U.S. Fish & Wildlife Service - Midwest Region

Fisheries & Aquatic Resources Program

Fish Lines

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Conserving America's Fisheries

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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/Jill Utrup

Brian Elkington of the Columbia National Fish and Wildlife Conservation Office shows a young angler how to land the big ones.

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Fish Lines

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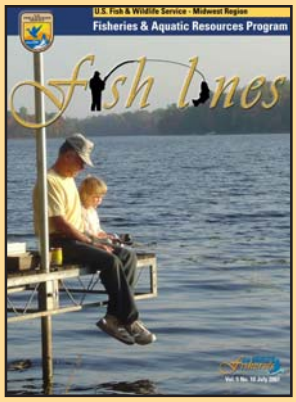

-USFWS/Maureen Gallagher
Ella and her grandfather fish on Big McGraw Lake in Northwestern Wisconsin.

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What a party! Genoa Hatchery Marks Its 75th Anniversary with a River Celebration

BY DOUG ALOISI, GENOA NFH

More than 600 people from 16 states and 2 foreign countries helped celebrate the 75th anniversary of the establishment of Genoa National Fish Hatchery (NFH) in August. Attendees were treated to a variety of environmental education and interactive events and speakers, and a catfish fry and cake for lunch.

Among the highlights throughout the day-long open house were role-playing storytellers who interpreted historical events that took place in the Upper Mississippi River area, including the rise of the pearl button industry; the story of local Native American civilizations; the last battle of the Blackhawk War, which happened just south of the hatchery; and the life and work of J.N. "Ding" Darling, an Iowa native and conservationist who is well known for being the father of the Federal Duck Stamp.

Displays described the work of river partners including the U.S. Army Corps of Engineers, the National Wildlife Refuge System's Upper Mississippi River stations, the U.S. Geological Survey's Upper Midwest Science Center and Dairyland Power Cooperative. Many thanks are to be given to Dairyland Power for helping to sponsor the event, and to our local Friends Groups for supplying time, talent and resources as well.

-USFWS

Volunteers served fish with all the fixings during the celebration lunch.

-USFWS

Keynote speaker Robyn Thorson kicks off the 75th anniversary celebration at the Genoa National Fish Hatchery.

The event also focused on mentoring tomorrow's conservation stewards. Kids' events included a Junior Duck Stamp competition, a kids' rainbow trout fishing

tank, coloring contests, and a "touch tank" filled with river critters such as bullfrogs, freshwater mussels, turtles and minnows. A local artist designed a special postmark for the day and was honored at the event.

-USFWS

Genoa National Fish Hatchery alumni and current staff pose for a picture during the 75th anniversary celebration.

Speakers significant on a regional and national scale capped off the event. Robyn Thorson, Region 3 regional director was the keynote speaker, and Joe Moran represented the Washington Office Fisheries and Habitat Conservation Program. Karrie Jackelen, representing U.S. Congressman Ron Kind, presented the hatchery with a Congressional Declaration honoring the hatchery. To top it all off, past employees and their families were honored at the podium with some gifts and a historical pictorial put together by Dave Radloff of the Regional Fisheries staff. Local river folk musicians Roger and Mandy LaBarge and our Friends Group's own jazz musicians Chuck and Regina Chihak entertained the crowd with some fine music.

Thanks to all the many planners and staff for their assistance in making this day special. In an effort to help future generations of hatchery employees, the mementos from the day are being placed in a special time capsule so that future generations can plan for their 150th anniversary!

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

Lake Huron Strain Lake Trout Captive Brood Stock Arrive at Sullivan Creek NFH

BY CRYSTAL LEGAULT-ANDERSON, PENDILLS CREEK NFH

For the first time, a strain of lake trout from wild parents in Lake Huron has entered the Fish and Wildlife Service's National Fish Hatchery System at Sullivan Creek National Fish Hatchery (NFH) in Brimley, Mich. The new strain of lake trout brood stock, the Huron Parry Sound Wild, or HPW, arrived at the hatchery on Sept. 19. The 2000 lake trout have already undergone a long and interesting journey in their short lives since they were taken as eggs in the fall of 2005.

Lake Huron, like all the other Great Lakes, underwent an invasion of sea lamprey and suffered the effects of over-fishing during the 1940s, which resulted in the almost total annihilation of lake trout populations. But the Parry Sound strain of trout managed to thrive in an isolated pocket of Georgian Bay on the Canadian side of Lake Huron. Parry Sound lake trout have proven to be expanding their range, have reached self-sustaining levels, and in fact, have done so well that hatchery supplementation has stopped. Both Ontario Ministry of Natural Resources (OMNR) and Fish and Wildlife Service managers believe that the Parry Sound strain could significantly contribute to rehabilitation efforts for lake trout in other areas of the Great Lakes.

-USFWS/CrystalLeGault-Anderson

The International Bridge at Sault Ste. Marie, MI/ONT crosses the border between Canada and the United States. One of the biggest hurdles to bring in live fish from Canada is acquiring importation permits.

In the fall of 2005, biologists from the Fish and Wildlife Service and OMNR combined their resources to collect a small group of eggs from wild Parry Sound lake trout. Sixty-four pairs of males and females contributed 35 eggs each to the group of fish destined for transfer to the United States. OMNR found the space, staff and funds needed, and transferred the eggs to quarantine at the Chatsworth Fish Culture Station in Ontario, as required prior to transfer to the United States.

These HPW brood stock were held at Chatsworth for almost two years, undergoing intensive fish health sampling prior to importation into the United States and transfer to Sullivan Creek NFH. Special consideration and testing had to be conducted to ensure the Parry Sound fish were free of viral hemorrhagic septicemia (VHS), which is threat in the Great Lakes basin. The amount of paperwork, correspondence, phone calls, emails, faxes and discussions that finally led up to the transfer of the HPW trout cannot be understated for fishery personnel on both sides of the border.

-USFWS/TracyRoessner

Lake trout brood stock facility at the Sullivan Creek National Fish Hatchery.

Finally, after the last fish health inspection and pathology reports proved negative for VHS and other certifiable diseases, a date was chosen for the transfer of the Parry Sound fish from Chatsworth to

Brimley, Mich. Maintenance mechanic John Shuman of Pendills Creek NFH drove the Fish and Wildlife Service transport vehicle to Chatsworth the day before importation. Extra precautions such as double-disinfection of the fish truck and all associated gear had to be taken for the border crossing to occur.

-USFWS/Crystal LaGault-Anderson

The new Huron Parry Sound strain of lake trout adapt to their new home at the Sullivan Creek National Fish Hatchery.

On the evening of Sept. 19, Shuman arrived at Sullivan Creek NFH after a day of driving across Ontario and the international border at Sault Ste. Marie, Mich., carefully monitoring the fish hourly. The fish were unloaded from the tank truck and into their new home at Sullivan Creek NFH. Now the fish are being cared for at Sullivan Creek NFH by biologist James Anderson, and they have settled into their new surroundings very well.

Sullivan Creek NFH is a disease-free lake trout brood stock facility that provides up to five million eyed lake trout eggs annually to federal, state, and tribal facilities to raise and produce fingerlings for stocking into the Great Lakes. Sullivan Creek NFH has been the home of many strains of lake trout including Lake Superior strains from the Apostle Islands, Traverse Island, and Klondike Reef; remnant Lake Michigan strains from Green Lake (Wisconsin) and Lewis Lake (Wyoming); and from Seneca Lake (New York) — but never a Lake Huron strain. For the first time, the Fish and Wildlife Service has a native Lake Huron wild stock to raise and put back into Lake Huron as specified in rehabilitation plans.

There are more Parry Sound lake trout scheduled to cross the border from Canada to the United States in the fall of 2008 and 2009 to add additional year classes of the strain. Eggs from wild Parry Sound lake trout were collected during the fall of 2006 and are currently in quarantine at Chatsworth, undergoing the required health inspections. Egg collection is also occurring this fall for the third group of HPW. Sullivan Creek NFH will use rotational line crossing of these three year classes to produce production eggs and maintain future brood stock groups. This method of perpetuating the HPW strain will ensure that the maximum amount of genetic variability will be preserved, which is a necessity to lake trout rehabilitation programs.

