



U.S. Fish & Wildlife Service - Midwest Region

# Fisheries & Aquatic Resources Program

# *Fish Lines*

Great Lakes Lake Herring:  
Ripe for Restoration

Unlocking the Mysteries of  
Mussels

Mussel Restoration Begins in  
Iowa's Driftless Area

Biologists Show Local  
Youth Fascinating Stream  
Life Close to Home



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# Fish Lines

## Fisheries & Aquatic Resources Program - Midwest Region

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

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

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-USFWS  
A young girl proudly displays her catch.

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# Great Lakes Lake Herring: Ripe for Restoration

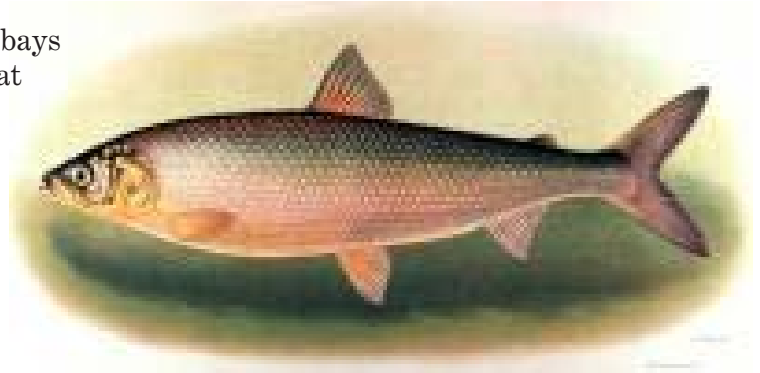
BY CHUCK BRONTE, GREEN BAY NFWCO

**T**he lake herring is one of seven species of ciscoes native to the Great Lakes. Ciscoes feed mainly on zooplankton and bottom dwelling crustaceans, and that makes them a major ecological link between invertebrates and their own top native predators—lake trout, burbot and Atlantic salmon. Biologists believe that restoring lake herring populations will enhance lake trout rehabilitation efforts, a focus of the Fish and Wildlife Service in the Great Lakes since the 1950's.

Historically, lake herring fed and spawned in most large bays throughout the Great Lakes. Densities were so high that large schools of lake herring could readily be observed at the surface.

Introductions of invasive species such as rainbow smelt and alewives and overfishing of lake herring stocks on their spawning grounds in the fall have been blamed for the demise of lake herring in the Great Lakes.

Lake herring supported the largest commercial fisheries in terms of harvest in nearly every Great Lake. The majority of commercial fishing took place during the fall spawning season and caused populations to decline. Lake Erie had the largest lake herring fishery early in the last century, with more than 15 million pounds harvested a year; however, it collapsed in the 1920's. Lake herring fisheries were smaller in lakes Huron and Michigan with annual yields of around 5 million pounds; these fisheries collapsed during the 1940's and 1950's. Lake Superior appeared to have the most stable fishery with a yearly harvest of around 10 million pounds for many years, but it eventually declined in the 1960's.



-USFWS

**Lake Herring**



-Unknown source

**Historical photo of a lake herring commercial fishing vessel that once operated in Lake Erie.**

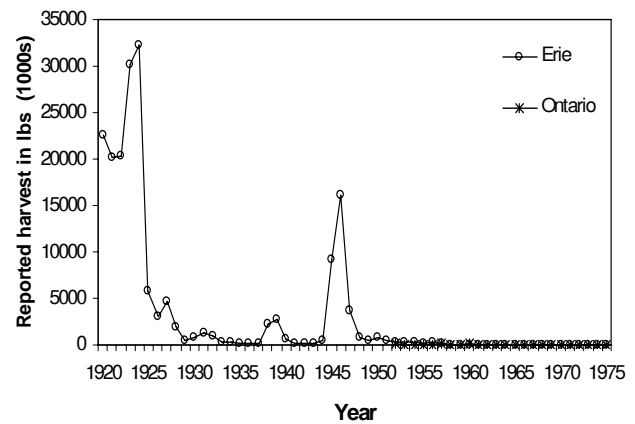
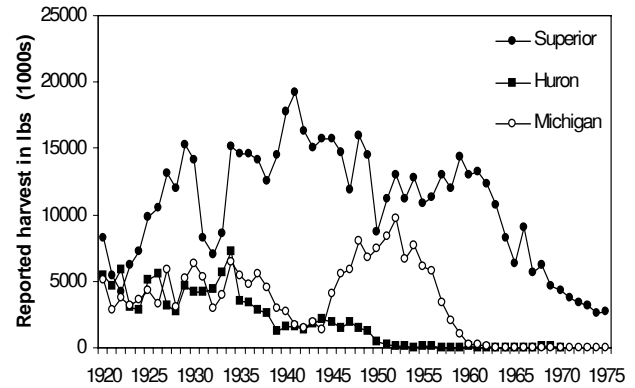
Today, lake herring are still found across Lake Superior, in the St. Marys River that flows from Lake Superior to Lake Huron, and in Northern Lake Huron. They support small fisheries; however, populations are much lower than those found historically. Lake herring are rare in lakes Erie and Ontario but are found in many areas, and suggests that reproduction is occurring at low levels. In Lake Michigan, lake herring are only found in Grand Traverse Bay, where a small ice fishery harvests a few fish each winter. The continued presence of lake herring throughout its historic range in the Great Lakes, despite local extinctions of other ciscoes, suggests that this species is resilient and an excellent candidate for restoration.

Except in Lake Superior, where the native food chain is primarily intact, restoring lake herring in the Great Lakes would repair a food web currently compromised of invasive forage fish and assist with the restoration of native lake trout basin-wide and Atlantic salmon in Lake Ontario. As populations of these predators declined during the last century, the reduction in predation pressure allowed invasive alewife and rainbow smelt to increase.

By the mid-1950's, these species replaced lake herring as the link between invertebrates and the few native predators that remained. Summer die-offs of these unchecked alewife populations littered the beaches of towns across the Great Lakes. This ecological change contributed to economic losses in the commercial fishing industry and tourism trade. To control the large numbers of alewives, fishery agencies began stocking coho and chinook salmon from the Pacific Northwest into the Great Lakes in the 1960's. Predation by salmon successfully reduced alewives and smelt, and contributed to a Great Lakes sport fishery now worth over \$4 billion annually.

Unfortunately, attempts to re-establish self-reproducing populations of lake trout have been less than successful in all of the Great Lakes except Superior. One reason is high mortality of lake trout fry that is linked to thiamine deficiency, known as Early Mortality Syndrome. Alewives and rainbow smelt in the Great Lakes are rich in the enzyme thiaminase, which, when consumed by lake trout, destroys thiamine in their eggs. Lake trout eggs deficient in thiamine fail to hatch and the fry that do hatch experience poor survival. Alewives are also capable of eating larval lake trout, although it is not clear how this affects basin-wide lake trout rehabilitation.

Harvest of lake herring from the Great Lakes



-Unknown source

As populations of native predators decreased in the Great Lakes, invasive alewife numbers exploded, many times leaving piles of dead carcasses along the shorelines.

Restoration of lake herring as a primary prey species in the Great Lakes would be desirable for successful lake trout rehabilitation. Lake herring are not subject to die-offs and are long-lived compared to alewives and rainbow smelt. Also, the consumption of lake herring would reduce the effects of early mortality syndrome because this prey contains much lower levels of thiaminase compared to alewives. Because of their larger maximum size, lake herring also provide a wide variety of prey lengths for predators, increasing the feeding efficiency for larger lake trout.

Restoration of lake herring is now a possibility since populations of alewives and rainbow smelt are much lower than 30 years ago and their effects on lake herring populations are reduced. Efforts to restore and improve management of lake herring are underway in several Great Lakes. The Fish and Wildlife Service is involved in a number of these activities. In Lake Superior, where healthy lake herring populations exist, scientists are writing a status and management plan to aid in establishing estimates of harvestable biomass. The Michigan Department of Natural Resources (DNR) is undertaking an effort to experimentally raise lake herring for reintroduction to areas of Lake Huron as part of a lake-wide plan for lake herring restoration developed by the Lake Huron Technical Committee of the Great Lakes Fishery Commission. This plan also includes reducing exploitation of remnant stocks. Similar plans are being considered for lakes Ontario and Erie.



