U.S. Fish & Wildlife Service

Fish Lines

Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems

Fiscal Year 2007
Vol. 5 No. 1

Wild Pallid Sturgeon Delivered to the Neosho National Fish Hatchery

(See the "*Feature Story*" on Page 5)

-Kay Hively

A wild pallid sturgeon named "Liberty" was delivered to the Neosho National Fish Hatchery. Biologists will attempt to breed the fish in order to protect the endangered species. The sturgeon was captured in the Missouri River near Liberty, Missouri.

A six minute video titled, "Nuisance Fish" produced by Bill Dance and the Tennessee Wildlife Resources Agency is currently being distributed by the Fish and Wildlife Service - La Crosse Fishery Resources Office. This short video, which focuses on the issues involving the invasive Asian carp, works well in school presentations, recreation shows, natural resource group meetings, and anyone concerned about aquatic resources on the Mississippi River watershed and Great Lakes. Please contact the La Crosse Fishery Resources Office for a copy of the video at:

U.S. Fish and Wildlife Service
La Crosse Fishery Resources Office
555 Lester Avenue
Onalaska, Wisconsin 54650

Phone: 608/783-8431
Fax: 608/783-8450
Email: pam_thiel@fws.gov

A copy of this video has been included in the hard copy mailing of this issue of *Fish Lines*.

To view other issues of "Fish Lines", see our Regional website at: (http://www.fws.gov/midwest/Fisheries/)

Region 3 - Great Lakes/Big Rivers 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

Region 3 Focus Areas

1. Partnerships and Accountability

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.

2. Aquatic Species Conservation and Management

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.

3. 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.

4. Public Use

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.

5. Cooperation with Native Americans

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.

6. Leadership in Science and Technology

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.

7. Aquatic Habitat Conservation and Management

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.

8. Workforce Management

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.

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.

Inside this Issue

Click here to visit our Fisheries Web Site

Great Lakes - Big Rivers Region Fisheries Field Offices

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.

Sea Lamprey Control Stations

Sea Lamprey Control Stations assess and control sea lamprey populations throughout the Great Lakes. The U.S. Department of State and Canadian Department of Fisheries and Oceans fund this program through the Great Lakes Fishery Commission.

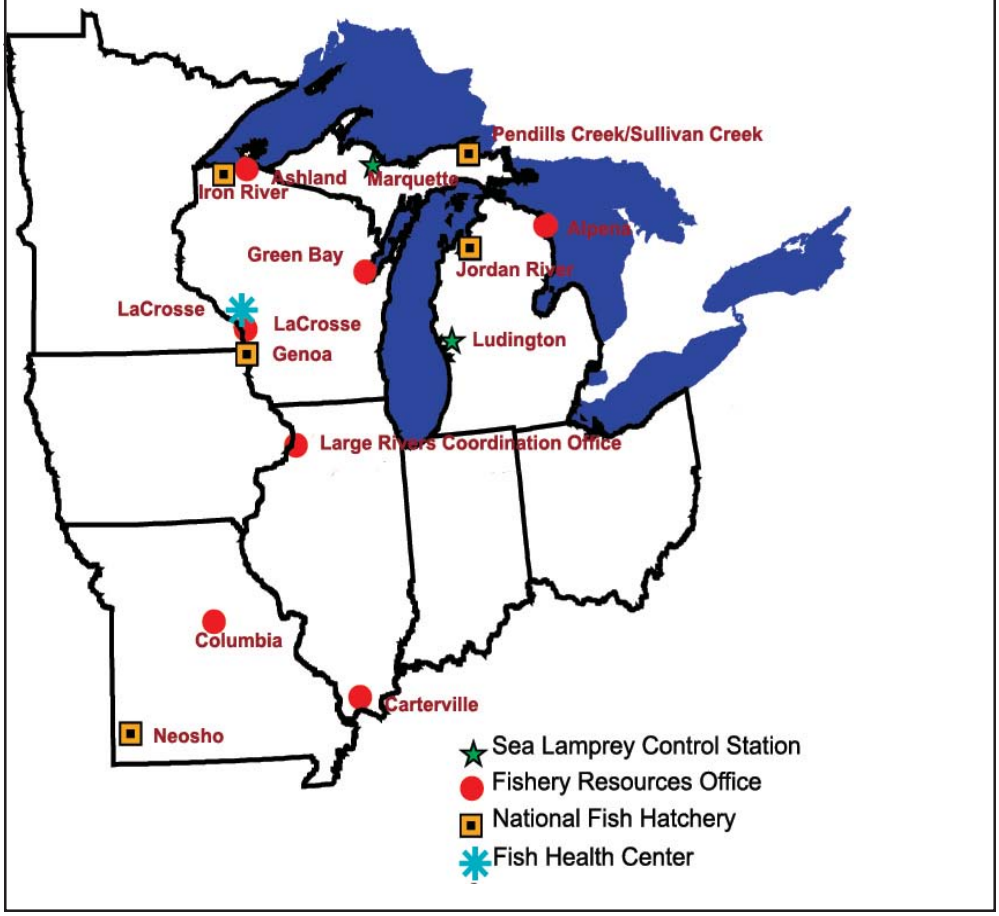
Fishery Resources Offices

Fishery Resources 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. In other Regions of the Service, FRO's are also referrred to as Fish and Wildlife Management Assistance Offices.

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 throughout the region; 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.

Great Lakes - Big Rivers Region Fisheries Field Offices



List of Acronyms

DNR- Department of Natural Resources
FHC- Fish Health Center
FRO- Fishery Resources Office
NFH- National Fish Hatchery
NWR- National Wildlife Refuge

Feature Story - Wild Pallid Sturgeon Delivered to the Neosho National Fish Hatchery

(NEOSHO DAILY NEWS)

What may be the most famous single fish to ever swim at the Neosho National Fish Hatchery arrived in September, having made an overland trip from Liberty, Mo.

The fish, a 36-inch pallid sturgeon, is one of the rarest and most endangered fish in the United States. It is included among the oldest genus of fish in existence. This living fossil, which everyone is hoping is female, was brought to Neosho to begin a complicated and important program to save the pallid sturgeon. This marks the first time the Neosho hatchery will attempt to spawn this species. This is an historic moment for a hatchery that is itself an historic institution.

This fish was collected from the Missouri River near Liberty by biologists from the Missouri Department of Conservation. It was kept secured in the river overnight and transported the next day to Neosho by Gary Heidrich and Bruce Drecktrah, manager and assistant manager, respectively, of the Blind Pony Fish Hatchery near Sweet Springs.

-Kay Hively

A net containing a rare pallid sturgeon is handed to Gary Heidrich of the Missouri Department of Conservation. The fish was transported to the Neosho National Fish Hatchery for a captive breeding program.

Upon arrival at the local hatchery, the fish was met by Neosho National Fish Hatchery Manager Dave Hendrix, hatchery biologists Ralph Simmons and Jaime Pacheco, as well as Kay and Russell Hively of the Friends of the Neosho National Fish Hatchery.