The Parry Sound lake trout at Sullivan Creek NFH will also serve as a back-up to the OMNR's own lines of Parry Sound fish, in case of a disease outbreak or some unforeseen circumstance. If all goes well, and the next two year classes of Parry Sound brood stock will finish their journey and get to Sullivan Creek NFH. The first lake trout yearlings of this strain could be stocked by as early as 2012.

-USFWS/Crystal LeGault-Anderson

Biologist James Anderson examines one of the Huron Parry Sound strain of lake trout held at the Sullivan Creek National Fish Hatchery. When mature, the fish will be a source of eggs for the lake trout rehabilitation program in the Upper Great Lakes.

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

Near-Shore Fish Study Continues on Detroit, St. Clair Rivers

BY JIM BOASE, ALPENA NFWCO

As part of the Fish and Wildlife Service's Challenge Cost Share Grant Program, biologists from Alpena National Fish and Wildlife Conservation Office (NFWCO), Detroit River International Wildlife Refuge (IWR), Michigan Department of Natural Resources (DNR) Lake Erie Management Unit and Lake St. Clair Research Station, and the U.S. Geological Survey (USGS) Great Lakes Science Center teamed up to conduct the third annual fishery survey in the Huron Erie Corridor (HEC). This year most of the assessment took place on the St. Clair River delta, while a portion of the survey was conducted in the Detroit River IWR. The last time a similar survey was conducted in those areas of the Great Lakes was in the early 1980s. Since that time, many changes have taken place, specifically the loss of wetland areas and the invasion by aquatic invasive species, both of which have likely reduced the number and diversity of native fish species.

The boundaries of the HEC begin at the headwaters of the St. Clair River and extend through the Western Lake Erie basin. The primary goal with this comprehensive assessment of the HEC was to provide baseline information about what species, both native and invasive, are using some of the corridor's last remaining wetland complexes.

-USFWS/JamesBoase

Mike Thomas of the Michigan Department of Natural Resources (left) and Jim McFee of the Alpena National Fish and Wildlife Conservation Office sort fish collected from an electrofishing assessment in the St. Clair River delta.

The first survey took place in September 2005 and focused on wetland areas along Western Lake Erie. In 2006, efforts focused on near-shore areas in Michigan waters of the Lower Detroit River. In 2007, we returned to some of the locations at the northern boundary of the refuge and surveyed the St. Clair River delta.

These near-shore areas provide some of the last remaining natural wetland areas in the HEC. Information gained from these assessments has been used to assist Federal and state resource managers and regulators to broker management agreements with landowners within the refuge boundaries and provided insight into the value of the resources for regulation purposes. What has been demonstrated is that the near-shore areas are critical to the early life stages of many species of sport fish as well as some state-listed threatened and endangered species. Historic records from past surveys identified more than 30 species of fish using those wetland habitats for spawning or nursery areas.

This year, we captured more than 13,000 fish representing 53 species from 17 families. Efforts included 21 electrofishing sites, 25 fyke net locations and 15 seine hauls, most of which took place in the St. Clair River delta. Results from this study have been presented and well received at the State of the Strait Meeting and the Annual Huron Erie Corridor Steering Committee Meeting. This comprehensive survey is a critical first step in identifying the current status of fish species in the HEC and the newly created Detroit River IWR, and will aid the refuge with implementing its Comprehensive Conservation Plan.

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

Jordan River National Fish Hatchery on "Our Role in Lake Trout Rehabilitation"

BY TIM SMIGIELSKI AND WAYNE TALO, JORDAN RIVER NFH

Lake trout rehabilitation in the Great Lakes is coordinated by the Great Lakes Fishery Commission. The rehabilitation program is an inter-agency partnership in which the Jordan River NFH has a key role, actively participating on internal Fish and Wildlife Service task groups and on the Lake Huron and Lake Michigan technical committees. Jordan River NFH biologists are also members of the lake technical committee lake trout working groups and task groups. Hatchery representatives provide information and insight into hatchery operations and capabilities, and their participation has contributed greatly to rehabilitation efforts.

-USFWS

Aerial view of the Joran River National Fish Hatchery

Jordan River NFH provides more than half of the lake trout yearlings for the rehabilitation programs in the upper Great Lakes. Stocking lake trout yearlings is a critical tool in the rehabilitation efforts. Recently developed rehabilitation guidance for lakes Huron and Michigan continue to call for stocking hatchery-reared yearlings as a main component in reaching the outlined goals and objectives of the plans.

Jordan River NFH is located in the Jordan River Valley, southwest of Elmira, Mich. The hatchery was established under the Fish and Wildlife Coordination Act of 1934 and built in 1964. Jordan River NFH is a "production facility" dedicated to raising lake trout for native species rehabilitation in the Great Lakes.

Jordan River NFH annually produces up to 2.2 million yearling lake trout comprising three strains: Lewis Lake Wild, Superior Apostle Island Wild and Seneca Lake Wild. Eggs are supplied by Saratoga NFH in Wyoming, Sullivan Creek NFH in Michigan and Wisconsin's Iron River NFH. Every yearling lake trout released from Jordan River NFH is marked by removing a fin. Depending on research needs, a portion of the yearlings also receive coded-wire tags. Marking and tagging are essential to evaluating rehabilitation efforts and distinguishing stocked lake trout from wild lake trout in the Great Lakes.

-USFWS

Lake trout start to hatch which marks the beginning of a 14 month culture period. The fish will be approximately 5 - 6 inches at their time of release into waters of the Upper Great Lakes.

Jordan River NFH also rears and transfers up to 1.1 million spring fingerling lake trout each year to Pendills Creek NFH, part of a cooperative effort between the two facilities. Pendills Creek NFH lacks sufficient incubation and early rearing space; Jordan River NFH raises lake trout to the fingerling life stage and Pendills Creek helps transfer the fingerlings to their covered outdoor rearing units.

Between mid-April and the end of June each year, Jordan River NFH releases the yearling lake trout in coordination with Iron River NFH and Pendills Creek NFH. The lake trout are taken by trucks to the *M/V Spencer F. Baird*—the only offshore stocking vessel on the Great Lakes—and released on or near offshore reef habitats in lakes Huron and Michigan in accordance with rehabilitation plans.

In addition to rearing and stocking lake trout, Jordan River NFH strives to diversify the role of the hatchery by using staff talents and experiences to assist in other aspects of lake trout rehabilitation. For example, hatchery staff annually assists brood stock facilities during lake trout egg takes. Permanent staff, student interns and volunteers annually assist National Fish and Wildlife Conservation Offices with field work associated with other rehabilitation and surveillance efforts in the Great Lakes basin. These projects have included lake sturgeon and lake whitefish surveys, aquatic invasive species surveys, and wild lake trout egg takes.

-USFWS

Lake trout are being transferred to the *M/V Spencer F. Baird* in Cheboygan, Michigan, and will be released at sites in support of the lake trout rehabilitation program.

The hatchery also contributes to rehabilitation efforts through public outreach programs, public use opportunities and partnerships. In 2007, the hatchery welcomed an estimated 17,000 visitors, who often received individual attention and tours. Staff promotes rehabilitation efforts in the Great Lakes, in particular lake trout rehabilitation. Hatchery personnel attended 15 off-site events in 2007, where the underlying message was always the role of Midwest Region National Fish Hatcheries in native species rehabilitation efforts in the Great Lake region. Jordan River NFH continues to seek new and innovative ways to contribute to resource protection and rehabilitation in the Midwest.

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

Partnership Improves Regional Disposal of Unwanted Medications

BY MARK STEINGRAEBER, LA CROSSE NFWCO

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.

Recent surveys of surface water quality in public waters around the United States have frequently detected the presence of a variety of potent chemicals that can disrupt the normal physiology of certain aquatic animals. Some of these chemicals cause fish to simultaneously express inter-sex—both male and female—characteristics while another chemical can cause a female mussel to prematurely release young, or *larvae*.

-USFWS

A resident pours unwanted prescription medications into a drum of methanol to dissolve them as deputized La Crosse County, Wisconsin, employees document the medications collected for disposal at the county's Household Hazardous Materials Facility.