-USFWS

**Biologists deploy a transducer to measure biomass of lake herring at a Lake Superior sampling site.**

In Lake Superior, where lake herring remain the primary prey fish for lake trout, the Ashland National Fish and Wildlife Conservation Office (NFWCO) assisted with near-shore hydro-acoustic surveys along the Western Keweenaw Peninsula of Michigan. The survey covered nearly 100 miles of Lake Superior in an attempt to determine the abundance of lake herring in the area.

The Fish and Wildlife Service also partnered with the U.S. Geological Survey (USGS), the Minnesota and Wisconsin DNR's, and the University of Minnesota-Duluth (UMD) using hydro-acoustics and mid-water trawls to conduct spawning surveys for lake herring in fall 2006. Their objective was to collect acoustic data to estimate densities of large (10 inches or longer) lake herring in four coastal areas in Wisconsin and Minnesota. Hydro-acoustic gear was deployed off the Fish and Wildlife Service's *M/V Chub* at night when lake herring migrate into the water column. The vessel

worked in tandem with the U.S. Geological Survey *R/V Kiyi*, which allowed comparison of two different transducers and provided information on whether night operation of the 107-foot *Kiyi* influences the distribution of suspended fish below the vessel where hydro-acoustic gear was deployed.

In Lake Huron, the Alpena NFWCO is in the early stages of plans to assist the Michigan DNR in collecting eggs and milt from Northern Lake Huron this fall for experimental rearing, while in Lake Michigan, the Green Bay NFWCO is interested in doing some surveillance work in Grand Traverse Bay to document the existence of a remnant population there.

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

# Unlocking the Mysteries of Mussels

BY JEFF FINLEY, COLUMBIA NFWCO

**F**reshwater mussels—or mollusks—are the most threatened creatures in North America and possibly the world, yet science is just beginning to comprehend the intimate relationship between freshwater mussels and fish. Within the past decade, malacologists—those who study freshwater mussels—have made significant advances in unraveling the natural processes of these intriguing creatures. In Missouri, Andy Roberts, malacologist for the Fish and Wildlife Service’s Ecological Services program, works tirelessly to preserve many mussel species in cooperation with Dr. Chris Barnhart of the Missouri State University and other mussel biologists with the Missouri Department of Conservation. Andy’s job entails a variety of issues related to habitat conservation for mussels. More often than not, these efforts benefit fish as well. Over the years, scientists have discovered that many of these mussels have specific fish hosts on which they depend for reproduction and survival; therefore, healthy fish populations are imperative to the existence of healthy mussels.

A decline in fish species or a change in physical habitat could easily destroy mussel beds that may be hundreds of years old. Recently, I was given the opportunity to assist Andy in a mussel survey on the Gasconade River near its confluence with the Missouri River. A gravel mining operation wanted to increase their tonnage production of gravel. To do this, they had to comply with environmental regulations and ensure that endangered and threatened species such as mussels would not be harmed.



-USFWS  
**Biologist Andy Roberts (Ecological Services) displays sub-adult mussels collected from a site on Missouri’s Meramec River.**

Though a perfect bluebird day, Friday the 13th would not have been my first choice of dates to be in the field. The sunshine and clear water overcame any reservations I had about the date as we arrived at the gravel bar. Although the water was a little high, Andy was able to expertly evaluate the bar and determine it was too unstable and newly formed to be mussel habitat. Materials from an eroding upstream bank were being deposited on the bar too quickly to allow for mussel establishment.

After discovering this, Andy suggested we explore upstream, as that area had not yet been surveyed. It was a good thing we did. Approximately 11 miles upstream of the confluence, where big river influence meets with Ozark stream characteristics, we hit pay-dirt. Within five minutes of wading around a stable bar, Andy found the half shell of a pink mucket, an endangered mussel. We donned snorkeling gear and began our search. Within half an hour, Andy and I had collected 21 species of mussels from an area half

the size of a skating rink. They included rare species such as elktoe, spectaclecase and black sandshell. Individual mussels were nearly older than Andy’s age and mine combined. Andy rated this mussel bed an “8” on a ten-point scale of quality and diversity. His team will probably return here next year when searching for endangered brood stock for ongoing mussel propagation programs.

This was my first experience collecting mussels. I am intrigued by their complexity, intricacy and capacity to cooperatively exist with other species. Andy’s knowledge of these fascinating animals is impressive and I was honored to have the opportunity to partner with him in this survey. Because of the relationship that mussels have with fish, I hope we can partner again to unlock the riddles these riffles hold and recover these declining aquatic species.

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

# Mussel Restoration Begins in Iowa's Driftless Area

BY TONY BRADY, GENOA NFH

Like most of the country, Iowa has seen drastic declines in its native freshwater mussel populations over the past century. With the exception of a few larger rivers such as the Iowa and Wapsipinicon rivers, most of Iowa's viable mussel beds can be found in smaller tributaries throughout Iowa, including the unglaciated Driftless Area which covers 24,000 square miles along the Mississippi River. Much of the Midwest Driftless Area is agricultural, leaving the health of these tributary streams and their inhabitants at the mercy of the land use practices.



-Scott Gritters

**Volunteers from multiple agencies tag mussels before they are transplanted into Farmer's Creek, Iowa, as part of a restoration program.**

After seeing the incredible numbers of smallmouth bass in Farmer's Creek, the Iowa DNR decided to restore mussels, starting with fatmuckets, to portions of the stream owned by the Kremers. The Genoa NFH, Iowa DNR, Jackson County Conservation Board and the Natural Resources Conservation Services of Jackson and Jones counties joined together to mark, measure and release 850 cultured subadult fatmuckets provided by the hatchery into two sites on Farmer's Creek.

Biologists will survey these mussels for survival next summer, and for reproduction in five years. In that time, it is hoped that additional year classes of cultured mussels will be marked and placed in the creek. Lessons learned on Farmer's Creek will soon be applied to other Driftless Area streams in need of mussel restoration.

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

One example of good land use can be seen in Jackson County, Iowa, where Bob and Judy Kremer are making improvements to their portion of Farmer's Creek. They are doing bank stabilization and rotating livestock to different pastures. Farmer's Creek suffered a manure spill approximately 10 years ago that killed over 133,000 fish and the entire native mussel community.

Genoa National Fish Hatchery (NFH) first became involved with Farmer's Creek in 2003 by providing smallmouth bass to repopulate the streams affected by the manure spill. These smallmouth bass have now grown and reproduced to self-sustaining levels. Smallmouth bass are excellent host fish for the fatmucket mussel, one of the four species lost as a result of the spill.



-Scott Gritters

**Mussels are placed into Farmer's Creek, Iowa, to try to re-establish some native mussel populations.**



# Biologists Show Local Youth Fascinating Stream Life Close to Home

BY ZAC BUESSINK, COLUMBIA NFWCO

Located just a few miles outside Columbia, Missouri, Rock Bridge Memorial State Park offers local youngsters a place to learn about the wildlife and the area's historic significance. As part of the "Introduction to Nature Workshop and Summer Camp," Paul McKenzie of the Missouri Ecological Services Field Office organized and led a session to introduce local area youth to a variety of organisms and ecological concepts, as well as a brief history of the community that once existed in the area. Cathryn Foxfire of the Missouri DNR provided some visual aids and descriptions of some of the plants and animals found in the Park, including the aquatic communities found in its streams. She also engaged the kids in exercises designed to demonstrate the negative impacts of degraded water quality on the streams and their residents.

Zac Beussink and Brian Elkington of the Columbia NFWCO provided some special assistance to the program by sampling the Devil's Icebox Spring Branch that flows from Connor's Cave in the Park. The children made their way down the slippery, muddy stream-bank to watch as Elkington and Beussink collected live fish and macro-invertebrates, transferred their catch to a large tub, and identified the organisms and described some of their unique characteristics. Many of the kids had never seen the amphipods that dominated the macro-invertebrate collection and were fascinated by their shrimp-like features. Of course, the charismatic and familiar crayfish were a big hit as well. While shiners and minnows were the most common fish collected, a few stonerollers offered the opportunity to describe the feeding habits of an herbivorous stream fish. During the lessons, the kids were given dip-nets and delighted in scooping up the fish and observing them close-up. Finally, Beussink and Elkington released the fish and macro invertebrates and discussed the importance of clean water for maintaining these communities.