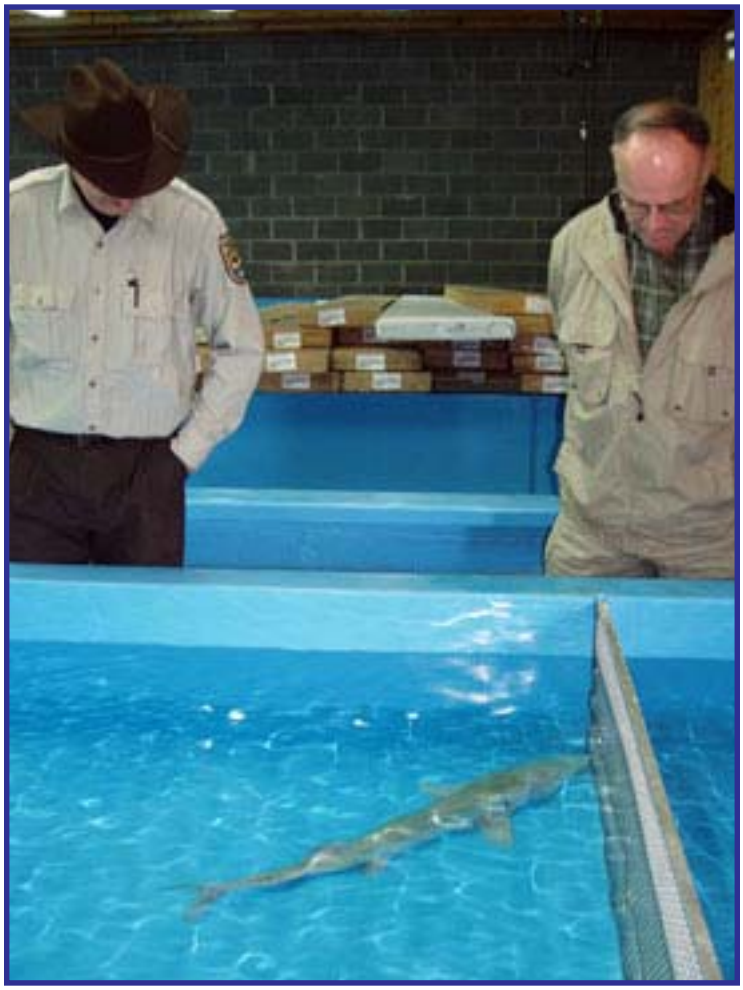
The fish, which was quickly named "Liberty," was slipped into a holding tank by Hendrix. The fish had come from river water which was 50 degrees F. and placed into a tank which was filled with 54 degree F. flowing spring water. From this point forward, the local hatchery biologists will check the Missouri River water temperature via the Internet. "We will try to match the river water temperature as closely as possible," Hendrix explained.

-Kay Hively

From left, Bruce Drecktrah, assistant manager of the Blind Pony State Fish Hatchery, Gary Heidrich, manager at Blind Pony, Dave Hendrix, manager at Neosho National Fish Hatchery, Ralph Simmons, biologist at Neosho NFH, and Jaime Pacheco, biologist at Neosho NFH, pose with a wild pallid sturgeon the Blind Pony reps recently brought to Neosho.

Much hope is pinned on this fish, and the key which will be discovered over time is whether Liberty is a male or a female. The biologists are making "educated guesses" that it is a female.

IF the pallid is a female, she will be called "Miss Liberty," or even "Libby" for short. If it turns out to be a male, it will be called "Liberty" and used to fertilize the eggs when a female's eggs are taken.



-Kay Hively

Ralph Simmons, Neosho National Fish Hatchery biologist, and Russell Hively of the "Friends of the Neosho National Fish Hatchery" admire the first pallid sturgeon brought to Neosho for spawning purposes.

Biologists have been searching the Missouri River for a pallid sturgeon for just under a month and were pleased when Liberty was found and captured. Female pallid sturgeon are very hard to find, and spawn once every three years. Now, it will just be a waiting game to see if the fish is female and if this is "her year."

The search is on for another fish which everyone hopes will be of the opposite sex so the spawning will be completed with two "wild" fish.

Liberty, born and raised in the wild, weighs in at 4.9 pounds. Liberty has been tagged and when, and if, it successfully spawns, will be returned to the Missouri River. All of Liberty's offspring will be retained and raised for stocking in the years ahead. According to Heidrich, 30,000 to 40,000 eggs can be expected from a female pallid sturgeon.

Pallid sturgeon can live to be hundreds of years old and, in time, biologists hope to determine Liberty's age.

According to Hendrix, the search is on for more pallids in the Missouri River, and Neosho will take all that are caught. In an average year, only two female pallid sturgeons are caught so this single fish will be getting royal treatment at the hatchery.
by Kay Hively

For additional information, contact the Neosho National Fish Hatchery:

Phone: 417/451-0554
Email: david_hendrix@fws.gov

Partnerships and Accountability

North American Native Fishes Association National Convention Held

Columbia FRO and Missouri Department of Conservation (MDC) staff conducted a demonstration of big river sampling techniques for members of the North American Native Fish Association. Biologist Andrew Plauck and technicians Tammy Knecht and Lee Erickson brought the Columbia FRO's 25 foot stern trawler *Phoenix* to the association's national meeting in Cape Girardeau, Missouri, in September. The first day of the meeting was a "big river" day in which the U.S. Army Corps of Engineers' barge and towboat the *Pathfinder* shipped about 50 ichthyologists to an island upstream of Cape Girardeau. The two trawl crews rotated the attendees through short trawl demonstrations. Participants enjoyed watching the MDC's hand-retrieved bow trawl and the Columbia crew's hydraulic-assisted stern trawl demonstrations. While big river biologists may take some of the unique species for granted, many of the attendees had never handled or even seen some of the fish species collected in the trawls. The field day was a success and everyone had a chance to ride along with a big river crew and experience the fish catching capabilities of a benthic trawl.

The next day was dedicated to presentations and posters pertaining to native riverine fish. Columbia FRO biologists Andy Starostka, Wyatt Doyle, Jeff Finley and Jennifer Johnson put together posters highlighting work performed by the Columbia FRO. This event allowed big river specialists to mingle with people from all over the United States to share lessons learned in the Midwest and learn about projects in other parts of the country.

Andy Plauck, Andrew Starostka, and Jennifer Johnson; Columbia FRO

United States, China, and Russia Discuss Large River Issues

Pam Thiel of the La Crosse Fishery Resources Office (FRO) was part of the 10-member U.S. delegation to the Second International Symposium on Ecology and Fishery Biodiversity in Large Rivers of Northeast Asia and Western North America held recently in Harbin, China. Thiel delivered a presentation titled "Habitat Restoration on the Upper Mississippi River System: What We Have Learned and Where We Are Going." Midwest Deputy Regional Director Charlie Wooley chaired the delegation, organized by the Fish and Wildlife Service's Division of International Conservation. The meeting was also attended by 30 Russian and 60 Chinese scientists and managers.

The goal of the symposium was to build on the results of the first symposium held in Khabarovsk, Russia, in 2002, by presenting and discussing new information on conservation and management of fish and their habitats, threats to biodiversity of large rivers, and prospects for increased international cooperation. A future proposal for the Amur River ecosystem (especially for salmonids and sturgeons) included development of Sino-Russian measures to conserve water quality, development of a common strategy to conserve fish species and biodiversity, establishment of an effective federal-level program to combat poaching and a propagation program, amendment of federal and regional laws to designate protected areas, and assessment of the desirability of construction of dams on the main stem of the River.

In addition to attending the symposium, Thiel and Ron Nassar of the Lower Mississippi River Fisheries Coordination Office met with the directors of China's Ministry of Agriculture and the Heilongjiang Provincial Fishery Bureau, and the manager of the local Fisheries Recovery Center to discuss current activities of these agencies and to discuss future collaboration opportunities. They were also hosted on a Songhuajiang River trip by personnel from the Provincial Fishery Bureau.

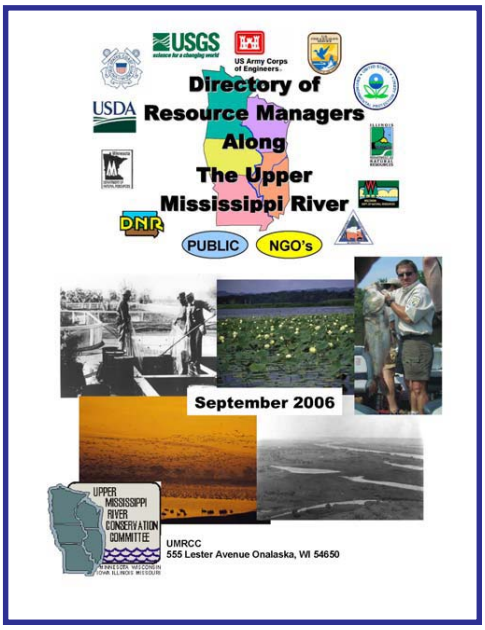
All of the participants left the symposium with a heightened enthusiasm about cooperation between the United States, China and Russia on large rivers issues. A third symposium on ecology and fishery biodiversity in large rivers is proposed to be held in the United States in 2009.