Many of these biologically active chemicals have a common source: prescription medications that are flushed into sewer systems for disposal. This practice was long considered a "safe" means to get rid of unused or expired medications and prevent accidental human poisonings; however, the cumulative impacts of this widespread disposal method on environmental quality were not readily apparent until other recent studies, many conducted near wastewater treatment plant outfalls, found unexpectedly high numbers of inter-sex fish. Waterways that receive discharge from municipal wastewater treatment plants also provide drinking water to millions of Americans daily. Because current wastewater treatment technologies are unable to filter these chemicals or inhibit their biological activity, people who want to dispose of unused or expired prescription medications containing these compounds, or others that can harm the environment, have few fully safe options.

To respond to disposal needs, a small but growing number of communities with environmental foresight in Wisconsin and other states have formed local partnerships to address this dilemma. The typical solution is a turn-in program that operates one or two days per year (often in summer) and requires the voluntary cooperation of licensed pharmacists and local law enforcement authorities who receive unused medications from individuals and ensure these materials are securely maintained until destroyed in an environmentally safe manner.

In Western Wisconsin, representatives of the La Crosse NFWCO, Mayo Health System (Franciscan Skemp Healthcare, La Crosse Campus), Gundersen Lutheran Health System and La Crosse County Household Hazardous Materials Program began meeting early in 2007 to discuss the feasibility of establishing a safe and effective turn-in program for disposal of unused or expired medications that would meet the needs of the county's 109,000 residents. The team developed a conceptual plan for a year-round medicine turn-in program that would use the infrastructure and complement the services of an existing county-operated facility that currently accepts hazardous household materials, or HHM, from county residents and businesses, at little or no cost, throughout the year. This HHM service is also provided to others in Southwest Wisconsin, Southeast Minnesota and Northeast Iowa for a nominal fee.

Establishing a medication turn-in program in La Crosse, and perhaps in other communities that discharge treated municipal wastewater into the Upper Mississippi River, could benefit fish, mussels, and other aquatic life that inhabit the 261-mile long Upper Mississippi River National Wildlife and Fish Refuge.

The county Board of Supervisors met in May to consider the plan and unanimously authorized the HHM staff, in cooperation with the Sheriff's Department, "to develop and implement a medication collection and disposal program that meets local, state, and Federal regulations, that uses an environmentally sound means of disposing of collected medications, and that operates on a permanent basis." Four HHM employees were later deputized by the county sheriff with the authority to accept and dispose of unwanted medications, includ-

ing controlled substances. On June 1, deputized HHM staff began to accept medications at their convenient, drive-through facility. In its first three months of operation, the program filled seven 55-gallon drums with 2,180 pounds of bulk medications (minus packaging) collected for disposal from about 200 residents and 10 businesses such as nursing facilities, pharmacies, public health programs, and care maintenance organizations. With its mobile collection trailer, the La Crosse County HHM staff will also act as the disposal vendor for one-day medicine collections from residents of six nearby Wisconsin counties in 2007, and plans are to expand this service to residents of Houston County, Minn., in 2008.

This program represents the first permanent medication collection program in Wisconsin and is one of only a few in the nation. An indication of federal government approval for this newly established program came when Drug Enforcement Administration officials in Milwaukee recently referred to it as a disposal option for remaining medications at a Wisconsin retail pharmacy scheduled to close. Jeff Gloyd, La Crosse County Special Waste Manager and program administrator, recently presented program information to the Pharmacy Society of Wisconsin and has gained support for the program from the Wisconsin Pharmacy Examining Board. Gloyd is also scheduled to present program information at the 2007 North American Hazardous Materials Management Association Conference. The noteworthy success of this recently established program presents a model for the development of similar partnerships to raise awareness of the need to safely collect and dispose of unwanted medications in other portions of the country.

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

Idea Moves from the Drawing Board to Become a Usable Tool

BY JOANNE GRADY AND NICK UTRUP, COLUMBIA NFWCO

Columbia NFWCO biologists Joanne Grady and Nick Utrup attended training for the new Missouri Stream Classification Tool (SCT), a tool designed by Jim Henricksen of the U.S. Geological Survey (USGS) Fort Collins Science Center to help hydrologists in Missouri analyze hydrologic data from USGS gauging stations. Columbia NFWCO partnered with the Missouri Department of Conservation and the USGS Science Support program in funding this groundbreaking work.

Henricksen worked with Del Lobb and Paul Calvert of the Missouri Department of Conservation to develop a stream classification system for Missouri using natural flow regime data from 146 stream gages for 10 years of least altered time. After extensive statistical analysis, the draft process breaks Missouri streams into six categories. Hydrologic data from any stream can now be used to assign the stream to one of the six categories.

Once a stream's category is assigned, the SCT can be used to determine potential impacts to streams of proposed water development projects. SCT has several functions that could be useful to researchers analyzing stream data from Missouri. Perhaps the most useful function of SCT is its graphing capability. The graphing function allows the user to visually analyze gauging data several different ways, making it easier to interpret the results. The tool also calculates hydrologic indices that are biologically relevant and important in regard to ecological processes. This tool will help natural resource agencies determine the true impacts of many proposed projects, including dam construction and irrigation withdrawals.

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

Carterville NFWCO Assists in the Planning, Evaluation of Fish Passage on the Mississippi River

BY NATE CASWELL, CARTERVILLE NFWCO

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.

Carterville NFWCO participated in the planning and preliminary evaluation of fish passage projects at two of the main stem lock and dams on the Upper Mississippi River. The Army Corps of Engineers' St. Louis and Rock Island districts are planning fish passage projects at Mel Price Lock and Dam near Alton, Ill., and Lock and Dam 22 near Hannibal, Mo.

-USFWS/NateCaswell

LaShell Harper (left) with the U.S. Army Corps of Engineers Rock Island District, and Jean Favara (right) from Clarence Cannon National Wildlife Refuge hold up a 52 pound lake sturgeon captured at Lock and Dam 22 in May 2007. Missouri Department of Conservation biologist Travis Moore (background) implanted an ultrasonic transmitter in the sturgeon to track its movements in the Mississippi River.

Part of the planning process is evaluating the fisheries at the dams before, during and after construction of the fish passage structures. The Carterville NFWCO determined which species were aggregating in the area below the dams during the spring season, a project similar to the fishery surveys completed in 2005 and 2006, but standardized and intensified to include only the spring season.

Crews used deep-water electrofishing and netting and captured more than 2,000 fish from over two dozen species at each dam. Blue catfish, shovelnose sturgeon and invasive silver carp dominated catches at Mel Price Lock and Dam. The most abundant species captured at Lock and Dam 22 was shovelnose sturgeon.

Shovelnose sturgeon accounted for more than 61 percent of the overall catch at Lock and Dam 22 with nearly 1,650 individuals. We also captured several large lake sturgeons at Lock and Dam 22, including one that surpassed 50 pounds. Biologists from the Missouri Department of Conservation tagged this fish with an ultrasonic transmitter. It is our hope that this lake sturgeon will provide biologists with an abundance of data describing the movements of these large fish.

We recently completed a draft report summarizing our work in 2007. This project is an ongoing component of a multi-faceted fisheries monitoring plan for fish passage projects with the U.S. Army Corps of Engineers, Illinois DNR, Missouri Department of Conservation and Southern Illinois University-Carbondale.

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

Fish Health Inspection, Surveys Conducted

BY ERIC LEIS AND SARAH BAUER, LA CROSSE FHC

Wild fish health surveys, inspections and diagnostic cases initiated in August totaled 19 cases and 66 lots of fish from 16 species. Cases were initiated for National Fish Hatchery inspections, wild fish health surveys and state fish hatchery cooperative agreements for viral hemorrhagic septicemia (VHSV) surveillance in the Great Lakes basin.

On Aug. 14, Ryan Katona, Eric Leis and Sarah Bauer of the La Crosse Fish Health Center (FHC) conducted the annual fall inspection of Iron River NFH, screening brook trout and lake trout for patho-

gens and sampling brook trout and mottled sculpin from Schacte Creek, the hatchery's water source. The samples taken were used to detect viruses such as VHSV, infectious pancreatic necrosis virus, infectious hematopoetic necrosis virus and largemouth bass virus, and bacteria such as (Yersinia ruckeri), (Renibacterium salmoninarum), and (Aeromonas salmonicida), bacterial kidney disease, and furunculosis. Additionally, trout heads are used to check for (Myxobolus cerebralis), a parasite that causes whirling disease.