Any opportunity to expose children to our natural resources and describe their significance is extremely valuable and can help ensure the protection and preservation of these resources for future generations. Rock Bridge Memorial State Park, which has been identified as a Conservation Opportunity Area, provides an excellent location for anyone in the Columbia area to enjoy a variety of outdoor activities close to home.



-USFWS

**Nature workshop participants have a close encounter with stream fish and other aquatic inhabitants.**

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

## Telemetry Project Documents Sturgeon Movement

BY SCOTT KOPROSKI, ALPENA NFWCO

In June, Alpena NFWCO biologist Scott Koproski made four trips to Sault Ste. Marie, Michigan, to work with Lake Superior State University (LSSU) on the St. Marys River lake sturgeon telemetry project. LSSU has absorbed most of the field work related to this project and began deploying set-lines in the middle of May. Last year, 12 captured lake sturgeon met the minimum length requirements necessary for implanting sonic telemetry tags.



-USFWS/Scott Koproski

**A biologist uses underwater sonic sensing equipment to detect any lake sturgeon in the area that are implanted with sonic telemetry tags as part of a St. Marys River project.**

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.

While working with LSSU this year, Koproski implanted tags in two adult lake sturgeon. He also provided training to Brandon Gerig on surgery and suture techniques. Gerig is a LSSU student responsible for coordinating the University's field activities for this project. Since the training, Gerig has implanted tags in five more adult lake sturgeon. This brings the total number of implanted fish to 19; all were frequently located this summer. This has been quite surprising and leads biologists to believe that there may be a resident population of lake sturgeon in the St. Marys River. Movement up-stream and down-stream in excess of eight miles has been documented but the fish always seem to return to the Lake George area in the northern reaches of the River. Further investigations into the habitat selections have begun and we hope to identify critical habitat needs of these fish.

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

## Ohio River Basin Mussel/Fish Habitat Partnership Coming Together

BY ROB SIMMONDS, CARTERVILLE NFWCO

What started as concern about the status of mussel populations in the Ohio River by freshwater mussel biologists is now spreading throughout the basin and bringing in fish biologists and others.

The Ohio River Basin Mussel/Fish Habitat Partnership is being formed under the National Fish Habitat Action Plan as one of several partnerships across the country to address conservation and restoration of aquatic habitat.

This unique partnership among other "fish habitat" partnerships, will conserve and protect aquatic habitat for all species, but will use mussels to focus efforts and to bring additional benefits to the habitat. The habitat issues are essentially the same for fish and mussels, so efforts such as keeping cattle out of streams, establishing riparian buffers, addressing

water quality issues, and providing fish passage benefit both mussels and fish. What's good for mussels is good for fish.

Other benefits of protecting mussels and their freshwater habitat include: mussels filter water - free of charge - that is used as drinking water by many; mussels stabilize the stream bottom; provide food via "biodeposits" for aquatic insects that in turn are food for fish; and provide physical habitat for smaller fish.

By conserving and restoring mussels as well as habitat for fish and mussels, we can provide cleaner and cheaper drinking water, better fishing, cleaner areas for swimming, and improved quality-of-life for people across the Ohio River basin.

To date, Project Leader Rob Simmonds of the Carterville NFWCO has worked with a team of people in the Ohio River basin, particularly members of the Mussel Subgroup to the Ohio River Valley Ecosystem Team to: 1) begin forming the partnership, 2) develop a fact sheet, 3) seek and receive recognition as a Candidate Partnership under the National Fish Habitat Action Plan, 4) apply for a Multi-State Conservation Grant, and 5) discuss the

partnership with state fish chiefs from throughout the Basin.

Our next steps will include a presentation to the Ohio River Fish Management Team in October. We also plan a partnership meeting and call to continue partnership development, begin strategic planning and apply for recognition as an official partnership under the National Fish Habitat Action Plan.

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

## SCUBA Divers Examine Hull of the *M/V Spencer F. Baird*

BY TONY BRADY, GENOA NFH

The Fish and Wildlife Service acquired the custom-built *M/V Spencer F. Baird* in 2006 to replace the aging *M/V Togue* as the primary stocking vessel for the Midwest Region's lake trout rehabilitation program. In its short life, the *Spencer F. Baird* has withstood the forces of Hurricane Katrina, a trip up the eastern seaboard to the Great Lakes and one intense field season stocking hundreds of thousands of native lake trout. Though this first year of duty, problems were revealed in the paint covering the Baird's exterior. Peeling paint at the waterline left the vessel's crew concerned about the condition of the paint below the waterline.

The question of how to examine the hull of this 95-foot vessel was raised during a meeting with the crew and Regional Office Fisheries staff. It was decided that SCUBA divers should videotape the hull. Divers from Genoa NFH were contacted about conducting the dive. The Genoa NFH staff drove to Cheboygan, Mich., where the *Spencer F. Baird* is stationed, and, after meeting with Captain Mike Perry to discuss the potential hazards they might encounter, the divers suited up and slipped off beneath the cool waters of Lake Huron. Using an underwater camera provided by the La Crosse FRO, divers examined the hull for about an hour, and then surfaced to show the crew the condition of the hull. A second trip beneath the vessel was conducted to capture additional footage of areas that concerned Captain Perry. Copies of the tape were sent to the Regional Office and Captain Perry to help them decide how to proceed in repainting the *Spencer F. Baird*.



-USFWS  
Regional SCUBA divers Tony Brady (left) and Roger Gordon suit-up to dive to examine the unexposed hull of the *M/V Spencer F. Baird*.

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

## “Distinguished Visitor” Gets Hatchery Enhancement Tour

BY CURT FRIEZ, PENDILLS CREEK NFH

I was honored to give U.S. Senator Carl Levin’s Upper Peninsula staff member Amy Berglund a tour of the recent Hatchery enhancements at Pendills Creek NFH. Amy was very interested in our activities. She wants to become involved with the Friends of Pendills Creek Hatchery to assist them when possible. Senator Levin is a strong supporter of the lake trout rehabilitation work the Fish and Wildlife Service conducts and is genuinely interested in our program. Amy certainly realizes the importance of this program value to the Great Lakes, so we were honored to have her stop by the Hatchery and see first-hand the improvements to water filtration and oxygen supplementation which enhanced our fish culture environment. These enhancements have contributed to increases in yearling production and a new fall fingerling program. Amy seemed very impressed with our new capabilities and quality of the fish we are producing. She was concerned over the new emerging fish disease Viral Hemorrhagic Septicemia (VHS) in the Great Lakes and was very interested in our proposed ultra-violet light disinfection system to treat our hatchery water supply. She looks forward to attending a Friends of Pendills Creek Hatchery meeting in the future on behalf of Senator Levin.



-USFWS

**Amy Berglund of Senator Carl Levin’s Office receives a tour of the Pendills Creek National Fish Hatchery from manager Curt Friez.**

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

## Aquaculture Drug Approval Workshop Draws a Crowd

BY RICK NELSON, LA CROSSE FHC

The Annual Aquaculture Drug Approval Workshop was bigger than usual this year because of new information from researchers, sponsors, and the Fish and Wildlife Service’s Aquatic Animal Drug Approval Program. Seventy-three people attended, representing drug companies; the Center of Veterinary Medicine (CVM) of the Food and Drug Administration (FDA); university, Federal and state research laboratories; Fish and Wildlife Service Fish Health Centers; private veterinarians; state resource agencies and the Washington office.

Panels of experts discussed several of the most pressing issues. Sessions included an update from the CVM. The aquaculture drugs team recently succeeded in gaining approval for 35 percent Perox-Aid (hydrogen peroxide) for control of fungus, bacterial

gill disease, and columnaris in cool-water fishes and channel catfish; and Aquaflor (florenicol) for control of enteric septicemia in channel catfish and columnaris in channel catfish, control of cold-water disease in all freshwater reared salmonids; and control of furunculosis in all fresh water reared salmon.

Several drug companies are seeking expanded labels for drugs already approved such as Formalin-F and Paracide-F. Companies are seeking approval for Parasite-S to control saprolegniasis in all fresh water reared finfish.