Pam Thiel, La Crosse FRO

Upper Mississippi Conservation Directory Updated

Heidi Keuler and Scott Yess of the La Crosse FRO recently updated the Upper Mississippi River Conservation Committee Directory of Resource Managers. With over 475 entries, this directory will help you find the resource professional you've been looking for. You can download this useful document at: http://www.mississippi-river.com/umrcc/

Scott Yess, La Crosse FRO



Columbia FRO Staff Visit Ft. Leonard Wood

Columbia FRO Project Leader Tracy Hill and biologist Jeff Finley traveled to Ft. Leonard Wood, Missouri, to identify partnership opportunities with the Natural Resources Branch on the post. Ft. Leonard Wood is nestled in the heart of the Ozarks in central Missouri and is home to the Army's Engineer School and primary training elements of the Military Police and Chemical Corps. It boasts 10 streams with 34 miles of permanent flowing water and 200 impoundments allowing 1,800 anglers the opportunity to engage in more than 5,000 fishing trips each year.

Mark Zurbrick is a biologist contracted to do fishery management on the post. He has done a remarkable job over the years establishing great fishing opportunities and identifying areas where additional assistance is needed. In the past, the Army sought assistance from the Missouri Department of Conservation or independent agencies to conduct natural resource surveys.

Hill and Finley met with Zurbrick to identify areas where Ft. Leonard Wood can work with Columbia FRO. For the most part, the post's program is self-sustaining, seeking outside assistance only for inventories that must be conducted every 10 years. Funds from license sales on the post go to purchasing larger fish from private growers for the impoundments, a service that anglers on Ft. Wood have come to expect. The meeting identified an opportunity to partner in outdoor education. A ten-mile stretch of the scenic Big Piney River runs through the base offering beauty and intrigue to soldiers and their families. An agreement was reached to host a "Day on the River" event for next summer.

Jeff Finley, Columbia FRO

-DOD contractor photo by Mark Zurbrick
Fort Leonard Wood, Missouri, is home to the rare bluestripe darter.

Army Assistant Secretary Visits with Columbia FRO Staff

Columbia FRO staff welcomed a visit from Assistant Secretary of the Army for Civil Works John Paul Woodley, Jr., and his aides and local district commanders, who were in the area for an Oct. 19 meeting with Missouri Governor Matt Blunt as part of a Missouri River basin tour.

Biologists with the Columbia FRO met with Woodley and his entourage for a brief tour of the river in the vicinity of Jefferson City. The dignitaries participated in electrofishing, trawling and entanglement gear demonstrations. Electrofishing produced hundreds of invasive Asian carp that leaped into the air, providing a platform to discuss the Asian carp management plan recently released by the Aquatic Nuisance Species Task Force for public comment. The trawling demonstration produced several species of chubs, emphasizing the importance of developing new and better techniques to monitor habitat modifications being done by the U.S. Army Corps of Engineers. The entanglement gear collected fish that enabled station biologists to discuss the concerns of conserving sturgeon and sport fish found in the river and the challenges faced in the recovery of the endangered pallid sturgeon.

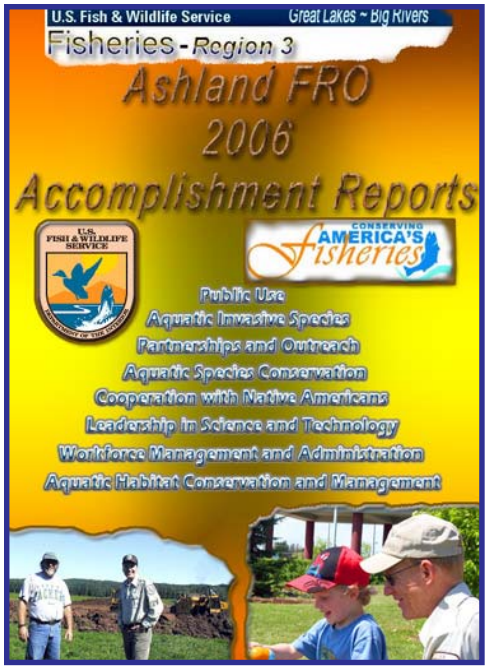
Jeff Finley, Columbia FRO

Improving Ecological Sustainability in the Ohio River

The U.S. Army Corps of Engineers has completed an integrated Draft System Investment Plan and Programmatic Environmental Impact Statement for the Ohio River Mainstem System Study report that addresses proposed actions necessary to provide for maintaining a safe, environmentally sustainable, and reliable navigation system on the Ohio River from 2010 to 2070. The completion of the report concludes a 10-year effort to identify measures to improve ecological sustainability, providing a balance between economic and environmental improvements. The draft report recommends appropriations to initiate the previously authorized Ohio River Ecosystem Restoration Program and implement a broad array of additional measures, in collaboration with partners to improve ecological sustainability. The Carterville FRO, along with other Fish and Wildlife Service offices in the Midwest and Southeast regions, participated on an interagency working group to identify measures to improve ecological sustainability. Carterville FRO provided comments through the Kentucky Ecological Services Field Office as part of the Environmental Review of the draft report.
Greg Conover, Carterville FRO

Ashland FRO 2006 Accomplishments on the Internet

A listing of the Ashland FRO's Fiscal Year 2006 accomplishments is now available on the Internet. This report summarizes all of the station's activities in these categories: partnerships and outreach, aquatic species conservation, aquatic invasive species, public use, cooperation with Native Americans, leadership in science and technology, aquatic habitat conservation and management, and workforce management/administration. To read these accomplishments, go to: http://www.fws.gov/midwest/ashland/accom_rpts/AccomRpt_FY06/.
Frank Stone, Ashland FRO



-Web capture

Ashland Fishery Resources Office Fiscal Year 2006 accomplishments can be viewed from their station website at http://www.fws.gov/midwest/ashland/accom_rpts/AccomRpt_FY06/.

Alpena FRO Discusses Outlook for Federal Building

On Oct. 25, Project Leader Jerry McClain of the Alpena FRO met with Harold Chase, district office manager for United States Senator Carl Levin of Michigan to discuss the future of the Alpena Federal Building and progress in locating alternative housing for the Alpena FRO. Senator Levin closed his office in the Alpena Federal Building in 2004 but remains concerned about the conditions for the aging building's remaining tenants. Currently only the Alpena FRO and the U.S. Coast Guard are occupying the building and both are seeking alternate locations because of deteriorating environmental and personnel safety conditions.

Although the Senator is not seeking a specific resolution to the issue, he has committed his staff to assist the two agencies in working with the General Services Administration (GSA) to meet their office needs. Chase indicated that he will draft a letter of inquiry to GSA and the regional or district offices of the Fish and Wildlife Service and the Coast Guard seeking an update on the search for new space.
Jerry McClain. Alpena FRO

Aquatic Species Conservation and Management

Year Three of Winged Mapleleaf Production

Mussel propagation has become a year round process at Genoa NFH with the addition of the endangered winged mapleleaf to the growing number of species of freshwater mussels cultured at the facility. Freshwater mussels have a unique life cycle - their larval form, or *glochidia*, must attach to the gills or fins of a specific host fish in order to undergo a metamorphosis before leaving the fish to begin an independent life.

