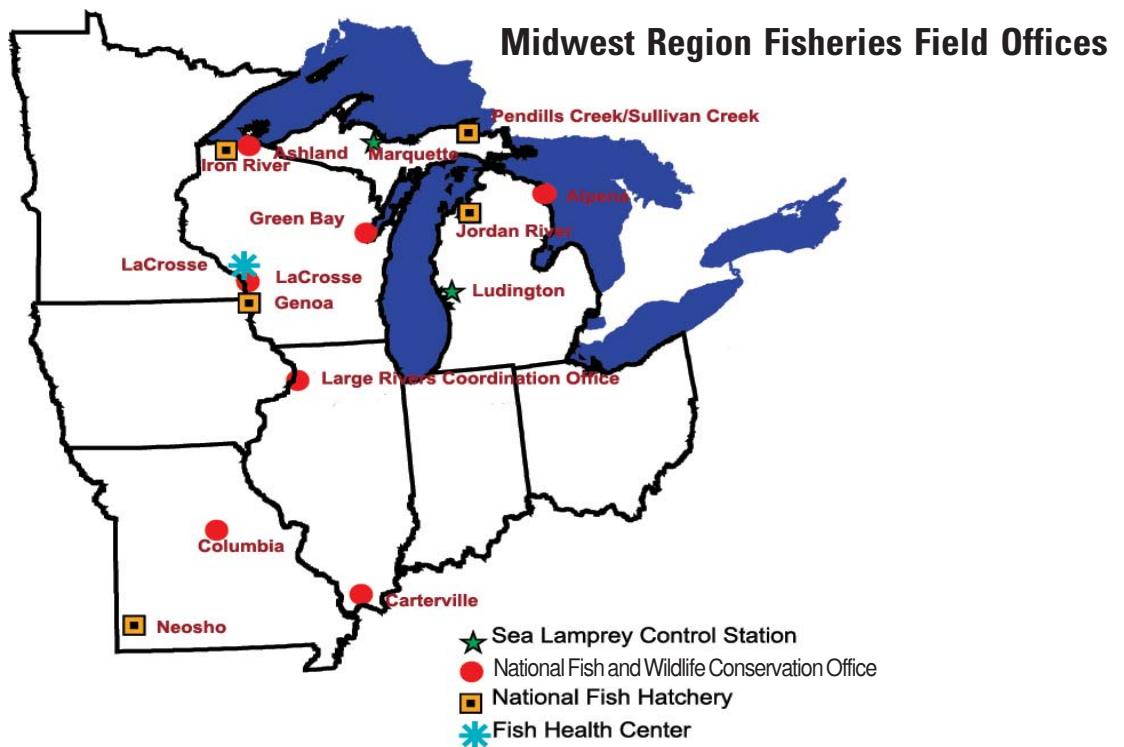
ies databases; provide technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and re-licensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments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

Sea Lamprey Biological Stations

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

Fish Health Center

The Fish Health Center provides specialized fish health evaluation and diagnostic services to federal, state 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

- [Alpena NFWCO Participates in Local Aquatic Education Program](#)
 - Scott Koproski, Alpena NFWCO
- Annual Selection of Board Members and Officers for the Friends of the Neosho National Fish Hatchery
 - David Hendrix, Neosho NFH
- Fall Meeting of Missouri River Natural Resources Committee Meeting
 - Tracy Hill, Columbia NFWCO
- [Genoa National Fish Hatchery Exposed by Cabela's](#)
 - Tony Brady, Genoa NFH
- [Technical Advisory Team for Strategic Habitat Conservation](#)
 - Tracy Hill, Columbia NFWCO
- What kind of fish is that?
 - Andy Plauck, Columbia NFWCO

Aquatic Species Conservation and Management

Aquatic Invasive Species

Public Use

- [Barn Yard Days](#)
 - Roderick May, Neosho NFH
- [Genoa NFH participates in National Hunting and Fishing Day Events](#)
 - Jenny Walker, Genoa NFH
- [Get Outside and Get Fishing!!](#)
 - Jenny Walker, Genoa NFH
- [River Clean Up at Columbia Bottoms](#)
 - Chris McLeland and Joe McMullen, Columbia NFWCO

Cooperation with Native Americans

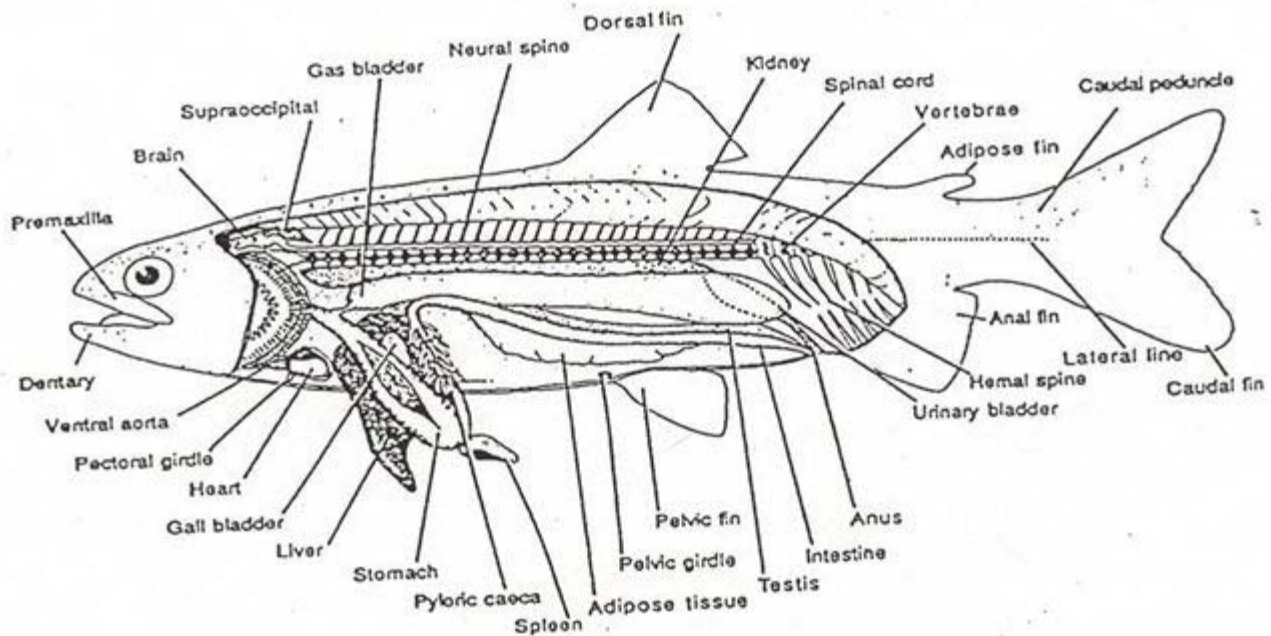
Leadership in Science and Technology

Aquatic Habitat Conservation and Management

- [Landowner Tour in Little Bourbeuse Watershed - Habitat Success!](#)
 - Joanne Grady, Columbia NFWCO

Workforce Management

- [Finley Speaks at Lincoln University in 08](#)
 - Jeff Finley, Columbia NFWCO
- [Fish and Wildlife Service Family Picnic](#)
 - Tracy Hill, Columbia NFWCO
- [GIS Training for Fish Biologists](#)
 - Brian Elkington, Columbia NFWCO



Fish Anatomy 101