Many new drugs are still in various research stages of study to get approval from the CVM and FDA. It was a very productive meeting, with volumes of information generated into a large notebook given to each participant

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

## Fish Community Sampling on the Big Muddy

BY CHRIS MCLELAND AND ANDREW PLAUCK, COLUMBIA NFWCO

July marks a change in season for our Pallid Sturgeon Population Assessment Team as crews assessed the Missouri River fish community using small trap nets (mini-fykes) for sampling of shallow-water habitats. These nets can be deployed in a wide range of habitats such as sand bars, silt flats and side channels. Crews also use the newly adopted push-trawl, which took the place of the old-fashioned seine net to sample these habitats. The push-trawl is a small trawl that is deployed with long



-USFWS/Jennifer Johnson

**Biologist Jennifer Johnson sets a mini-fyke net to sample fish in shallow water habitat on the Missouri River.**

Our year-round sampling for pallid sturgeon continues throughout the summer. Trawling with the 26-foot stern trawl nets newly hatched sturgeon, which we capture beginning when they are about an inch long. High water in the Missouri River this year should lead to interesting catches of young-of-the-year fish. We also drift 125-foot long trammel nets over sand-flats and channel borders. These nets will capture sturgeon as small as eight inches, although larger fish are more commonly encountered.

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

## Searching for Tagged Mississippi River Sturgeon in the Lower Ohio River

BY NATE CASWELL, CARTERVILLE NFWCO

Active telemetry has been a major component of Middle Mississippi River pallid sturgeon research for the last several years. Pallids are implanted with ultrasonic transmitters and their movements are monitored through a combination of active telemetry and a network of passive receivers. The Open Rivers and Wetlands Field Station (ORWFS) of the Missouri Department of Conservation is responsible for monitoring pallid sturgeon use in the lower 100 miles of the Middle Mississippi River, which ends at its confluence with the Ohio River. ORWFS has determined that some tagged pallid sturgeon have moved downriver and out of the Middle Mississippi River. Some have been located in the Lower Mississippi River; however, several have not been located since moving out of the Middle Mississippi River. Although pallid sturgeon have not been documented in the Ohio River, ORWFS biologists wonder whether some of

beams and pushed through shallow water with a jet-driven boat. The great thing about the push-trawl is that it can sample areas that are too deep to set a mini-fyke net and too shallow to deploy the larger gears. Unlike seines or mini-fykes, push-trawls have captured young-of-the-year sturgeon. Fish community sampling targets smaller fish, some of which make up the diet of the endangered pallid sturgeon. If we can document increases in prey species, we will be one step closer to recovering the pallid sturgeon.

the tagged fish may have ventured into that River. Carterville NFWCO biologist Nate Caswell and technician Matt Mangan used acoustic equipment to search by boat for tagged pallid sturgeon in the lower 62 miles of the Ohio River, from the Smithland Locks and Dam down to the confluence with the Mississippi River. They did not locate any pallid sturgeons.

Rather than this periodic tracking, it would be best to place stationary receivers in the Ohio River. Unfortunately, recent efforts by Greg Conover and Ron Brooks (Southern Illinois University) to place a receiver here were unsuccessful because of the large amount of sand in the river that covered the receiver stand. We will continue to work toward placing receivers in the river to track pallid sturgeon, Asian carps, and many other fish in the Mississippi River that are currently implanted with transmitters.

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.

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

## Michigan Islands Refuge Surveyed

BY SCOTT KOPROSKI, ALPENA NFWCO

In June, Alpena NFWCO biologists Scott Koproski and Adam Kowalski and Project Leader Jerry McClain began field work to obtain data on the fishery resources near islands in Thunder Bay in Lake Huron. Funding was provided by the Fish and Wildlife Service's Challenge Grant Program. Two of the four islands where fishery data will be collected are Fish and Wildlife Service properties and part of the Michigan Islands National Wildlife Refuge (NWR). The study is a cooperative effort between the Michigan DNR and the Fish and Wildlife Service.

Targeted islands included Sulphur, Grass, Scarecrow, and Thunder Bay islands, all part of Michigan Islands NWR. The four islands are important to the coastal fish species, providing recreational fishing opportunities in the Thunder Bay area. These islands also provide important feeding, spawning and nursery habitat to a variety of fish species, but the status of

these populations is unknown. By obtaining baseline data, we will be able to monitor the trends of these populations and see what impacts habitat alteration, invasive species and cormorant predation are having on them.

The project involves electrofishing the perimeter of the islands in ten minute intervals; lengths were taken from all fish encountered and weights were recorded from the sport fish. In addition to weighing the sport fish, a scale sample was removed for aging.

Grass Island and Sulfur Island are located close to shore within Thunder Bay, and Scarecrow and Thunder Bay Island are located on the outer edge of the Bay. During June, the inner islands were sampled; however, due to inclement weather and long runs, Scarecrow and Thunder Bay Island have not yet been sampled. We plan on sampling the remaining two islands in August.

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

## Jordan River NFH Transfers 1.1 Million Lake Trout Fingerlings to Pendills Creek NFH

BY TIM SMIGIELSKI, JORDAN RIVER NFH

Fingerling lake trout are transferred every spring from the Jordan River NFH because Pendills Creek NFH lacks the rearing space needed for fry. Jordan River NFH rears the fish to about 300 fish to the pound and then ships them off. Typically, just over 800,000 fish are transferred; however, because Pendills Creek NFH will be experimenting with fall

fingerlings this year, they requested additional fish. The fingerlings, which were hatched from eyed eggs at Jordan River NFH, were reared to 289 fish to the pound and transferred between May 10 and June 1. Crews hauled 604,839 Lewis Lake strain and 502,919 Superior Apostle Island strain fingerlings in seven trips from the Jordan River NFH.

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

## Wild Fish Surveys

BY RICK NELSON, LA CROSSE FHC

A total of 25 diagnostic and inspection cases were initiated in July. These included 76 lots and 14 species. The work includes Federal hatchery inspections, wild fish health surveys, state fish hatchery cooperative agreements and viral surveillance in the

Great Lakes basin. July is the start of the season to sample for viral hemorrhagic septicemia (VHS), spring viremia of carp, and largemouth bass virus sampling season. The workload will continue to be at peak levels for many months.

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

## Experts Convene on Pallid Sturgeon Recovery Plan

BY WYATT DOYLE, COLUMBIA NFWCO

The largest group ever convened to discuss pallid sturgeon recovery met in July in St. Louis. The meeting was facilitated by the renowned Ruckelshaus Institute at the University of Wyoming, which specializes in reaching consensus on environmental issues. The meeting was by invitation and included experts from Louisiana to Montana. Wyatt Doyle and Tracy Hill were invited as representatives of the Lower Missouri River. Tracy served on the steering committee that spent many months planning the meeting with the help of the U.S. Army Corps of Engineers. Others in attendance included state biologists, civil engi-

neers, university researchers, private stakeholders and numerous Federal agency biologists. The meeting facilitated discussion of the needs of the pallid sturgeon throughout its diverse range within the longest (Missouri) and largest (Mississippi) rivers in the nation. The institute will provide a synopsis of the meeting that will be used as a guiding document for future funding needs to recover the fish. The ability of this diverse group to come together in a collaborative partnership with a comprehensive plan is a testament to the professionalism and teamwork accomplished through nearly two decades of recovery efforts.

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

## Carterville NFWCO Assists in Sampling Mingo NWR

BY MIKE STAHL, CARTERVILLE NFWCO

During the 19th century, Mingo NWR located near Puxico, Missouri, supported a diverse assortment of wildlife including timber wolves, river otters, beavers and various water-loving plants and animals. Past land use drastically changed this swamp, formerly lush with the growth of plants and alive with animals. The Fish and Wildlife Service has initiated a number of management actions and techniques in an attempt to restore the area. One particular effort is to reintroduce the alligator gar. As part of this effort, a study led by the Missouri Department of Conservation was initiated to help determine the effect of reintroducing the predatory alligator gar on the

existing fish community. Biologist Mike Stahl and technician Matt Wegener from the Carterville NFWCO assisted Bob Hrabik from the Missouri Department of Conservation with an initial fishery survey. Together they used seines and other nets, along with electrofishing throughout the stream system to assess the current fish community. Although a lot of wading through the mud was involved in getting the work done, this was a great project since it showed how natural resource agencies can collaborate together to bring back a species that once occurred here.

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

## Jordan River NFH 2006 Year Class Has Graduated

BY TIM SMIGIELSKI, JORDAN RIVER NFH

As of June 17, the 2006 year class of yearling lake trout reared and stocked out of Jordan River NFH resides in lakes Huron and Michigan. The lake trout arrived as eyed eggs beginning in mid-November of 2005. The yearlings were comprised of three different strains: Superior Apostle Island Wild

(SAW), Seneca Lake Wild (SLW) and Lewis Lake Wild (LLW). Over 2.2 million lake trout yearlings were released between mid-April and mid-June of this year. Of the 2.2 million, slightly more than 1.2 million were stocked offshore in Lake Huron and 1 million were stocked offshore in Lake Michigan.