Most mussels that Genoa NFH works with typically release their glochidia in the spring, which means that these programs get underway in April and divers begin to monitor production cages by October. The winged mapleleaf is different in that it releases its glochidia in September or October of year 1 and the glochidia stay on the fish all winter long. The fish are placed in production cages in May of year 2, and because winged mapleleaf juveniles grow slowly, production cages are not checked until October of year 3. In September, Genoa NFH received five gravid, or egg-bearing, winged mapleleaf mussels collected by divers from the Minnesota Department of Natural Resources (DNR), Macalester College, the Fish and Wildlife Service, and the National Park Service. Biologists used glochidia collected from these winged mapleleaf to inoculate 620 channel catfish, which are the winged mapleleaf's host species.

This is the largest inoculation of channel catfish with winged mapleleafs in the three-year history of the program. These catfish will be held at Genoa NFH in water that is chilled to mimic water temperatures in the wild. As the spring sun begins to warm up the river, the water temperature in the tanks of channel catfish will also be increased to mimic natural water temperatures before the fish are placed in production cages in the river. Cages placed in the spring of 2007 will be monitored for production in the fall of 2008. *Tony Brady, Genoa NFH*

-USFWS

This juvenile mussel is the first endangered winged mapleleaf cultured in the recovery program.

Lake Sturgeon Restoration Still a Priority for Genoa NFH

Restoration efforts for lake sturgeon continue to be a major component of the fishery programs at Genoa NFH. The hatchery has been involved with restoration efforts for this species of concern since the mid 1990s, and has developed one of the largest lake sturgeon production programs in the nation. The facility recently completed its 2006 production cycle with more than 35,000 fingerling and yearling fish produced for federal, tribal and state restoration efforts.

Currently, the hatchery produces three distinct strains of sturgeon for restoration programs encompassing four eco-regions in the eastern United States. Partnering with the states of Minnesota, Wisconsin and Missouri, as well as Rainy River First Nations Canada, Menominee Indian Tribe of Wisconsin and Minnesota's White Earth Band of Chippewa, the hatchery will continue to produce fish of various life stages to meet management goals for this unique and ancient species. *Roger Gordon, Genoa NFH*

-USFWS

This yearling lake sturgeon was produced at the Genoa National Fish Hatchery to support restoration efforts in northern Wisconsin.

Swimming at the Deep End of the Gene Pool!

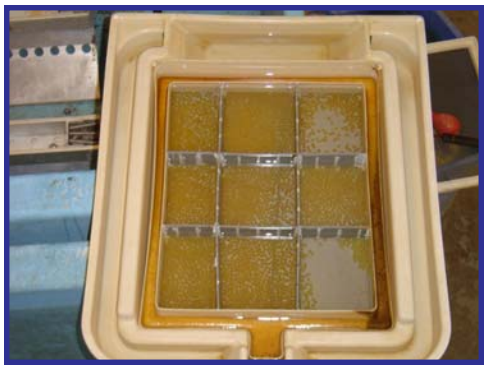
The Fish and Wildlife Service's lake trout rehabilitation program received a shot in the arm this fall with the arrival of a new year-class of wild lake trout eggs at Genoa NFH. These eggs originated from the important Seneca Lake, New York, strain of lake trout. They are important to rehabilitation of lake trout in the Great Lakes because they appear to survive well in waters with high levels of invasive sea lamprey predation.

An important component in fisheries restoration programs is ensuring hatchery brood stocks remain genetically diverse and representative of the originating strain. To do this, periodic trips to

the originating population are made to collect eggs and mate the resulting fish with existing captive brood stocks of the same strain. One of the main hurdles to accomplishing this is ensuring no disease or pathogen is brought into the hatchery that houses existing captive brood stock. If this occurs, it could result in destruction of all the populations housed at the brood stock facility. The Midwest Region has safeguarded hatchery stocks by creating an isolation facility at Genoa.

Lake trout eggs and resulting fish will be isolated from other fish at the station, held for 18 months and tested three times for infectious diseases by the La Crosse Fish Health Center (FHC). After clearing these tests, they will be shipped to National Fish Hatcheries involved in the National Broodstock Program, to assist in building brood stock lines for lake trout rehabilitation throughout the Great Lakes basin. This year's egg collection was a success - eggs from 120 females were fertilized with 120 males and transferred to the station. This large number of originating parents (240) will ensure that the genetic diversity of the hatchery population is high and carried throughout future generations with careful brood stock management. Many thanks to the New York Department of Environmental Conservation for allowing us to participate in their annual egg collections in the Finger Lakes system.

Doug Aloisi, Genoa NFH



-USFWS

Individual egg takes of the Seneca Lake strain of lake trout are separated in an incubator. Equal numbers of resultant fry will make up the brood stock line, ensuring maximum genetic variability from the wild population.

Genoa and Warm Springs Hatcheries Meet in the Middle for Lake Sturgeon Restoration

On Oct. 11, Genoa NFH biologist Nick Starzl hit the highway to meet Warm Springs NFH project leader Carlos Echevarria and biologist Chad Shirey in southern Illinois, a good halfway point for the transfer of approximately 1,600 (6 1/2 inch) lake sturgeons.

The five-month-old Genoa NFH-reared sturgeon were destined to be stocked into the Tennessee River by the Warm Springs NFH crew in order to fulfill management requests for the restoration of this species in the watershed. Every spring for the past decade, personnel from both hatcheries have traveled to the Wolf River, near Shawano, Wisconsin, to spawn lake sturgeon during Wisconsin DNR tagging operations. The ability to collect eggs and milt from sturgeon after the Wisconsin DNR implants and checks tags has been an excellent partnership benefiting lake sturgeon restoration throughout the country.

Nick Starl, Genoa NFH

Pendills Creek Fall Fingerling Program Gets Busy

Typically, hatchery fish culture activities are planned months—if not years—in advance, especially for fish distribution activities. But when your supervisor calls and asks if you're up to a challenge, it sometimes all comes together and works out for the best. This recently occurred when the staff at Pendills Creek NFH was asked to get approximately 100,000 fall fingerling lake trout fin clipped and ready for distribution within two weeks.

The first thing accomplished was rounding up intermittent staff members to come in and get the required fins clipped so the fish could be distributed, which was even more time-consuming this year because every fish needed a double fin clip. This alone increases the amount of clipping time by about a third. Second, our fin clippers typically only work in March and April, so asking them to work in October was new and challenging.

Everything came together with permanent staff members working very hard to complete the project, assisted by eight fin clippers. The whole process was completed in less than two weeks and the fish were ready to be distributed in Northern Lake Michigan using the new Fish and Wildlife Service vessel the *M/V Spencer F. Baird*. Unfortunately the weather did not cooperate to use the vessel and the fish were planted from shore.

What impresses me most after 17 years in the Fish and Wildlife Service is the "can-do" mentality of our hatchery system employees and their willingness to pull together to get something beyond the ordinary accomplished. The staff members at Pendills Creek/

Sullivan Creek NFH's always are up to a challenge and I thank them for their accomplishments.
Curt Friez, Pendills Creek/ Sullivan Creek NFHs

-USFWS
A fin is carefully removed from a young lake trout as a part of the rehabilitation plans for lake trout, to mark all stocked fish.

Sturgeon Tanks Being Built for New Neosho NFH Facility

Thirty-two 6 x 24 foot tanks are under construction in Greenville, Alabama, for the new pallid sturgeon building at Neosho NFH. Two tanks have passed inspection at the hatchery and the remainder will be brought in when the plumbing in the building is complete. These tanks will allow Neosho to more than double its annual production of endangered pallid sturgeon to over 10,000 nine-inch yearlings. All these yearlings will be tagged with pit and elastomer tags before stocking into the lower Missouri River.