On Aug. 29, Heidi Keuler of the La Crosse NFWCO, and volunteer Andy Stetter assisted Lucas Purnell and Sarah Bauer of the La Crosse FHC with a wild fish health survey in Pool 3 of the Upper Mississippi River near Prairie Island. They collected common carp using an electroshocking boat and sampled for diseases such as the spring viremia of carp virus, which causes fish kills when the water temperature is below 18° C.

Ken Phillips and Julie Teskie completed a fish health inspection at Neosho NFH on Aug. 21, observing the facilities and collecting tissue samples from the four lots of rainbow trout. Rainbow trout reared at Neosho NFH are primarily stocked into Lake Taneycomo in Southwest Missouri as part of a mitigation plan.

-USFWS

Sarah Bauer of the La Crosse Fish Health Center conducts a fall inspection of lake trout production fish at the Iron River NFH .

For further info about the La Crosse FHC: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/lacrosse-fhc.pdf

Columbia NFWCO Collects Catfish for Genetic Study

BY ANDY PLAUCK, COLUMBIA NFWCO

Field crews from the Columbia NFWCO kept a close eye out for any bullhead species and flathead catfish these last few months to aid in some important research. Todd Levine, a doctoral candidate from Miami University of Ohio, is looking at the relationship between certain catfish species and mussels which have free floating larvae that attach to gills of fish, mature on their fish host, and then fall free onto streambeds. In this way mussels can spread their genes further than if they just crawled along the substrate. Genetic variation should occur in mussels between and within watersheds and if theories are correct, genetic markers should be able to trace the mussel's path of colonization, which should parallel the fish's.

-USFWS/Andrew Plauck

This flathead catfish was caught in a trawl on the Missouri River. A fin clip of this fish was provided to Todd Levine from Miami University of Ohio who is researching at the relationship between certain catfish species and mussels.

When Levine realized he would need fish from all over the Mississippi River watershed, he began making calls, petitioning the Missouri River sampling crews at their annual training meeting. Crews were happy to oblige. While bullheads were not captured, Columbia NFWCO encountered many flathead catfish while sampling the Missouri River's swift turbid waters. Field crews easily obtained the twenty fin clips from flathead catfish Levine requested. These samples were picked up at the end of August and we are eagerly awaiting the results. This work should help shed light on the life history of many endangered mussels, hopefully contributing to restoration efforts.

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

Carterville NFWCO Completes Fish Community Surveys for Herculaneum

BY MATT MANGAN, CARTERVILLE NFWCO

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

-USFWS

Carterville NFWCO technicians Matt Wegener and Mike Stahl empty the contents of a mini-fyke net into a bucket during a pre-project fish community survey in the Herculaneum reach of the Middle Mississippi River.

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

Where Did That Rubber Band Come From?

BY ANDY STAROSTKA, COLUMBIA NFWCO

-USFWS

This shovelnose sturgeon had a rubber band around it when captured. This happens more often than one would expect.

Who would ever expect to capture a fish with a rubber band around it? It happens more often than one would expect. Sturgeon throughout the Midwest are commonly captured entangled with rubber bands or other man-made debris. Biologists have even been asked if they are marking sturgeon with rubber bands. This is not the case! One pallid sturgeon in Montana was found with a large irrigation pipe O-ring around it. Numerous instances of rubber bands and jar seals in the Lower Missouri River and Mississippi River have been recorded. There are rumors of a canning jar manufacturing plant in Iowa dumping debris in the river which included the red rubber seal rings that were used on the old style bail top glass lids. Although this style of canning lid has not been popular for years, these seals are still found on fish. When sturgeon become entangled with this type of debris, the continuous irritation creates large sores that encircle the entire fish. Many times these sores are quite deep and will likely kill the fish if not removed.

Historically, rivers were used as a dump; all kinds of residential and industrial garbage was disposed of in the river. Take a short walk on any river bank, and you will find an amazing variety of debris, including glass soft drink bottles that have not been in production for decades. Several non-profit organizations conduct river clean-ups and education. Next time you throw away something as simple as a rubber band, consider where it might end up and what damage it may inflict on wildlife.

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

Tracking Movements of Asian Carp in the Upper Illinois River

BY GREG CONOVER, CARTERVILLE NFWCO

Carterville NFWCO has initiated a project to track the dispersal and movements of bighead and silver carps in the Upper Illinois River. The project is intended as an early detection monitoring tool to alert biologists of movements of tagged fish towards the aquatic invasive species electric dispersal barrier (and the Great Lakes), and as a tool to provide a better understanding of the movements and dispersal patterns of bighead and silver carps as they colonize new portions of the Illinois River.

A network of 12 stationary receivers has been deployed in a 60-mile reach of the Illinois River immediately below the dispersal barrier. The receivers continuously record data from bighead and silver carps tagged with surgically implanted sonic transmitters. In April, biologists tagged eight bighead carp, seven silver carp, and a hybrid carp in the Starved Rock pool, and one bighead carp in the Marseilles pool. In July, crews observed several adult jumping silver carp in the Marseilles pool and collected one adult silver carp in the Dresden Island pool. Silver carp had not previously been documented above the Starved Rock pool. Water and air temperatures were too high to surgically implant a transmitter into the collected silver carp. Additional sampling was scheduled for October to tag additional bighead and silver carps.

-U.S. Army Corps of Engineers

Eve Poynter (John G. Shedd Aquarium; left) and Russ Engelke (Upper Mississippi River National Wildlife and Fish Refuge - Savanna District) retrieve a hydroacoustic receiver from the Illinois River. Data is downloaded from receivers each month to determine invasive bighead and silver carp movement and dispersal patterns.

Data have been downloaded from the receivers four times since fish were tagged in April. Although this project is just getting off the ground, some interesting results have already been obtained. The bighead carp tagged in the Marseilles pool was detected moving downriver into the Starved Rock pool in early June, then back up into the Marseilles pool just two weeks later. Fortunately, no other fish have been seen moving between pools or closer to the dispersal barrier.

Partners involved with the aquatic invasive species dispersal barrier advisory panel have joined Carterville NFWCO in developing and implementing this project. La Crosse NFWCO assisted with collecting fish, and Rock Island Ecological Services Field Office assisted with collecting and implanting. Illinois Natural History Survey Illinois River Biological Station and the U.S. Army Corps of Engineers' Chicago District retrieved the stationary receivers each month and download the data, which are forwarded to Southern Illinois University. There researchers process the data, provide a summary of the monthly movements to Carterville NFWCO, and archive the data in an on-line database and GIS viewer (http://fishdata.siu.edu/passage/viewer.htm). Carterville NFWCO provides periodic summaries on the project to the dispersal barrier advisory panel and immediately notifies members if upriver inter-pool movements of tagged fish are detected. Many thanks to all our partners who have taken ownership in this project and make this project possible!

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

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.

Asian Carp Surveillance Conducted

BY MARK STEINGRAEBER, LA CROSSE NFWCO

Staff from the La Crosse NFWCO led surveillance for Asian carps in the Des Plaines River near Joliet, Ill., in mid-August. With assistance from the U.S. Coast Guard Marine Safety Unit in Chicago, crews used trammel nets and electrofishing gear to capture or detect the presence of Asian carps at several sites in the Brandon Road Pool. No Asian carp species were caught or observed at any of the survey sites. These Fish and Wildlife Service-led efforts completed surveillance requirements for the month to determine whether invasive Asian carps are closer to the electrical barrier upstream at river mile 296 that is designed to prevent these fish from entering Lake Michigan. Bighead carp and silver carp are currently known to be as far upstream as river mile 281 in the Dresden Island Pool and river mile 228 in the Peoria Pool, respectively. Responsibility for conducting monthly surveillance is shared and rotates among the Fish and Wildlife Service, the Illinois DNR and the Illinois Natural History Survey.

-NHK/David Hirsch

U.S. Coast Guard Ensign Jerrold Federer (left) stands ready to net fish with La Crosse National Fish and Wildlife Conservation Office biologist Heidi Keuler (right) while a cameraman from the NHK Japanese television network films the action during electrofishing efforts to detect Asian carps in the Des Plaines River near Joliet, Illinois.