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

## Sea Lamprey Control Program Destroys Lampreys to Save Lake Trout

BY DENNIS LAVIS, LUDINGTON BIOLOGICAL STATION

During July, the Fish and Wildlife Service's sea lamprey control program treated 11 Great Lakes streams (five in Lake Superior, two in Lake Michigan and four in Lake Huron) with lampricide to eliminate



-GLFC

**A biologist monitors lampricide (TFM) application to a stream. Chemical treatments to Great Lakes tributary streams is the first line of defense to control invasive sea lampreys.**

larval sea lamprey populations. These treatments destroyed an estimated 210,000 larval

sea lampreys, including nearly 9,200 that would have metamorphosed to the parasitic phase in 2007 and entered the Great Lakes. There, each parasitic phase sea lamprey would have been capable of killing upwards of 40 pounds of lake trout during its year long life in the lakes. Since the beginning of the 2007 field season, the control program has treated 38 streams, eliminating more than 5.5 million sea lamprey larvae.

The sea lamprey control program is conducted under contract with the Great Lakes Fishery Commission. The successful control program continues to ensure sport fish rehabilitation in the Great Lakes and protects a fishery valued at over \$4 billion.

### Aquatic Invasive Species

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

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

## Summer Monitoring of Invasive Ruffe Populations Completed

BY GARY CZYPINSKI, ASHLAND NFWCO

The Ashland NFWCO completed summer monitoring of the invasive Eurasian ruffe and native fish by bottom trawling in three Wisconsin tributaries and one Michigan tributary to Lake Superior. These ongoing investigations were initiated in 1995 to compare trends in relative abundance of ruffe and native fish populations, one of eight elements in the Ruffe Control Plan. Monitoring is also conducted during spring and fall, and abundance results are averaged to account for seasonal variation.

Crews captured 2,386 fish representing 18 species, including two invasive species - ruffe and threespine stickleback. This compares to a total catch of 3,123 fish representing 25 species captured during this cycle in 2006. Trout-perch, spottail shiner and

common shiner were the three most abundant species captured. The majority of the trout-perch were captured from the Ontonagon River in Michigan. Walleye comprised about 1 percent of the total catch. Ruffe comprised 1 percent of the total catch compared to 3 percent during this cycle in 2006, and only one threespine stickleback was captured in 2007 compared to two in 2006. In both years, threespine sticklebacks were only captured from the Iron River in Wisconsin. No young-of-the-year (YOY) ruffe were captured in this cycle, including from Wisconsin's Flag River which contains the most nursery habitat of the four tributaries. In 2006, YOY ruffe numbers in the Flag River had indicated a strong year class there. All fish captured were released alive except the two invasive species.

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



## New Aquarium Offers Up-close View of Big Fish at Genoa NFH

BY NICK STARZL, GENOA NFH

There are two questions that visitors of a National Fish Hatchery will always ask... "Can I bring my fishing pole?"... and "Do you have any big fish here?" Unfortunately, until this spring, visitors seeking a glance at the big fish were often disappointed. Many of the adults or brood stock are either kept in large ponds or released back into the wild. The hatchery needed a large aquarium to provide a year-round look at the species cultured there. Development for a display tank began in November 2006.

Genoa NFH staff decided to build a 1,000-gallon welded aluminum tank with ¾" tempered glass. The tank is inlaid into a wall inside the station's sturgeon culture building. This allows visitors to see both the early- and later-life stages of lake sturgeon. The aquarium project is an



-USFWS

The staff at the Genoa National Fish Hatchery constructed this 1,000 gallon aquarium tank in the sturgeon building. Ten species of fish are show-cased.

fish, rainbow trout, brook trout, largemouth bass, smallmouth bass and lake sturgeon. A variety of freshwater mussels can be seen as well.

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

## Mancelona Summer School Students Visit Jordan River NFH

BY TIM SMIGIELSKI, JORDAN RIVER NFH

On a hot, hot day in June, Amy Derrer of Mancelona, Michigan, chaperoned a trip to the Jordan River NFH. The trip was part of an exciting day as the students were headed to a water park after their hatchery tour. So needless to say, biologist John Johnston had his hands full with 30 pretty anxious kids. John got their attention by taking them through the "cool" (in more ways than one) tank room. Fourteen hundred gallons of water per minute flows through the room at about 46 degrees, which makes for good air conditioning. The students checked out the 2007 year class of fish, which are about five months old. John explained our annual rearing cycle and showed the kids some "baby lake trout." Amy said, "You guys are the best." Thanks for the compliment, Amy, and come again!

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

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.

excellent example of using the unique talents of the hatchery crew. Everyone helped with the construction in some way, but much of the thanks goes to the maintenance staff of Jeff Lockington and Dan Kumlin for their welding, electrical and woodworking skills. The tank has only been up for about three months and already hundreds of local and out-of-state visitors have enjoyed the live fish display. Children and the young at heart are captivated by the aquatic life found in lakes and rivers, and the aquarium provides an up-close view of many of the species of fish and mussels found in the Upper Mississippi River basin.

Currently, the tank displays 10 species: bluegill, black crappie, yellow perch, walleye, channel cat-

## Carterville NFWCO Helps Out at Kids Fishing Derby

BY MIKE STAHL, CARTERVILLE NFWCO

On a nice, sunny morning in June, 315 kids twelve years old and younger, along with their families or friends, participated in the 34th Annual Kids Fishing Derby sponsored by Crab Orchard NWR at the Prairie Creek Recreation Area in Indiana. Prizes were awarded for each age group for catching the smallest, biggest and most fish, but no child was left behind. All the kids took home a goody bag filled with fishing information and tackle, a t-shirt, and coupons for local restaurants. Dozens of volunteers helped with the event,



-Jennifer Randolph

**Pictured are the winners of the age 5 and under group at the 34th Annual Kids Fishing Derby held at the Crab Orchard National Wildlife Refuge.**

including members and representatives of local bass clubs, Southern Illinois Hunting & Fishing Days, Friends of Crab Orchard Refuge, and Take Pride in America. Even Camo the Clown graced us with his presence by giving all the youngsters a free bobber and displaying his waterfowl calling abilities.

Many of the children also enjoyed the tent that housed the 1,000 gallon stock tank—provided by the Carterville FRO—containing various fish from Crab Orchard Lake. It was deemed the “toddler tank” because it contained magnetized plastic fish cut-outs that the youngest kids could “fish” for with stick poles that had metal washers on the end of the line. On occasion, Mike Stahl, the biologist in charge of the tank, would net out some of the fish for the children to see, touch, get splashed by, and if the parents were around, to get pictures with them holding the fish. The event was a success; families were able to spend time together and enjoy the outdoors, plus the whole community was involved.

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

## Shipwreck Detectives Summer Day Camp

BY HEATHER RAWLINGS, ALPENA NFWCO

Biologists Anjanette Bowen and Heather Rawlings from the Alpena NFWCO led a “Surf-N-Turf” Scavenger Hunt for 19 teenagers on July 12. Students were taking part in the Shipwreck Detectives Day Camp sponsored by Alpena Community College. The camp focused on teaching local teens about locating, mapping and identifying shipwrecks. During the third and final day of camp, the students snorkeled to a shipwreck in about 30 feet of water in Bell Bay, and then participated in the scavenger hunt. Held at Besser-Bell Natural Area in Presque Isle County, the scavenger hunt allowed the teens to experience a variety of ecosystems: Lake Huron, a lagoon, a fir/

cedar forest and an old growth white pine remnant. Students were instructed to identify a variety of flora and fauna, touch and feel them (except for the snapping turtle), and then comment on various characteristics of that particular item. Since it was a scavenger hunt, there was also a list of items to find, such as berries, fossils, pine cones and leaves. The Alpena News (7/19/07) quoted one of the students as saying, “The scavenger hunt was my favorite part of the entire experience. They (the Fish and Wildlife Service) gave you an idea of what they did... it was definitely a learning experience.”