The new facility at Neosho is part of an ongoing modification to allow the hatchery to propagate the endangered pallid sturgeon. Neosho has demonstrated successful pallid sturgeon propagation efforts and has knowledgeable and experienced personnel, as well as the infrastructure to meet annual stocking goals. It was selected for this work because of its location in the middle Missouri River basin drainage. The hatchery project leader and assistant project leader participate as active members of the Pallid Sturgeon Propagation Workgroup and are knowledgeable about current stocking plans as well as species recovery priorities. The hatchery manager is also a part of the Pallid Sturgeon Recovery Team. Neosho NFH is covered under a current endangered species permit to conduct propagation activities.
David Hendrix, Neosho NFH

-USFWS by David Hendrix
The new pallid sturgeon culture building at the Neosho National Fish Hatchery nears completion. Culture tanks are one of the next additions to the building.

Diving Activities Contribute to Mussel Restoration

Members of the St. Croix River dive team and La Crosse FRO biologists Scott Yess and Ann Runstrom participated in several activities to restore the endangered winged mapleleaf mussel. Members of the dive team from La Crosse FRO, Twin Cities Field Office, National Park Service, Minnesota DNR, Wisconsin DNR, and the University of Minnesota gathered near Stillwater, Minnesota, on several September days in search of gravid, or egg-bearing, winged mapleleafs. Divers collected one female on Sept. 9 and four additional females by Sept. 28. Although this seems like a small number, it is a huge contribution to the genetic diversity of an artificially cultured federally endangered species.

Gravid females were taken to Genoa NFH, where hatchery biologists inoculated the host fish species with the mussels' glochidia. Yess and Runstrom also helped to retrieve mussel cages placed in the St. Croix River near Hudson, Wisconsin, on Oct. 4. Three cages, placed in the river in 2004, were "stocked" with host fish that had been inoculated with winged mapleleaf mussel larvae (glochidia). The dive team used Search and Recovery training they had received earlier in the year to recover the cages and collected 24 young winged mapleleaf mussels. Each was counted, measured, cleaned of invasive zebra mussels and returned to the River in one cage.
Ann Runstrom, La Crosse FRO

M/V Spencer F. Baird Makes Its Maiden Assessment Voyage

During October biologists aboard the new *M/V Spencer F. Baird* made two cruises to perform annual spawning surveys for adult lake trout on offshore reefs in Lake Huron. Alpena FRO biologists Scott Koproski and Adam Kowalski and Project Leader Jerry McClain served as the biological crew for the assessment work. Captain Mike Perry, Marine Engineer Robert Bergstrom, and contractual employee Mark Brown were the vessel crew.

On Oct. 18, the *Spencer F. Baird* departed the Federal dock in Alpena, Michigan, bound for Six Fathom Bank in Lake Huron. The crews deployed three gangs of gill nets on this reef and retrieved them the next night. On Oct. 20, the vessel departed for Yankee Reef where two gangs of gill net were deployed and lifted the following day. In recent years, it has been difficult to conduct the

assessment at both reefs given the tumultuous weather that October brings and safety issues surrounding the aging vessel *M/V Togue*. This year, the crew was able to complete surveys at both reefs in a single week while working from the more stable and comfortable work platform provided by the *M/V Spencer F. Baird*. The difference between the two vessels is night and day and the new vessel will be an excellent asset for fulfilling the Fish and Wildlife Service obligations for lake trout rehabilitation and enhancing our ability to contribute to the lakewide assessment program.
Scott Koproski, Alpena FRO

-USFWS
Project Leader Jerry McClain (rt.) and biologist Scott Koproski of the Alpena Fishery Resources Office lift a gillnet used during the *M/V Spencer F. Baird's* maiden assessment survey.

Columbia FRO Assists with Fall Sampling at DeSoto NWR

In cooperation with the Iowa DNR, biologists Jennifer Johnson and Cliff Wilson and technicians Brian Elkington and Derek Eisenbrei of the Columbia FRO sampled DeSoto Lake on the DeSoto National Wildlife Refuge (NWR) during the nights of Oct. 10 and 19. Refuge Operations Specialist Steve Van Riper assisted with night electrofishing. In April, approximately 400,000 walleye fry were stocked into DeSoto Lake; an additional 3,400 (8 to 14 inch) fingerling walleye and 2,571 largemouth bass were stocked in October. The crew used night electrofishing to obtain an estimate of survival of these stocked fish. Preliminary results indicate high survival of stocked walleye. The crew also captured several large bigmouth buffalo.
Jennifer Johnson, Columbia FRO

-USFWS photo by Jennifer Johnson
Cliff Wilson, Steve Van Riper and Brian Elkington hold three bigmouth buffalo captured while sampling for walleye at DeSoto Lake.

Coded-Wire Tags Extracted

During the month of October, Alpena FRO biologist Adam Kowalski extracted and read coded-wire tags (CWTs) from lake trout. CWTs are microscopic metal tags placed in the snouts of juvenile lake trout at the hatchery. Lake trout heads were collected during the spring survey for lake whitefish conducted by the Alpena FRO. Kowalski also extracted and read CWTs from lake trout sampled by the Michigan DNR. CWTs are extracted by cutting lake trout snouts into smaller and smaller pieces until the tag can be seen and removed. CWTs are read under a microscope, and each tag's unique number is recorded. The tag number, when compared to stocking records, yields information such as stocking location, stocking date, fish age, fish strain and hatchery of origin.

In total Kowalski removed and read more than 100 tags from approximately 125 heads. Additional lake trout heads will be received from the Bay Mills Indian Community, Chippewa Ottawa Resource Authority, and the Michigan DNR creel program.
Adam Kowalski, Alpena FRO

Aquatic Invasive Species

Successful Lamprey Field Season

Staff of the assessment section of the Marquette and Ludington Biological Stations recently completed 2006 assessment activities in many of the estimated 2,200 United States tributaries of the Great Lakes. A majority of these streams are examined periodically for sea lampreys. Beginning in early May and ending in late October, assessments focused on more than 150 tributaries and offshore areas of lakes Superior, Michigan, Huron, Erie and Ontario. Assessments, using backpack electrofishing gear, primarily determined where and when future control actions will be required. In particular, the assessments and identified streams that will need lampricide treatment during 2007 and the gauged the effectiveness of past control actions. Additionally, information was obtained on density, age, length, weight structure, and geographic distribution of sea lamprey larvae. Surveys were also conducted to monitor recruitment and long-term trends of abundance in the St. Marys River through use of deepwater electrofishing gear and global positioning technology.

The Sea Lamprey Control Program continues to work closely with partners to control populations of sea lampreys in tributaries of the Great Lakes to protect the fishery and related economic activities in the basin, an estimated annual benefit of $4 billion to $6 billion per year to the region. The Fish and Wildlife Service delivers a program of integrated sea lamprey control in U.S. waters of the Great Lakes as a contracted agent of the Great Lakes Fishery Commission.
Michael Fodale, Marquette Biological Station

-GLFC

A biologist captures a larval sea lamprey using a backpack electorfisher.

Public Comment Period for the Draft Asian Carp Plan Announced in the Federal Register

The notice of availability and request for comments for the draft "Management and Control Plan for Asian Carps in the United States" was published in the Federal Register on Oct. 24. The plan can be downloaded from the ANSTF homepage at: http://anstaskforce.gov/default.php. The 60-day comment period ended on December 26. Public comments will be considered before the final plan is submitted to the Aquatic Nuisance Species Task Force for approval. The draft plan provides a framework for coordinated national management and control of bighead, black, grass and silver carps.
Greg Conover, Carterville FRO

Coordinating Carp Control Efforts in the United States

Carterville FRO participated in a multi-agency workshop on the biology and management of the common carp, reviewing extant control strategies and discussing new approaches to carp control, and the need for regional and national coordination. Carterville FRO was asked to participate in the workshop to discuss the national management and control plan for Asian carps and to provide some perspectives from their Asian carp experience (i.e., coordination of the Asian Carp Working Group and the development of an Asian carp management and control plan).
Greg Conover, Carterville FRO

Columbia FRO Biologists Attend Carp Symposium

Columbia FRO biologists Andrew Starostka and Andrew Plauck attended the Asian Carp Symposium in Peoria, Illinois, a first-of-its-kind conference about these invasive species. Presentations dealt with a variety of topics related to Asian carp species, including life history of the silver, bighead, black and grass carps; techniques to monitor and control their numbers; and economic issues. Presenters included academics, fish managers and biologists. Guest speaker Dr. Zhitang Yu, considered the world's foremost expert on Asian carps, traveled from China to share knowledge he has collected during his 40-year career. Interestingly, in their native range where they are considered a desirable food fish, the four carp species are actually in decline from habitat degradation and over-fishing. This observation may provide insight into potential markets for these fish and a way to provide jobs and control the currently rampant invaders.