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

Combating Zebra Mussels

BY TONY BRADY, GENOA NFH

Native freshwater mussels have been under attack for 20 years by invasive zebra mussels. Since they were first reported in the Great Lakes in 1985, zebra mussels have marched across the Great Lakes, down the Illinois River and into the Mississippi River, where unsuspecting barges first transported them into the Upper Mississippi River system. The relentless bombardment of zebra mussels decimated populations of native mussel populations, including the endangered Higgins' eye pearlymussel, rallying the troops and bringing together the Mussel Coordination Team of Federal and state agencies dedicated to countering the attacks of zebra mussels. It was the formation of this team that brought Genoa NFH into the war against zebra mussels.

Genoa NFH is the first Federal fish hatchery in modern times to successful culture native mussels. Techniques used by Genoa and the Mussel Coordination Team to culture Higgins' eye pearlymussels have since been used to culture five additional mussel species. One of these species, the black sandshell, which Genoa NFH has been producing for the past four years, has been held and grown in cages in Dubuque's Ice Harbor (Iowa) for the past two years. Nearly 150 of these mussels were recently transferred to the U.S. Geological Survey (USGS) Upper Mid-West Environmental Science Center, where they will be used to test the effects of a chemical that is reportedly toxic to zebra mussels but harmless to native mussels. Finding a chemical that will only be toxic to zebra mussels will allow agencies to start all-out chemical warfare against this invasive predator. This project started as a science support proposal, which pooled resources from the Fish and Wildlife Service and the USGS to research and solve specific resource questions.

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

What is the Midwest Region Fisheries & Aquatic Resources Program doing to Help Control Asian carps?

- **Leads the effort with the help of many other agencies, organizations and individuals, to finalize the management and control plan for Asian carps.**
- **Working with the St. Louis Zoo to determine the feasibility of using silver and bighead carps as a food source for zoo animals.**
- **Worked with Southern Illinois University to develop a Geographic Information System database for the Middle Mississippi River to predict the distribution and status of silver and bighead carps.**
- **Helping a broad group of partners to standardize early detection monitoring (netting and electrofishing) from spring to autumn in the Upper Illinois River to identify the leading edge of silver and bighead carps as they move upstream toward the Great Lakes.**
- **Initiated an ultrasonic telemetry project on the Upper Illinois River to improve early detection monitoring efforts for silver and bighead carps.**
- **Developing a study plan to do additional, more intensive tracking of ultrasonic tagged silver and bighead carps in the Upper Illinois River.**
- **Works closely with Region 2 to provide technical information to update the www.asiancarp.org website, as well as providing information to respond to questions that are posted.**
- **Working with Southern Illinois University to identify alternatives to black carp for snail control on fish farms.**
- **Working to inform anglers how to prevent the unintentional spread of Asian carps through bait bucket transfers.**
- **Coordinates the annual Goby Round-up and Carp Corral in the Illinois River system, a week-long effort to track the dispersal of silver and bighead carp toward the Great Lakes.**
- **Joined Region 4 to implement the triploid grass carp inspection program used by many states.**
- **Collecting and analyzing samples from silver and bighead carps as part of the Wild Fish Health Survey.**
- **Working with a Master Trawl Builder to design a mid-water trawl specifically to capture Asian carps.**
- **Working with the Columbia Environmental Research Center to identify pheromones that could be used to repel or attract silver and bighead carps to aid in blocking or capturing carp.**
- **Summarized state regulations related to import and possession of all Asian carps for the eight Midwest Region states, and recently expanded the summary to include all 50 states.**

Fish and Wildlife Service Continues to Assist EPA with AIS Early Detection Case Study

BY GARY CZYPINSKI, ASHLAND NFWCO

The Ashland NFWCO continued providing technical assistance to the Environmental Protection Agency (EPA) to develop an aquatic invasive species (AIS) early detection monitoring design. The case study location is the Duluth/Superior Harbor, St. Louis River Estuary, Minnesota/Wisconsin. From 2005 to 2007, the EPA studied sampling methods for various aquatic habitats to develop a systematic early detection monitoring design encompassing both invasive fish and aquatic invertebrates. Sampling methods included electrofishing, trapping and bottom trawling.

In 2006 and 2007, Ashland NFWCO assisted with the trawling phase by providing a small-craft trawler and an operator/biologist. A trawl was specially configured with a fine mesh liner for capturing larval as well as juvenile and adult fish. Bottom trawling was conducted in 2007 primarily for comparison with the 2006 trawling. Thirty tows were completed in just over three days at locations and zones representing a spectrum of trawlable habitats identified by the EPA. Captured AIS included ruffe, round goby, white perch and zebra mussels, all of which are reproducing in the Saint Louis River estuary. During 2007 trawling, captured species of interest included a quillback carpsucker and a brook silversides, both native fish rarely captured by the Ashland FRO trawler. The EPA lab has reported ten new AIS—all invertebrates—detected by this case study in the estuary.

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

Partners promote "Kids in Nature"

BY TONY BRADY, GENOA NFH

The Army Corps of Engineers' Blackhawk Park facility holds an annual Kids Fishing Day in August that typically draws participants from Iowa, Minnesota and Wisconsin. Genoa NFH assisted our neighbors on the Mississippi River by staffing a display during the educational portion of the event.

-USFWS

Jenny Walker shows off a lake sturgeon raised at the Genoa National Fish Hatchery during the "Kids Fishing Day" sponsored by the U.S. Army Corps of Engineers at Blackhawk Park.

The hatchery brought along an aquarium and displays featuring Upper Mississippi River fish and mussels for more than 75 kids and their parents to see, touch and marvel over. Most popular were the live sturgeon, freshwater mussels and catfish. Kids were broken into five separate groups which were each given a 15 minute presentation on fish identification, fish habitat requirements and fish behavior. They were then turned loose to try their luck fishing in the Mighty Mississippi River.

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 Genoa NFH: http://www.fws.gov/midwest/genoa/

Columbia NFWCO and Missouri ES Join Forces

BY LEE ERICKSON, COLUMBIA NFWCO

Columbia NFWCO and Missouri Ecological Services Field Office are plowing through a pile of planning efforts needed to host our first Columbia "Wonders of Wildlife" (W.O.W.) school next May.

-USFWS/Jill Utrup

Brian Elkington of the Columbia National Fish and Wildlife Conservation Office shows a young angler how to land the big ones.

The Columbia Fish and Wildlife Service offices are pioneering an effort to offer both introductory and advanced levels of outdoor education through one W.O.W. school. The introductory classes will be held at Twin Lakes Recreation area within the city limits of Columbia, which will provide an excellent opportunity for those individuals with less experience with the great outdoors. Highlighted courses for the Twin Lakes location include introductions to camping, birds, bird watching and fishing. The advanced class location will be held at Katfish Katy's on the banks of the Missouri River. Advanced class options will fit with the theme "Bluff to Bluff" to capture activities one could enjoy within the Missouri River Bluffs. Highlighted courses at this location include river fishing, canoeing and how to hunt for prized morel mushrooms. During the last day of the event, both classes will unite to share stories about their own outdoor adventures while enjoying an outdoor barbeque and raffle.

Agencies involved include Wonders of Wildlife National Fish and Wildlife Museum, Bass Pro Shops, Missouri DNR, U.S Forest Service, Missouri Department of Conservation, National Park Service and the U.S. Army Corps of Engineers. Collective efforts of these agencies provide a level of opportunity unmatched by any other outdoor education event. Current W.O.W. school locations in Missouri include Kansas City, St. Louis, Springfield and Roaring River State Park. Although the classes offered at each school location vary, all emphasize the importance of safety, conservation, skill development and outdoor ethics. The schools provide the building blocks necessary for people to actively learn about and enjoy local outdoor resources. W.O.W. is an incredible opportunity for conservationists to reconnect people to the outdoors and teach skills to enjoy it.

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

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

BY FRANK STONE, ASHLAND NFWCO

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.

Frank Stone assisted the Great Lakes Indian Fish and Wildlife Commission in determining recruitment levels of juvenal walleye to estimate relative abundance of young-of-the-year walleye in several lakes of Northern Wisconsin and Michigan. Data from these surveys will be used in conjunction with spring population estimates to set walleye safe harvest levels for the 2008 tribal spearing season. During the six-week project, Frank conducted fishery surveys on 23 lakes.