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

## Alpena NFWCO Conducts 2007 Fishery Independent Lake Whitefish Survey in Northern Lake Huron

BY ADAM KOWLSKI, ALPENA FRO

In July, staff from the Alpena NFWCO and volunteers conducted a fishery independent lake whitefish survey in 1836 treaty waters of Northern Lake Huron. Staff involved included biologists Adam Kowalski, Scott Koproski, Anjie Bowen, James Boase, James McFee, Project Leader Jerry McClain and Treaty Fisheries Unit Coordinator Aaron Woldt. Volunteers included Hanna Edwards, Jerry Kowalski and Andre' Fournier. The survey is to collect fishery independent abundance and biological data on lake whitefish stocks in treaty waters for use in statistical-catch-at-age population models updated annually to determine harvest regulations for tribal commercial fishers in 1836 treaty waters.



-USFWS/Aaron Woldt

**A lake whitefish is measured as part of a Northern Lake Huron lake whitefish survey conducted by the Alpena NFWCO in July. Survey results help determine harvest regulations in 1836 treaty waters.**

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.

The effort involved setting 18 overnight, variable mesh gill nets at randomly selected sites in lake whitefish management unit WFH 04 (Alpena to Presque Isle) and WFH 05 ( Presque Isle to Hammond Bay). All whitefish collected were measured; weighed; checked for lamprey wounds, fin clips, and tags; sexed; and assessed for maturity and visceral fat content. Scales and otoliths were also taken for age determination and stomachs removed for diet analysis. Non-target species were worked up in a similar manner.

Six remaining sets will be conducted during August as weather permits. This survey will continue annually and be tailored to meet the needs identified by the Modeling Sub-Committee. All data will be compiled, maintained and analyzed at the Alpena NFWCO.

Data collected from this survey will be used to set harvest limits in 1836 treaty waters and improve the accuracy of population models. This will allow commercial fisheries to continue while protecting the biological integrity of the stocks.

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

## 2008 Tribal Wildlife Grant Program Announced

BY FRANK STONE, ASHLAND FRO

The Ashland NFWCO recently mailed an announcement to all tribal contacts alerting them to the opening of the 2008 Tribal Wildlife Grant Program (TWG). Our intent is to ensure that tribal resource managers and biologists are alerted to this resource funding opportunity and to remind them to contact the Ashland NFWCO for any technical assistance they may require.

TWG funds are available for grants that will benefit fish and wildlife and their habitats, including species that are not hunted or fished. Although matching funds will be considered as an indicator of tribal commitment to a project, they are not required. The maximum award under this program is \$200,000.

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

## Columbia NFWCO Completes Annual Missouri River Mitigation Report

BY NICK UTRUP, COLUMBIA NFWCO

Columbia NFWCO biologists Nick Utrup, Jeff Finley and Project Leader Tracy Hill recently completed the annual progress report for the Missouri River Mitigation Project, evaluating fish use of three side-channel chutes in the Lower Missouri River. This is the first of a three-year study that will evaluate how fish use mitigated chute habitat on the Missouri River.

Dam building and river bank stabilization since the early twentieth century has resulted in loss of natural habitat on the Missouri River. Because of this, the Fish and Wildlife Service under contract with the U.S. Army Corps of Engineers (Corps) and the Corps are working together to mitigate this habitat loss. Over the last decade, the Corps has been building shallow side-channels (called chutes) to increase habitat diversity. The goal of building these shallow, slow-water chutes is to increase the nursery habitat for native river fishes, including the endangered pallid sturgeon. Results have shown that many juvenile fishes, including pallid sturgeon, are using the chutes, which may indicate they are working as designed. Future results will determine whether these chutes are indeed successfully mitigating for lost habitat. These results will also help guide future construction of chutes by evaluating which chute designs are most successful in terms of fish production.

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

## Wisconsin Waterfowl Association Publishes Lake Superior Wetland Restoration Article

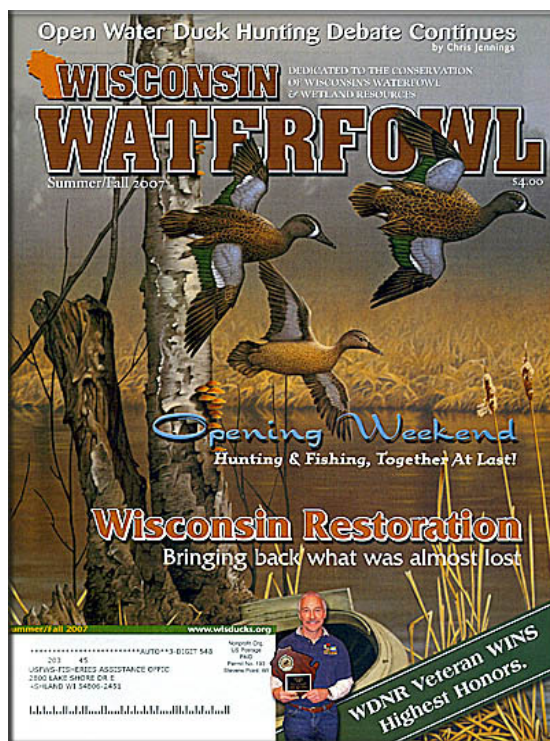
BY TED KOEHLER, ASHLAND NFWCO

Wisconsin Waterfowl magazine recently published an article by Ted Koehler of the Ashland NFWCO. "Waterfowl Habitat Restoration in Wisconsin's Lake Superior Basin" appears in the summer/fall issue of the Wisconsin Waterfowl Association's (WWA) bi-annual publication. The magazine is sent to all WWA members as well as sold in retail outlets. It is primarily circulated in Wisconsin and the Upper Midwest, but many WWA members reside around the country and enjoy reading about waterfowl related happenings in Wisconsin.

The article focuses on various aspects of waterfowl habitat restoration in Northern Wisconsin, touching on restoration practices the Ashland NFWCO is involved in, from coastal wetland restoration to wild rice marsh restoration. An interview with life-long resident of the shores of Chequamegon Bay, Nick Rousky, is also included. Nick relates first hand accounts of waterfowl populations and hunting history of one of the most important areas on the Great Lakes for waterfowl, fish and other wildlife.

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.



## Fish Passage Funds Help Replace Low Water Crossings to Benefit Threatened Fish

BY JOANNE GRADY, COLUMBIA NFWCO



-USFWS/Joanne Grady

**Fish Passage Program funds will be provided to the Missouri Department of Conservation to replace this low-water crossing on Sequoia Road over the Barren Fork in Miller County. The crossing is within the range of the threatened Niangua darter.**

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

The Fish and Wildlife Service is pleased to announce that we will be supplying 2007 National Fish Passage Program funding to the Missouri Department of Conservation. Two low water crossings within the range of the threatened Niangua darter will be replaced with free-span structures. Design, construction and pre- and post-project physical and biological monitoring costs are approximately \$170,000 per bridge. Fish Passage Program funding covers a portion of the project costs. Other contributing partners include the Missouri Stream Stewardship Trust Fund, the Missouri Department of Conservation and the respective county commissions. Additionally, the Missouri Ecological Services Field Office is supplying the remaining funding needed to make the Miller County project a reality.

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

## Cascade Dam Survey Completed

BY SUSAN WELLS, ALPENA NFWCO

On July 19 Alpena NFWCO biologist Susan Wells and Rick Westerhof (Green Bay NFWCO) assisted Michigan DNR staff Chris Friebrurger and Jim Francis with the Cascade Dam survey on the North Branch of the Clinton River. They conducted a complete geomorphic survey on the 1,500 feet above the dam and 500 feet below the dam. The survey included pebble counts, a longitudinal profile and five cross-sectional profiles. Friebrurger headed up the survey, which was completed in one long day using two survey

crews. The information gathered will be used to plan for removing the dam in a way that will not undercut the bank upstream or downstream of the site.

The survey is a vital component of the proposed dam removal to provide upstream fish passage. The headwaters of the Clinton River system provide valuable trout habitat as well as quality habitat for other native fish species. The Cascade Dam removal project will be submitted for funding in 2008 through the National Fish Passage Program.