The symposium also included a boat trip on the Illinois River aboard the *Spirit of Peoria*, a stern wheel paddleboat. During the boat trip, local biologists in smaller boats chased up some of the famous "jumping carp" (silver carp) on the river for attendees to see

firsthand the abundance of these fish and the hazard they pose to boaters and other users.

Columbia FRO biologists are in the process of developing fishing gear that will collect mass quantities of Asian carp (mainly bighead and silver carp) in the Missouri River. Design of new gears, as well as learning techniques from experts in the field, will allow biologists to monitor the abundance of these invasive species. Since no one knows exactly how many of these fish inhabit our river systems, it is important that we effectively sample and describe their numbers while we are also trying to reduce their numbers.
Andrew Starostka and Andy Plauck, Columbia FRO

-USFWS
Large net-fulls of Asian carp is becoming a norm during fishery assessments in many areas of the lower Missouri River.

Surveillance Fails to Capture Ruffe in Eastern Lake Superior

The Ashland FRO, in cooperation with the Michigan DNR, Ontario Ministry of Natural Resources (OMNR), and the U.S. Army Corps of Engineers, completed fall surveillance of invasive ruffe and other aquatic invasive species in Lake Superior from the Keweenaw Peninsula, Michigan, to Sault Ste. Marie. Crews surveyed seven near-shore locations, targeting habitat preferred by ruffe and other invasives. No ruffe were captured east of the Keweenaw Peninsula (south central Lake Superior). This is in contrast to the spring 2006 survey, which confirmed several ruffe captured in Eastern Lake Superior.

The spring 2006 ruffe discoveries in Eastern Lake Superior prompted a consolidated effort by the Ashland and Alpena FROs and cooperation from the Michigan DNR, OMNR, and the Corps to survey for ruffe in the St. Marys River near the Soo Locks on the Lake Superior side. Following discussion with the Corps, concern was raised that ruffe could migrate through the Soo Locks, down the St Marys River, and reinforce the declining Lake Huron ruffe population (no ruffe have been captured in Lake Huron since 2003). Algoma Steel Inc., a commercial vessel slip—attractive to ruffe—owned by Algoma Steel was sampled in the St Marys River on the Lake Superior side of the locks. No ruffe or other invasives were captured. Alpena FRO sampled other sites further upriver from the Soo Locks on the Superior side, and no ruffe or other invasives were captured. Other planned sampling near Sault Ste. Marie was not completed due to weather.
Gary Czypinski, Ashland FRO

Inland Seas Invites Jordan River NFH Biologist to Present

Inland Seas is an educational organization that provides unique learning opportunities to children. The organization is based in Suttons Bay, Michigan, and its Inland Seas schooner ships sail around the Great Lakes providing programs on water quality, aquatic biology and environment stewardship. Inland Seas staff heard about the "Fish Are Fun" programs at the Jordan River NFH and asked hatchery biologist Tim Smigielski to provide a presentation during its invasive species "drop in" programs. Smigielski discussed life histories of various invasive species and common practices to reduce their spread around the Great Lakes. He also held a session on fish identification, presenting information on anatomical features and characteristics used to identify Great Lakes trout and salmon. Inland Seas and Jordan River NFH are a good match and the partnership will certainly continue in the future.
Tim Smigielski, Jordan River NFH

Public Use

Annual Fall Fish Survey Conducted, Largemouth Bass Relocated at Crab Orchard Lake

Located on Crab Orchard NWR in southern Illinois, Crab Orchard Lake is a popular destination for recreational anglers seeking pan fish, catfish and largemouth bass. The Illinois DNR, Carterville FRO, and Crab Orchard NWR cooperatively manage this recreational fishery. Maintaining that fishery requires conducting an annual fall fishery survey. On Oct. 23, Adam McDaniel and Colby Wrasse from Carterville FRO and three Illinois DNR crews set out to sample the lake. Each crew electrofished three sites with 30-minute transects. Survey results indicate that largemouth bass and bluegill populations are in excellent condition and the lake contains many large channel catfish. Data collected from the electrofishing survey is important for monitoring population trends, making fish stocking decisions and evaluating angling regulations. The partnership between the Illinois DNR and Carterville FRO is a great example of agencies working together to maintain our natural resources and provide quality sport-fishing opportunities.

Supplemental stocking is essential to maintaining Crab Orchard Lake's quality bass fishery and so the Illinois DNR raises bass in a small pond on Crab Orchard NWR. Allowing the largemouth bass to grow in the small pond before stocking ensures better survival. The fingerlings are supplied by Little Grassy State Fish Hatchery, and every fall the Illinois DNR, Carterville FRO, Crab Orchard NWR and numerous volunteers drain the pond, collect the largemouth bass fingerlings, and stock them in Crab Orchard Lake. This year Carterville FRO staff Rick Echols and Adam McDaniel provided assistance in harvesting and stocking approximately 8,000 largemouth bass advanced fingerlings with an average size of 6.4 inches.

Adam McDaniel, Carterville FRO

-USFWS

Adam McDaniel displays a healthy largemouth bass collected from Crab Orchard Lake (Crab Orchard National Wildlife Refuge). The electrofishing survey revealed a good population of 2-5 pound bass.

Friends of Neosho Hold Annual Picnic

Neosho National Fish Hatchery hosted its annual potluck Friends Picnic on Oct. 22, bringing the community together for great fellowship and for recruiting new Friends group members. This outing is also used to show special appreciation to the Friends group and recognize individuals for their contributions during the year. The entire group was given a tour of the sturgeon facility that is under construction and should be completed by the end of January 2007. It was a very successful event and everyone had a wonderful time.

Realizing that there is strength in numbers, the Friends of the Neosho National Fish Hatchery is reaching out to other hatcheries to assist them in establishing Friends groups. Teresa Van Winkle, president of the Friends of the Neosho National Fish Hatchery has been working with Ken Boyles, the manager of the Norfork NFH and a group of local anglers who want to establish a Friends group for this fish hatchery in Arkansas. The group's founders, Davy Wotton and Leon Alexander, told a local newspaper that they were creating the organization to be a strong advocate for Norfork in the same spirit as the Friends group. The Friends of the Neosho National Fish Hatchery was established in 2001 and continues to increase in members and advocacy.

David Hendrix, Neosho NFH

-Neosho Daily News photo by Todd Higdon

Members of the Friends of the Neosho National Fish Hatchery and Project Leader David Hendrix pose for a picture during the annual Friends Picnic.

Annual Great Lakes Lighthouse Festival a Success

The 2006 Great Lakes Lighthouse Festival, held in Alpena, Michigan, in October, showcased lighthouses around the Great Lakes, along with their associated aquatic resources. Alpena FRO and Jordan River NFH represented the Fish and

Wildlife Service at this event. The *M/V Spencer F. Baird* was present and staffed with personnel from Jordan River NFH to give tours and describe the operation of the boat and its role in lake trout rehabilitation. Susan Wells put up a display to show operations conducted by the Alpena FRO and the Fish and Wildlife Service and distribute brochures and children's aquatic resources quiz games. Approximately 3,000 people attended the festival.
Susan Wells, Alpena FRO

Exploring the "Wonders of Wildlife"

Columbia FRO participated in a teaching event sponsored by the Missouri Department of Conservation and the U.S. Forest Service. Called "Wonders of Wildlife (WOW)," the event took place in southern Missouri at Roaring River State Park and was the final such event of the year, with over 200 participants enrolled in classes designed to teach outdoor skills.