-USFWS

Frank Stone (middle) of the Ashland National Fish and Wildlife Conservation Office poses with Great Lakes Indian Fish and Wildlife Commission technicians Casey Bigboy (left) and Mitch Soulier as they prepare for another evening of young-of-the-year walleye 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 lakes recruitment values and are combined with the spring population surveys to yield the information needed to help determine the number of adult walleye that can be safely harvested.

-USFWS

Ashland National Fish and Wildlife Conservation Office biologist Frank Stone takes measurements of a walleye as part of night-time assessments for the Great Lakes Indian Fish and Wildlife Commission.

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

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.

New Host Fish Discovered for Imperiled Native Mussel

BY TONY BRADY, GENOA NFH

The sheepnose mussel historically occurred in 77 streams and rivers across the country. Today, populations of sheepnose mussels are known to occur in only 26 of these water bodies, only four of which are believed to have reproducing populations.

-USFWS

The sheepnose mussel is a Federal candidate for listing under the Endangered Species Act.

Because of these dire statistics, the sheepnose mussel was listed as a candidate species on the Federal Endangered Species List in 2004. To restore or recover this species, biologists need a better understanding of its life history.

The sheepnose mussel, like most other mussel species, requires a fish host to complete its life cycle. The mussel's larvae, called *glochidia*, attach to the gill and fins of fish and undergo a metamorphosis into free living animals that drop off the fish to live independently on stream and river bottoms. Until 2005, the only mention of a known host for this species came from a 1914 report that found glochidia naturally attached to sauger in the wild. No conformation of successful transformation was recorded in this early report. In 2005, Dr. Tom Watters from Ohio State University reported successful transformation of sheepnose glochidia on central stonerollers. In July and August, Genoa NFH, in conjunction with the Minnesota DNR and the University of Minnesota, collected egg-bearing sheepnose mussel females from the Chippewa River in Wisconsin and harvested viable glochidia to test a variety of potential host fishes. At Genoa, biologists tested seven fish species as potential hosts including suckers, darters, minnows and chubs. Of these seven species, three were confirmed to be hosts. As reported by Dr. Watters, stonerollers were successful at transforming glochidia. Creek chubs and fathead minnows also were confirmed as hosts.

The bonus of this discovery is that Genoa NFH raises millions of disease-free fathead minnows annually as forage for their warm- and cool-water fish programs. Some of these fathead minnows will be used to start a production program for sheepnose mussels in 2008. Other species are still being tested at the University of Minnesota and findings will be published as soon as possible.

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

Evaluating the Effectiveness of Treatments to Shovelnose Sturgeon Egg Check Wounds

BY ANDY PLAUCK, CRAIG WILLIAMSON, ZAC BUESSINK AND EMILY KUNZ; COLUMBIA NFWCO

Columbia NFWCO biologists recently evaluated wound healing from egg checks on shovelnose sturgeon. Biologists are sometimes interested in harvesting eggs or entire fish with eggs for research or propagation purposes. Sturgeons are commonly captured with large egg check scars from incisions made by commercial fishermen on the bellies of shovelnose sturgeon, large enough to visually check for eggs. If the eggs are ready, commercial fishers will legally harvest mature eggs from sturgeon; however, if no eggs are present or the eggs are immature and not harvestable, the fish is released with no medical treatment applied to the egg check wound. Similarly, biologists may sometimes make incisions on the bellies of shovelnose sturgeon to check for eggs; however, biologists' incisions are performed with a razor sharp scalpel and are less than an inch long. A

small pipette is then inserted into the fish to extract a sample of eggs. A large-needled syringe may also be used. Biologists may close the egg check wound with dissolving sutures or a surgical superglue called Nexaband®. Since female sturgeon carry a large proportion of their body weight in eggs, a trained eye can spot an "eggy" sturgeon. Visual examination of the fish ensures every fish is not cut.

-USFWS

Columbia National Fish and Wildlife Conservation Office biologists recently evaluated wound healing from egg checks on shovelnose sturgeon. Wounds shown are 14 days after the incision. The wounds on the left and right were treated with sutures, while the middle wound was allowed to heal untreated. Preliminary observations indicate that untreated wounds heal quicker.

Researchers with Columbia NFWCO and the U.S. Geological Survey (USGS) have been collecting blood and eggs from shovelnose sturgeon in an attempt to pinpoint spawning characteristics. As part of this study, we decided to hold some of these fish after collection and examine the wound healing process. In June, biologists collected approximately 50 shovelnose sturgeons from the Missouri River using trotlines and made types of egg check wounds—with a knife, scalpel or needle and syringe—and treated them with sutures or Nexaband®, or gave them no treatment. All fish were identified with a uniquely numbered Floy tag. All the fish checked for eggs were then transported to a raceway at the Missouri Department of Conservation's Blind Pony Hatchery near Sweet Springs, Mo. The fish were evaluated weekly. Each wound was photographed and notes were taken on the condition of the fish. Fish were returned to the Missouri River when their wounds were fully healed.

While no formal data analysis has been conducted, we did find some surprising results. Preliminary results indicate sturgeon egg check wounds of any type heal faster with no medical treatment. Irritation and bleeding around the suture appeared to delay healing. After the sutures fell out, the wounds healed quickly. The Nexaband® seemed to freeze the wound in time by acting as a physical barrier to healing. Once the Nexaband® wore off, the wounds quickly healed. We also found fish with smaller scalpel or needle and syringe wounds healed slightly faster than the fish with larger knife wounds.

Treating sturgeon wounds with sutures or Nexaband® is an expensive and time consuming process that can add stress to fish. Our preliminary results suggest simply releasing fish after checking for eggs is the fish's best alternative. Our partnership with USGS has positively contributed to Missouri River projects at the Columbia NFWCO. We look forward to more collaboration on future projects.

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

Science Support Team Formed for Lower Missouri, Middle Mississippi Rivers

BY WYATT DOYLE, COLUMBIA NFWCO

Partners throughout the Lower Missouri River recently aligned to revise and enhance the 1991 Pallid Sturgeon Recovery Plan at a meeting planned and coordinated by Columbia NFWCO's Wyatt Doyle. The team included managers, biologists and researchers from state and Federal agencies intimately involved with pallid sturgeon recovery. The revised draft recovery plan will incorporate a life history model put forth by the U.S. Geological Survey (USGS) in a recent science strategy meeting hosted by the Army Corps of Engineers. This type of plan is needed to create a priority list for managers implementing the program through the Biological Opinion. It is also needed to give administrators, researchers and monitoring teams a method of communication for a fair process in funding proposals that will be linked to recovery plan priorities. The team worked collaboratively to identify the steps needed to revise the plan and begin to put the best science forward in our efforts to recover the endangered pallid sturgeon. Partners included USGS, Nebraska Game and Parks Commission, University of Missouri-Columbia, Southern Illinois University, and Missouri Ecological Services Field Office.

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

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.

Little Whittlesey Creek Fish-Friendly Culvert Replacement

BY TED KOEHLER, ASHLAND NFWCO

Over two days in August, partners from the Chequamegon Bay area of Northern Wisconsin worked to replace a culvert that was a barrier to fish in the boundary of Whittlesey Creek National Wildlife Refuge (NWR) with one that is now passable for fish and other aquatic life. Little Whittlesey Creek is an important stream for brook trout because the cold water, spring-fed tributary offers good habitat where smaller fish can grow in the absence of large predator fish. The Whittlesey Creek system is the backbone of the Refuge and historic home to anadromous coaster brook trout.

-USFWS photos

A perched culvert (left) was replaced by a culvert which allows uninhibited fish passage on Little Whittlesey Creek that lies within the boundaries of the Whittlesey Creek National Wildlife Refuge.

Ashland NFWCO and Whittlesey Creek NWR staff led the project with assistance from the Bayfield County Land Conservation Department, Town of Barksdale and Wisconsin DNR. The Partners for Fish and Wildlife Program provided a major portion of the funding and Bayfield County provided the remaining funds and surveying assistance. The Ashland NFWCO with help from Whittlesey Creek NWR, is providing pre- and post-project fish passage assessment and supervised construction to ensure fish passage. The Town of Barksdale owns and maintains Wickstrom Road and contributed to the replacement of the culvert by providing material and construction and site stabilization assistance. A Partners for Fish and Wildlife Program Habitat Development Agreement was signed with the Town of Barksdale to protect the habitat improvements for ten years.