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

## Field Stations Team Up to Sample Beaver Creek on Necedah NWR

BY HEIDI KEULER, LA CROSSE NFWCO

Located in Central Wisconsin, Necedah NWR is home to many small streams and wetlands that provide habitat for not only fish, but also migratory birds. Because of this habitat, Europeans settled the area in the early 1700's with logging as their primary income. Settlers created ditches and channelized streams to drain the wetlands and remove water from the land faster in an attempt to farm the area in the late 1800's. Farms were abandoned because of the

short growing season, poor soil conditions, maintenance of the ditch system and intense fires in the 1930's. Because of this economic disaster, President Franklin D. Roosevelt created Necedah NWR in 1939 "as a refuge and breeding ground for migratory birds and other wildlife."

Bill Peterson, a biologist from Necedah NWR, is currently working on restoring Beaver Creek, one of the many channelized streams, to its original

streambed. With the help of the U.S. Army Corps of Engineers, portions of Beaver Creek will once again flow in its historical bed. The Refuge is interested in how this change will affect the fish population in Beaver Creek. Heidi Keuler and Mark Steingraeber from the La Crosse NFWCO, Kara Zwickey and the YCC crew from the La Crosse District of the Upper Mississippi Refuge, and the YCC crew from Necedah NWR helped sample fish populations in the creek on July 31 and Aug 1 to gather baseline data. Crews collected more than 100 fish via electrofishing gear, hoop, and fyke nets. Species of fish included bowfin, central mudminnow, northern pike, common shiner, sand shiner, black bullhead, yellow bullhead, tadpole madtom, largemouth bass, green sunfish, bluegill, orange spotted sunfish, yellow perch and Johnny darter. These same stretches of Beaver Creek will be sampled a year or two after completion of the project which is aimed for this next year.



-USFWS/Heidi Keuler

**Bill Peterson and Youth Conservation Corps staff from the Necedah National Wildlife Refuge sample the fish populations present in Beaver Creek prior to aquatic habitat improvements. Populations will be sampled after project completion to determine the effectiveness of the improvements.**

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

## Carterville NFWCO Completes Fish Community Surveys for Herculaneum

BY MATT MANGAN, CARTERVILLE NFWCO



-USFWS

**Carterville National Fish and Wildlife Conservation Office technicians Matt Mangan (left) and Mike Stahl display invasive bighead and silver carps captured during a fishery survey of the Herculaneum reach of the Middle Mississippi River.**

Carterville NFWCO completed pre-project monitoring of the fish community during the spawning season in the Herculaneum reach of the Middle Mississippi River for the Stone Dike Alterations Project. The U.S. Army Corps of Engineers' St. Louis District is planning a project that will alter the configuration of dike fields in this reach to restore some habitat diversity in the river. Notching of wing dikes and construction of chevron dikes will create island and side channel habitat that this particular reach lacks. During March to June 2007, the Carterville NFWCO conducted surveys of 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. Surveys were also conducted at a similar "control" reach located near Trail of Tears State Park in Missouri. This will help to determine whether any changes in the fish community at Herculaneum are systemic or the result of restoration activities.

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

## HAMP conducts Site Visits and Data Needs Meeting

BY ANDY STAROSTKA, COLUMBIA NFWCO

Andy Starostka, Wyatt Doyle and Clayton Ridenour of the Columbia NFWCO met with partners to visit several Habitat Assessment and Monitoring Project (HAMP) sampling sites in Nebraska, Iowa and Missouri to discuss issues relating to the monitoring program. Partners included biologists, hydrologists and engineers from the U.S. Army Corps of Engineers, Nebraska Game and Fish Commission and other Fish and Wildlife Service offices.

Site visits started near Missouri Valley, Iowa, where several bends were viewed by boat. This area is above the Platte River and is characterized as narrow in width with tall high banks and less turbid water. In the afternoon, the group moved downstream to Nebraska City and visited Hamburg and Lower Hamburg chutes. This portion of the river is larger and wider with more potential for habitat creation. The Platte River contributes a substantial amount of sediment into the Missouri River that provides material to create aquatic habitat.

The group met at the Missouri Department of Conservation office in St. Joseph on the second day to discuss data analysis needs and sampling design concerns. Much of the day consisted of discussions surrounding integration of HAMP's two components: biological sampling and physical mapping/modeling.

The group met on the final day at Overton Bottoms near Columbia, Missouri. This portion of the Lower Missouri River has several habitat construction projects, some that date back to the late 1990's. This was an opportunity to observe how habitat projects may develop after several years.

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

## Carterville NFWCO and Illinois DNR meet to Discuss Fish Passage Projects

BY NATE CASWELL, CARTERVILLE NFWCO

Biologist Nate Caswell met with Illinois DNR Streams Specialist Gary Lutterbie in Danville, Illinois, to discuss potential fish passage projects on the main stem and North Fork of the Vermillion River. The primary discussion was the Danville Dam on the main stem of the river. The dam is owned by the City of Danville which has decided to remove it rather than try to fix the aging structure. This has been an ongoing project, and if successful, removal of the Danville Dam would restore fish access to several hundred miles of high-quality stream habitat. It would



-USFWS

**Student Cody Luebbering displays two catfish collected while sampling Missouri River fish populations as part of a Habitat Assessment and Monitoring Project.**

also remove a hazard that has been responsible for human fatalities in recent years.

Two other small dams on the North Fork of the Vermillion River were also discussed. The Vermillion River watershed, a tributary of the Wabash River, contains high-quality stream habitat including the only stretch of National Scenic River in the State of Illinois. Carterville NFWCO has worked with other Illinois DNR biologists on successful fish passage projects in the past. This was our first meeting with Mr. Lutterbie, and we look forward to working with him as well.

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

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

BY DOUG ALOISI, GENOA NFH

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



-USFWS

**Brandon Keesler (left) and Jorge Buening are ready to face the day and its challenges as part of Genoa National Fish Hatchery's Student Temporary Employment Program.**

Through the Fish and Wildlife STEP program, we hope to fill a small but crucial role in providing work experience to these two young men to further their fish and wildlife careers. For more information on the STEP program, please refer to the Region 3 Human Resources STEP Program link at: <http://www.fws.gov/midwest/HumanResources/step.html>.

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

## Electrofishing Demonstration for YCC Staff

BY FRANK STONE, ASHLAND NFWCO

At the request of the staff from the Whittlesey Creek NWR, Frank Stone presented a backpack electrofishing demonstration to six YCC employees. The activity began with a discussion on why and how this gear type is used. After discussing safety issues, the group followed Frank through a section of Lower Whittlesey Creek. Each person had an opportunity to “carry” the bucket and feel first hand how to walk over the sand, rocks and logs while attempting to collect fish in a fast-running stream. During the

demonstration, about 20 rainbow trout were collected and then safely returned into Whittlesey Creek. The group had several questions for Frank on how survey data is ultimately used to formulate management decisions, and they expressed their appreciation for the field experience. Because Ashland NFWCO and the Whittlesey Creek NWR are near each other, training opportunities such as this are easy to arrange and add yet another level of experience for Fish and Wildlife Service employees.

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.



# Congressional Actions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

H.Con.Res. 94 (ih) Encouraging the elimination of harmful fishing subsidies that contribute to overcapacity in commercial fishing fleets worldwide and that lead to the overfishing of global fish stocks. [Introduced in House]

H.Con.Res. 125 (ih) Recognizing the health benefits of eating seafood as part of a balanced diet, and supporting the goals and ideals of National Seafood Month. [Introduced in House]

H.R. 1975 (ih) To designate certain National Forest System lands and public lands [Introduced in House]

H.Con.Res. 94 (rfs) Encouraging the elimination of harmful fishing subsidies that contribute to overcapacity in commercial fishing fleets worldwide and that lead to the overfishing of global fish stocks. [Referred in Senate]

H.R. 2735 (ih) To provide additional funding for operation of national wildlife refuges. [Introduced in House]

H.R. 2419 (rh) To provide for the continuation of agricultural programs through fiscal year 2012, and for other purposes. [Reported in House]

H.R. 2419 (eh) To provide for the continuation of agricultural programs through fiscal year 2012, and for other purposes. [Engrossed in House]

H.R. 3221 (ih) Moving the United States toward greater energy independence and [Introduced in House]

H.R. 3220 (ih) Moving the United States toward greater energy independence and [Introduced in House]

H.R. 2961 (ih) To expand the boundaries of the Wallkill National Wildlife Refuge located in Sussex county, New Jersey, and to authorize appropriations for the acquisition of lands and waters located within such expanded boundaries. [Introduced in House]

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

# Midwest Region Fisheries Divisions

## National Fish Hatcheries

The Region's National Fish Hatcheries primarily focus on native fish restoration/rehabilitation by stocking fish and eggs, such as pallid and lake sturgeon and by developing and maintaining brood stocks of selected fish strains, such as lake trout and brook trout.