Wyatt Doyle and Andy Plauck taught a two-day lake fishing course on Table Rock Lake, using boats donated by the State Park Marina and tackle from Bass Pro Shops to take participants on the Lake for four hours while teaching them intermediate and advanced skills of bass fishing. One woman best summed up the day by saying, "You just can't learn this kind of information anywhere else...this is great!"

Tracy Hill and Lee Erickson were also busy teaching kids outdoor skills such as fishing, archery and camping. Lee continued the second day solo, teaching archery skills and whitetail deer hunting to eager kids and adults alike. Columbia FRO offered its services to host a WOW event in Columbia, and the director of events was excited to pursue the opportunity. Additionally, we pledged to begin teaching additional river cat fishing courses at the St. Louis and Kansas City WOW events.
Wyatt Doyle, Columbia FRO

Promoting an "Eco-Friendly" Experience

Columbia FRO biologists Nick Utrup and Cliff Wilson and technician Derek Eisenbrei, and Columbia Ecological Services Field Office biologist Jill Utrup attended the first Eco Art Festival at Coopers Landing, Missouri, on Oct. 1. Coopers Landing is located on the beautiful Missouri River, just south of Columbia. The Eco Art Festival was created by two non-profit organizations, the Missouri River Cultural Conservancy and Missouri River Communities Network, to celebrate the continued rehabilitation and conservation of the Missouri River and to promote "eco-friendly" living. Along with Columbia FRO and Ecological Services, various organizations from around the area set up booths, including the U.S. Geological Survey, Friends of the Big Muddy National Fish and Wildlife Refuge, Missouri Stream Team and the Audubon Society.

Columbia FRO biologists collected live fish for display allowing attendees the opportunity to learn fish identification, morphology and general life history characteristics of river fish and the role each plays in the river ecosystem. Children enjoyed touching the fish and interacting with living organisms from the Missouri River. A sport fish identification puzzle provided children another way to learn about different types of sport fish. Everyone that participated in assembling the puzzle were awarded a fish poster and a T-shirt with a sturgeon imprint.
Nicholas Utrup and Cliff Wilson, Columbia FRO

-USFWS photo by Nicholas Utrup
Kids put together a fish puzzle at the 2006 Eco Art Festival at Coopers Landing on the Missouri River south of Columbia, Missouri.

Cooperation with Native Americans

Lake Superior Lake Sturgeon Sampling Conducted

Fishery agencies developed the "Lake Sturgeon Rehabilitation Plan" for Lake Superior to help restore the ecological integrity and fishery potential of the lake. Many agencies are collaborating to protect and rehabilitate sturgeon populations in accordance with this plan. One collaborative survey effort that began in 2005 was undertaken once again in 2006.

The Keweenaw Bay Indian Community, Michigan DNR, Great Lakes Indian Fish & Wildlife Commission, and the Fish and Wildlife Service collaborated to conduct a pilot survey in 2005 in Lake Superior waters near the mouth of the Ontonagon River. The agencies are interested in gathering more information to evaluate stocking progress and describe the status of lake sturgeon in Lake Superior near the Ontonagon River. To build on the success of last year's effort, the Ashland FRO again this year used the *R/V Chub* as the platform for the gill net survey work. To minimize capture of non-target species, nets were set and lifted at 12 hour intervals. Crews got eight 24-hour sets (16 lifts) during the week of Oct. 2 to 6, reaching their target of a deep and shallow set in each of three statistical grids.

Crews set a total of 6,300 feet of net. Twenty-nine juvenile lake sturgeons ranging from 401 mm to 986 mm were captured. Coded-wire tags were detected in 23 of the 29 fish captured, positively identifying them as stocked fish. In addition a thumb-nail size piece of tissue was collected from the fins of all fish. Fin clips will be genetically analyzed by Michigan State University to determine the parental origin of these fish. The sturgeon were tagged and released. If these fish are captured during future Lake Superior survey work, agencies will be able obtain data on their growth and movement.
Jonathan Pyatskowit, Ashland FRO

-USFWS
A lake sturgeon captured from the Ontonagon River, Michigan, receives a tag as part of a population survey.

Alpena FRO Tags Lake Whitefish One More Time

On Nov. 7 and 8, staff from the Alpena FRO participated in a distribution study of whitefish in Lake Huron, funded through the Great Lakes Fish and Wildlife Restoration Act. Fish and Wildlife Service staff involved included Treaty Unit Coordinator Aaron Woldt, and biologists Adam Kowalski, Scott Koproski, Susan Wells, Anjie Bowen and Heather Rawlings. Staff conducted all tagging operations on the commercial trap-net boat *Blonnie W* operated by Jim Presau Fisheries.

The goals of this study are to determine the spatial distribution and movement patterns of eight selected lake whitefish stocks in Lake Huron and the contribution of each stock to commercial fishery yields. The eight stocks selected were Detour, Alpena (Middle Island and Thunder Bay), Saginaw Bay, Burnt Island, South Bay mouth, the Fishing Islands, Douglas Point and Sarnia. In all seven state, federal, tribal, and provincial partner agencies participated in this study. In 2004 and 2005 combined, study partners tagged and released more than 21,000 lake whitefish in Lake Huron. The Fish and Wildlife Service tagged 3,021 lake whitefish in 2004 and 2005 combined. To date, commercial anglers have harvested and reported more than 620 tagged lake whitefish.

In 2006, Fish and Wildlife Service staff Floy-tagged and released 1,533 lake whitefish near Middle Island. Michigan DNR staff tagged approximately 1,500 lake whitefish in Thunder Bay in November. Tagged fish were measured for length, checked for lamprey wounds, sexed, assessed for maturity, scale sampled for ageing purposes, fin clipped, and released. A random subset of fish was also retained to measure short term tag retention and handling mortality. Crews lethally sampled and processed about 200 fish. Data from this study will be entered into a common database maintained by the Alpena FRO. Combined study data, including 2006 tagging, will be distributed in 2007.
Aaron Woldt, Alpena FRO

Leadership in Science and Technology

A "Tiny" Backlog Eliminated

Columbia FRO staff completed the Herculean task of eliminating a long-standing tag return backlog for the MICRA National Stock Assessment program. Since May, an estimated 5,000 of these tags have been read and re-read for accuracy, and supporting data entered and proofed in the National Paddlefish Stock Assessment database. This backlog is expected to be completely eliminated by the end of September 2006. This task was accomplished with the help of several Columbia FRO employees, including Casey Bergthold, Stephanie Runyan, Breanna Hicks, Dustin Martin, Tammy Knecht, Derek Eisenbrei and Lee Erickson.

The Mississippi Interstate Cooperative Resource Association (MICRA) was established in 1989 to improve fisheries management in inter-jurisdictional rivers of the Mississippi River Basin. The paddlefish stock assessment project was organized in 1995 with participation from 23 state natural resource related agencies, four fishery resources offices, and eight national fish hatcheries. Participating agencies capture and tag wild paddlefish, tag and release hatchery paddlefish, and recover tags from recaptured fish. Additionally, commercial and sport anglers return tags, providing rostrums and recapture information to their local fish and game offices. Recovered rostrums bearing recapture tags and the accompanying recapture information are sent to the Columbia FRO for processing. Eliminating this project backlog will help the fisheries program achieve its goal of improving inter-jurisdictional management of paddlefish by giving biologists as much current data as possible so that they may easily assess population, distribution, movements, growth and overall condition of the paddlefish.