In order to assess the effectiveness of the Little Whittlesey Creek fish-friendly culvert replacement, a mark and recapture assessment is being conducted. Staff from the Ashland NFWCO and Whittlesey Creek NWR completed the initial marking run using backpack electrofishing equipment prior to the installation of the culvert. Brook trout and coho salmon were collected and given an upper caudle fin clip, measured and released. A second electrofishing run will be completed later in the fall of 2007 to assess fish passage through the former barrier. Because of the partners and their hard work, the resulting culvert is now a habitat link for brook trout and other aquatic species instead of the barrier it once was.

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

Mud Creek Road Crossing Improvement

BY ALPENA NFWCO STAFF

Mud Creek is a small tributary of Black Lake, a large inland lake in the Cheboygan River watershed of Michigan. A quarter mile before Mud Creek enters the lake, Black River Road crosses it. The former culvert blocked fish passage and was inadequately sized. On July 9, it was replaced with a six foot-wide squashed culvert buried two feet into the streambed to allow for a false streambed, and able to accommodate a 100-year storm event. The new structure allows for fish passage for one mile up Mud Creek and into the 120-acre Mud Lake. The total cost for the project was $10,543. Funding was provided by the Alpena NFWCO's Partners for Fish and Wildlife Program ($2,500), and the FishAmerica Foundation ($2,500). The Cheboygan County Road Commission funded the remaining cost ($5,543), and provided labor and equipment to install the larger culvert.

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

Habitat Assessment and Monitoring Program Annual Report Issued

BY ANDY STAROSTKA AND NICK FROHNAUER, COLUMBIA NFWCO

The 2006 Habitat Assessment and Monitoring Program (HAMP) annual report was completed in June. The program monitors constructed aquatic habitat improvement sites on the channelized portion of the Missouri River. These sites, built by the U.S. Army Corps of Engineers (Corps), are meant to increase diversity of Missouri River aquatic habitats. Biologists hope they will begin to develop into habitats beneficial to the endangered pallid sturgeon. Monitoring conducted by the Columbia NFWCO provides Corps engineers with feedback on how fish are responding and how to get the best biological response from each site.

The 2006 field season picked up where the initial field season ended, but with increased work load and a better idea of where the project was headed. Independent science review of sampling design and project goals was provided by Sustainable Ecosystems Institute of Portland, Oregon. This group critiqued the program and provided input into areas that need improvement/development. These recommendations were integrated into HAMP and have proved to be indispensable in ongoing program development.

During the 2006 field season, Columbia NFWCO sampled from June to October, capturing 79,898 fish with 1,349 net sets using five gear types on 10 selected bends. Although the effort in 2006 was substantial, the 2007 field season is shaping up to be even bigger and better, with a more focused sampling design and increased effort that will provide a better data set. With goals of 3,600 gear deployments and 150,000 fish captures, there will be plenty of work to go around.

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

What to Do with a Dead River System That's Coming Back to Life

BY ROB SIMMONDS, CARTERVILLE NFWCO AND BILL MCCOY, PATOKA RIVER NWR

The South Fork Patoka River is a major tributary of the Patoka River and was essentially sterile from the 1930s to 1980s because of acid mine drainage from unreclaimed strip mines and abandoned derelict mine tipple areas in the mid and upper watershed in southern Indiana. Additionally, oil wells throughout the watershed produced waste waters which contributed to chloride pollution. Major efforts by the Abandoned Mine Lands Program since the 1980s have eliminated the worst acid producing areas in the watershed. With much of the heavy lifting done, it was now time to gather a group of people to discuss ideas and concepts on how to further enhance the recovery of the fish and wildlife resources in and along the 17 miles of the South Fork Patoka River. We discussed the current state of the river and who can bring what to the table in the way of ideas and funding sources for habitat improvement. We identified and discussed many options including instream work and adjacent floodplain projects that create or improve habitat or address water quality enhancement. In the end, we discussed the need for a plan to identify a vision for the South Fork Patoka River, challenges to be addressed, and actions to overcome those challenges.

-USFWS/BillMcCoy

Volunteers Chuck Bauer (right) and Ron DeMotte of the Patoka River National Wildlife Refuge participate in a bi-annual river sweep. The goal of the Indiana sponsored program is to remove trash along the lower reaches of the South Fork Patoka River.

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

Repairing Erosion on the Pine River

BY HEATHER RAWLINGS, ALPENA NFWCO

The Pine River/Van Etten Lake watershed drains approximately 187,000 acres, or 292 square miles of land in Northern Michigan. Approximately 33 percent of the land in the watershed is part of the Huron-Manistee National Forest. The West and South branches of the watershed are quality coldwater fisheries habitat for brook, brown and rainbow trout, as are the headwaters of the Main Branch. A Stream Bank Erosion Inventory was completed in 2002, and included in the 2003 "Pine River/Van Etten Lake Watershed Management Plan." This plan identified 36 erosion sites within the watershed — four sites ranked as severe, 17 ranked as moderate, and 15 ranked as minor.

-USFWS/Heather Rawlings

The addition of large woody debris adds the finishing touch to repair a stream bank erosion site on the AuSable River in Michigan.

Two stream-bank erosion sites listed in the inventory are located on the property of Walt Joslin, on the East Branch of the Pine River. On Sept. 5, these two sites were repaired with volunteer assistance from the Pine/Van Etten Watershed Restoration Committee, a local chapter of Trout Unlimited, Huron Pines Resource, Conservation & Development and biologists Heather Rawlings and Andrea Ania from the Alpena NFWCO. The stream bank erosion sites were repaired using bioengineering techniques such as biologs, vegetative plantings, geotextile fabric wraps and tree revetments. The larger site was constructed to create a 3:1 slope by an excavator to assist in the stabilization of the stream bank. These sites serve as demonstration projects within the watershed.

Alpena NFWCO's Partners for Fish and Wildlife Program provided $5,000 toward the cost of repairs, and Huron Pines Resource, Conservation & Development matched Fish and Wildlife Service funding with another $5,000 to complete the project. Funding went toward the purchase of materials and labor and transportation for the work crew. Repair of these erosion sites benefited the aquatic ecosystems in the East Branch of the Pine River by reducing the sediment load currently found in the waterways. Five hundred feet of riparian habitat were improved, and five miles of in-stream habitat benefited due to repairs at these sites. Both cold- and cool-water fish species benefit from the riparian and in-stream soil stabilization including such species as brook trout, rainbow trout, brown trout, yellow perch and northern pike.

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

Rob Simmonds of the Carterville NFWCO is assisting in the development of the Ohio River Basin Habitat Partnership. This partnership is being formed under the National Fish Habitat Action Plan to address aquatic habitat issues throughout the Ohio River basin. Recent efforts include: 1) sent out information to the partnership on contacts made to Illinois, Indiana, Ohio, Kentucky and Tennessee fish chiefs to introduce them to the partnership, 2) set up a partnership call and sent out an agenda, 3) participated in presentations to the National Fish Habitat Action Board and to the Ohio River Fish Management Team to introduce both to the partnership, and 4) developed an outline for the Ohio River Fish Management Team presentation.

2007 Midwest Region Maintenance Workshop

BY DAVE WEDAN, LA CROSSE NFWCO

A region-wide maintenance workshop was held in Onalaska, Wis., in August. Attendees were welcomed by Regional Director Robyn Thorson, National Wildlife Refuge Chief Nita Fuller and Fisheries Supervisor Todd Turner. A full and varied three day agenda followed; a fisheries theme was one of the highlights of this workshop. Many excellent speakers from the Regional Office and field stations presented valuable information to the group concerning safety inspections, workforce planning, maintenance action teams, contracting, retirement, Fisheries program, Ecological Services program, fire, Federal contracts, invasive species, heavy equipment training, watercraft safety and refuge updates. Fisheries representatives Scott Yess (La Crosse NFWCO), Corey Puzach (La Crosse FHC), Doug Aloisi (Genoa NFH), Jeff Slade (Ludington Biological Station), and Todd Turner (Regional Office) all gave excellent presentations. Tours included the U.S. Geological Survey Upper Midwest Environmental Sciences Center, Trane Manufacturing Plant, Peerless Chain, Genoa NFH, and Trempealeau NWR where a number of vendors displayed products and equipment. A social highlight of the workshop was a fish fry held at the Genoa City Park after the Genoa NFH tour. Fisheries program representatives on the fourteen-member Regional Maintenance and Wage Grade Committee are Dave Wedan, Adam Kowalski, and Jeff Lockington. The Committee is chaired by Regional Heavy Equipment Coordinator Dale Pittman.