Hatcheries also provide technical assistance to other agencies, provide fish and eggs for research, stock rainbow trout in fulfillment of federal mitigation obligations and assist with recovery of native mussels and other native aquatic species.

## National Fish and Wildlife Conservation Offices

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

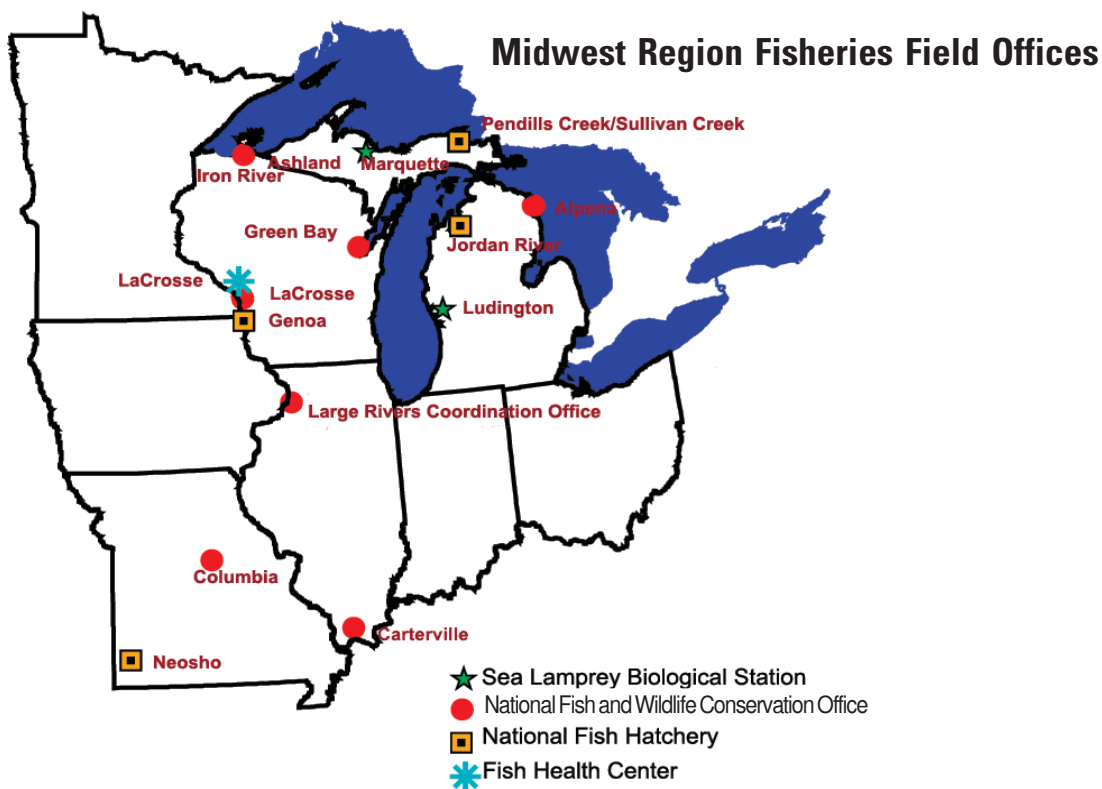
ies databases; provide technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and re-licensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments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

## Sea Lamprey Biological Stations

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

## Fish Health Center

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



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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

- [Hatchery Benefits from Refuge Surplus Property](#)
  - Curt Friez, Pendills Creek NFH
- [Pendills Creek/Sullivan NFH Complex receives 2007 Environmental Leadership Award...“Hatchery of the Year”](#)
  - Curt Friez, Pendills Creek NFH

- [Planning and Reviewing U.S. Army Corps of Engineers Work Up Close and Personal](#)
  - Rob Simmonds, Carterville NFWCO
- [NWR Executives Tour the Middle Mississippi River](#)
  - Rob Simmonds, Carterville NFWCO

- [Washington University Students Return to the Missouri River to Learn the Fisheries “Tools of the Trade”](#)
  - Joe McMullen, Adam McDaniel and Zac Buessink; Columbia NFWCO
- [Jordan River NFH Biologist Worth his Salt](#)
  - Tim Smigielski, Jordan River NFH

# Fish Tails *(continued)*

- Deputy Director Randall Luthi Visits the Jordan River National Fish Hatchery
  - Clarice Beckner, Jordan River NFH
- Spotting the Massasaugas
  - Heather Rawlings, Alpena NFWCO

## **Aquatic Species Conservation and Management**

- Fish Relocation at Shaete Creek
  - Frank Stone, Ashland NFWCO

## **Aquatic Invasive Species**

- Goby Roundup/Carp Corral
  - Ryan Katona, La Crosse FHC
- Jordan River NFH Step Student Sent to Corral Carp
  - Tim Smigielski, Jordan River NFH
- Carterville NFWCO Lends A Hand In Carp Corral and Goby Roundup
  - Matt Wegener, Carterville NFWCO

## **Public Use**

- Working to Improving Kid's Fishing Derby at Crab Orchard NWR
  - Rob Simmonds, Carterville NFWCO
- Carterville NFWCO Completes Annual Survey and Management Report for Lake Greenwood
  - Nate Caswell, Carterville NFWCO
- Paddling race sets the stage for Missouri River awareness
  - Brian Elkington, Columbia NFWCO

- Columbia NFWCO gets a little dirty to clean up the Big Muddy
  - Colby Wrasse and Patty Herma, Columbia NFWCO
- Columbia NFWCO helps out at Swan Lake NWR
  - Brian Elkington and Sara Marso, Columbia NFWCO
- Columbia NFWCO Samples at DeSoto National Wildlife Refuge
  - Brian Elkington and Cliff Wilson, Columbia NFWCO
- Manton Michigan Boy Scouts Visit Jordan River NFH
  - Tim Smigielski, Jordan River NFH
- STEP Student from Jordan River NFH Reaches Out
  - Tim Smigielski, Jordan River NFH
- Boy Scouts from Romeo, Michigan Hike to the Hatchery
  - Tim Smigielski, Jordan River NFH
- Jordan River NFH Biologist Lends a Hand at Alpena Open House
  - Tim Smigielski, Jordan River NFH
- Jordan River NFH Staff Support Their Friends at Mancelona Bass Festival
  - Tim Smigielski, Jordan River NFH
- Jordan River Volunteers Parade Down Main Street during Bass Fest
  - Tim Smigielski, Jordan River NFH
- Genoa NFH Becomes Regular Supporter of United Special Sportsman Alliance's Annual Kids day
  - Tony Brady, Genoa NFH
- Optimist Club Fishing Event at the Brown Trout Festival
  - Anjanette Bowen, Alpena NFWCO

## **Cooperation with Native Americans**

## **Leadership in Science and Technology**

## **Aquatic Habitat Conservation and Management**

- Piping Plovers once again utilizing the Apostle Islands National Lakeshore
  - Glenn Miller, Ashland NFWCO
- Technical Advisory Team for Strategic Habitat Conservation
  - Tracy Hill, Columbia NFWCO

## **Workforce Management**

- Genoa National Fish Hatchery Welcomes Jennifer (Jenny) Walker back as its Newest Fish Biologist
  - Tony Brady, Genoa NFH
- Carterville NFWCO Staff Complete Critical training
  - Matt Mangan, Carterville NFWCO
- Carterville NFWCO Welcomes New Employees
  - Nathan Richards, Carterville NFWCO
- Fish and Wildlife Service Family Picnic
  - Tracy Hill, Columbia NFWCO
- In-house Welding
  - Chris McLeland, Columbia NFWCO
- Jordan River NFH Volunteer Program Attracts Another Gem!
  - Hannah Edwards, Jordan River NFH
- Andy Pavelek Jordan River NFH Super Volunteer Moving On
  - Tim Smigielski, Jordan River NFH



-Jerry French Postcard Collection; U.S. Fish Hatchery; Manchester, Iowa (1910)

## *Water Under the Bridge* A Glimpse into our Proud Past

*The Manchester Fish Hatchery was located in east central Iowa, mid-way between Waterloo and Dubuque. This hatchery was established in 1897 and ceased operations in 1976 when it was leased to the State of Iowa.*