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.

-USFWS

Approximately 75 maintenance employees received the latest training information and service updates at the 2007 Midwest Region Maintenance Workshop

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

FY 2007 MOCC

BY DAVE WEDAN, LA CROSSE NFWCO

The Regional Watercraft Safety Program finished a busy and successful 2007 field season with a total of 80 training certifications completed. The Department of the Interior mandated Motorboat Operators Certification Course (MOCC) courses were held at Marquette Biological Station, Ludington Biological Station, Osceola Park Service Station (National Park Service), Crab Orchard NWR, and two at the Fish and Wildlife Service Center in Onalaska, Wisconsin. A MOICC (Instructor Certification Course) was conducted in Onalaska, also, adding six new instructors to the regional instructor crew. Two Airboat Certification Courses were held at Horicon NWR. The MOCC 5-year Refresher with the classroom portion taken on-line on DOI Learn is in place, and is being used for "re-certification" of regional watercraft users. The fiscal year 2007 breakdown consisted of : MOCC certifications= 55 (Fish and Wildlife Service - 50, university student - 1, National Park Service - 1, U.S. Geological Survey - 1, Minnesota DNR - 2); Airboat certifications= 11 (Fish and Wildlife Service - 6, U.S. Geological Survey - 1); MOICC certifications = 14 (Fish and Wildlife Service - 10, National Park Service - 2, U.S. Geological Survey - 1, Bureau of Reclamation - 1). The FY 2008 Regional Watercraft Safety Training course schedule will be finalized in January and sent to regional supervisors and employees at that time. There were no reported watercraft accidents in Region 3 in FY2007! Thanks to Region 3's watercraft operators and the Regional watercraft safety instructor crew!

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

Congressional Actions

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. 1495 (eas) [Engrossed Amendment Senate]

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. 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 (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. 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. 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]

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

H.R. 767 (rfs) 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. [Referred in Senate]

H.R. 767 (rcs) 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. [Reference Change Senate]

S.J.Res. 17 (es) 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. [Engrossed in Senate]

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

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

H.R. 3663 (ih) To amend the Fish and Wildlife Act of 1956 to establish additional prohibitions on shooting wildlife from aircraft, and for other purposes. [Introduced in House]

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

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

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

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

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

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

S. 2302 (pcs) To provide for the continuation of agricultural programs through fiscal year 2012, and for other purposes. [Placed on Calendar Senate]

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

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

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

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

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

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

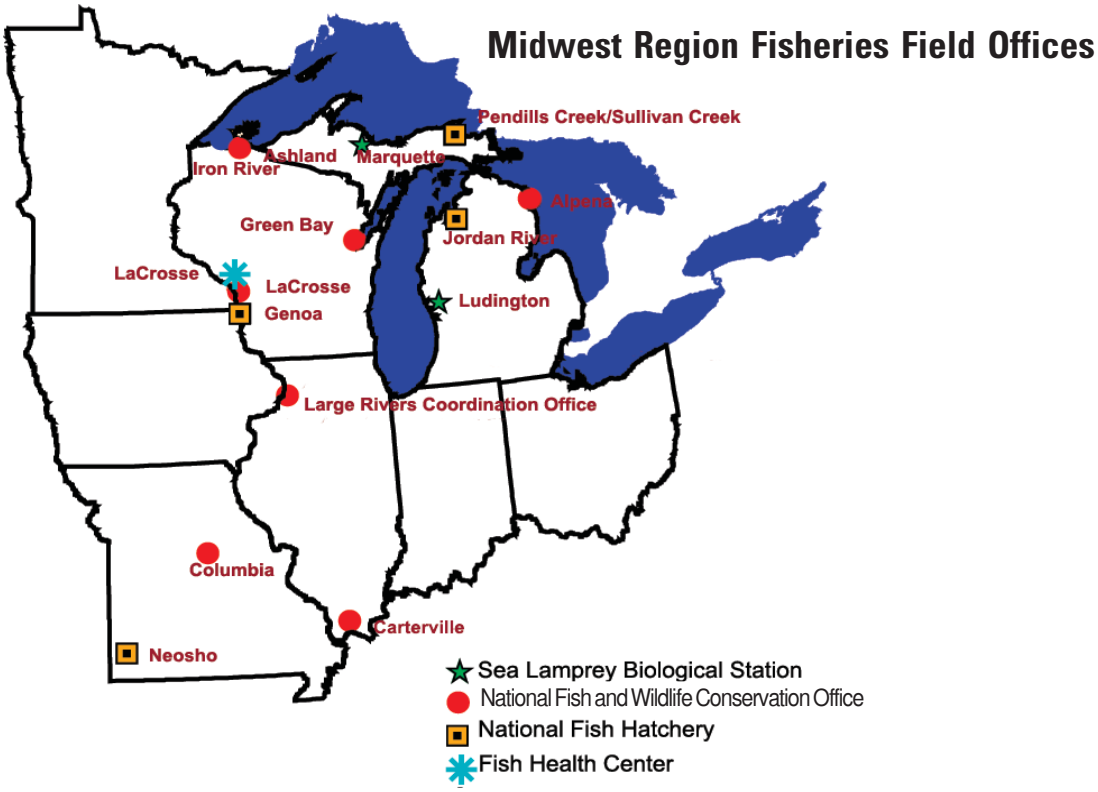
National Fish and Wildlife Conservation Offices conduct assessments of fish populations to guide management decisions, perform key monitoring and control activities related to invasive, aquatic species; survey and evaluate aquatic habitats to identify restoration/rehabilitation opportunities; play a 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 fisheries databases; provide technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydropower operation and re-licensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments and treaty authorities.

Sea Lamprey Biological Stations

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

Fish Health Center

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



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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

- La Crosse NFWCO Assists Genoa NFH with 75th Anniversary
  - Heidi Keuler, La Crosse NFWCO

Aquatic Species Conservation and Management

- Unique shovelnose Sturgeon Captured
  - Andy Starostka, Columbia NFWCO
- Final Schacte Creek Fish Relocation Conducted to Determine the Presence of Bacterial and Viral Pathogens
  - Frank Stone, Ashland NFWCO
- La Crosse NFWCO Assists La Crosse FHC with Wild Fish Disease Survey on Pool 3 of the Mississippi River
  - Heidi Keuler, La Crosse NFWCO

Aquatic Invasive Species

Public Use

- Sixth Annual Scours Report for Big Muddy National Fish and Wildlife Refuge
  - Cliff Wilson, Columbia NFWCO
- Clean-up on the Big Muddy in St. Charles
  - Patty Herman and Colby Wrasse, Columbia NFWCO
- Iron River NFH Open House
  - Rick Nelson, La Crosse FHC
- Columbia NFWCO attends Genoa NFH's 75th Anniversary
  - Brian Elkington, Columbia NFWCO

Cooperation with Native Americans

Leadership in Science and Technology

Aquatic Habitat Conservation and Management

- Repairing Erosion Sites on the Au Sable River
  - Heather Rawlings, Alpena NFWCO
- Cascade Dam Survey Part 2
  - Susan Wells, Alpena NFWCO
- Habitat Assessment on the Maumee River, Ohio
  - Jim McFee, Alpena NFWCO
- Sharing Side-channel Restoration Information from One Part of the Basin to Another
  - Rob Simmonds, Carterville NFWCO
- The National Fish Passage Program and the Michigan Stream Team
  - Susan Wells, Alpena NFWCO

Workforce Management

- Risk Assessment Training
  - Joanne Grady, Columbia NFWCO
- Nate Caswell recognized for His Efforts this Spring to Make it Happen!
  - Rob Simmonds, Carterville NFWCO
- Third Generation enters Government Service
  - Mark Steingraeber, La Crosse NFWCO

-Jerry French Postcard Collection; U.S. Fish Hatchery; Marquette, Michigan (1940)

Water Under the Bridge

A Glimpse into our Proud Past

The Marquette Fish Hatchery was established in 1939 in the Marquette National Forest. The hatchery was transferred to the U.S. Forest Service in 1945.