Joanne Grady, Columbia FRO

The relative size of a coded-wire tag is apparent when placed on a finger-tip (above). A magnified image can be viewed below.

-USFWS photos

Viral Hemorrhagic Septicemia Sampling Conducted on Lake Erie

On Oct. 30 and 31, the La Crosse FHC, assisted by the Ohio Division of Wildlife, conducted sampling to determine whether Viral Hemorrhagic Septicemia (VHS) could still be detected in Lake Erie. VHS was isolated this spring following a large fish kill on the Lake. Fish were necropsied at the Sandusky Division of Wildlife Office. Species examined include emerald shiner, yellow perch, white perch, freshwater drum, steelhead, gizzard shad, white bass, walleye and rainbow smelt. In addition to VHS testing, the fish were also screened for bacterial and parasitic infections. Results are pending.

Eric Leis, La Crosse FHC

Aquatic Habitat Conservation and Management

Trout Brook Fish Passage Barrier Removed

A crew from the Ashland County, Wisconsin, Highway Department modified a double box culvert which inhibited fish passage under State Highway 13 in July. The project took place in Trout Brook Creek in this Northern Wisconsin county, opening 2 ½ miles of stream to uninhibited fish passage above the former barrier. Trout Brook is an important stream for brook trout in the Bad River watershed and is a popular fishing destination. Restoring passage at this site has linked valuable spawning habitat for brook trout and other aquatic life.

The Fish and Wildlife Service's Fish Passage program provided funding to install concrete baffles in the southernmost culvert, creating pools of slower water that provide resting areas to fish migrating upstream through the 130-foot-long culvert. The outlet of the culvert consists of a concrete apron, perched approximately six inches above the water level. To correct this problem the height of the riffle directly below the culvert was raised by a foot to provide a minimum of six inches of water on the apron so aquatic life can access the culvert at all times.
Ted Koehler, Ashland FRO

-USFWS
Modifications to a culvert on Trout Brook in Ashland County, Wisconsin, included raising the riffle area directly below the culvert to provide a minimum of six inches of water on the apron of the culvert.

Hopkins Wetland Restoration Project Completed

The Hopkins Partners for Fish and Wildlife program wetland restoration project has been completed in Northern Wisconsin. It restores two wetland sites totaling three acres and enhanced 10 acres of upland grass for waterfowl nesting through a deferred haying/grazing agreement. The restoration took place on former agricultural land in Douglas County. The wetland and grassland complex will provide ideal resting and nesting conditions for many species of migratory songbirds and waterfowl.

Species benefiting from the habitat restoration and protection project include migratory waterfowl such as wood duck and American black duck, as well as migratory songbirds such as wood thrush and yellow warbler. Gray wolves are common in the area and one large adult was seen during construction. The Ashland Bayfield Douglas Iron - Land Conservation District provided assistance on the project and Ritola Incorporated of Mason, Wis., did the heavy equipment work. Ducks Unlimited was also a partner on the project. A Habitat Development Agreement was signed to protect the restored area for a period of 10 years.
Ted Koehler, Ashland FRO

Michigan Stream Team Makes Presentation

Biologist Heather Rawlings presented an overview of the Michigan Stream Team's objectives and goals on Sept. 17 at the Michigan DNR Fisheries Division Annual Meeting. Some 40 biologists from the Michigan DNR Fisheries Research Division and management unit supervisors from Northern Michigan attended the meeting. The presentation was well received and the group requested an annual update from Michigan Stream Team representatives.
Heather Rawlings, Alpena FRO

Partners for Fish and Wildlife 2006 Wetland Construction

Construction on the final eight wetland sites scheduled for Fiscal Year 2006 for the Alpena FRO Partners for Fish and Wildlife program was completed on Oct. 5. Six sites are located in Ogemaw County on the property of two different landowners, and two sites are in Montmorency County on a single landowner's property. In all, 14 acres of wetland were restored or enhanced. Nine acres were located on an open, fallow field and five acres were restored to a wooded wetland.

In addition to the October wetland construction, Partners' biologists conducted five landowner visits and surveyed three wetland sites for potential construction in 2007. The Partners for Fish and Wildlife program restores and enhances wetlands for the

benefit of migratory birds, shorebirds, reptiles and amphibians. Alpena FRO restored 88 total acres of wetland on 23 sites in Fiscal Year 2006.
Heather Rawlings, Alpena FRO

Thunder Bay Working Committee

Biologist Aaron Woldt participated in a working committee meeting for the Thunder Bay Power Company Thunder Bay River Project Implementation. Woldt is the Fish and Wildlife Service representative on the working committee, which was created to assist Thunder Bay Power and its parent company North American Hydro in meeting the requirements of its Federal Energy Regulatory Commission (FERC) license.

The primary focus of the Nov. 14 meeting was to review results of North American Hydro's 2006 monitoring activities for purple loosestrife, Eurasian watermilfoil and erosion sites. The committee also discussed North American Hydro's water quality plan for 2007, an update on the project wildlife plan, a recent FERC potential failure mode analysis, and the proposed fishing pier at the Hubbard Lake site. The fishing pier issue has been ongoing and involves moving the proposed structure to the opposite side of the River as initially planned. The proposed area across the road is primarily wetland, and feasibility of using this site will require input from Michigan Department of Environmental Quality.

The meeting was attended by member representatives from the Michigan DNR, North American Hydro, and the Fish and Wildlife Service. Representatives from the Montmorency Conservation District, Thunder Bay Audubon Society, and Northeast Michigan Council of Governments also participated. Fish and Wildlife Service involvement in the working committee provides opportunities to minimize or mitigate the impacts of habitat alteration on fish and other aquatic species caused by hydropower facilities in the Thunder Bay River system.
Aaron Woldt, Alpena FRO

Mitigation Field Season Ends

Columbia FRO completed its portion of field work for the Mitigation Program 2006 season in early October. The program is intended to evaluate the benefits of mitigated habitats to fish species in the Missouri River with an emphasis on side channels, or chutes. By monitoring these mitigation sites and collecting basic fisheries and habitat data, biologists can determine how the sites are benefiting riverine fish communities. Columbia FRO's field work for 2006 consisted of approximately 1,000 gear deployments of seven different gear types at four chutes. The sampling season began in April with Lisbon, Overton and Tate chutes. In June, Columbia FRO began monitoring the recently completed Tadpole chute. We collected a variety of species ranging in size from 10 mm to well over 1,000 mm. Our monitoring will provide the U.S. Army Corps of Engineers with feedback on how fish are responding to constructed sites and how to get the best biological response from each location.

Results of the multi-year Mitigation Monitoring Program will lead to a greater understanding of the dynamic systems and habitats once lost to the Missouri River. Once the project is complete, the biological performance of these mitigated chutes will be evaluated based on the habitat availability and fishery data collected.
Jennifer Johnson, Columbia FRO

-USFWS photo by Jennifer Johnson
This large catfish was sampled as part of the Mitigation Program 2006 which is intended to evaluate side channels, or chutes, on the lower Missouri River.

Missouri River Coordination Team Gathers

Columbia FRO biologist Jennifer Johnson attended the quarterly meeting of the Missouri River Recovery Agency Coordination Team in St. Joseph, Missouri. The meetings are intended to brief state and Federal agencies on the program's progress. Under the Missouri River Fish and Wildlife Mitigation Project, a variety of aquatic and terrestrial habitats acquired by the U.S Army Corps of Engineers have been restored and developed in the Missouri River and its floodplain to enhance habitats for fish and wildlife. Monitoring will enable the team to determine whether the mitigation sites are performing as expected. Columbia FRO continues to partner with state agencies to conserve and increase native fish populations in the Missouri River and to identify and take appropriate actions that will help achieve desired resource goals and outcomes.
Jennifer Johnson, Columbia FRO

Driftless Area Workshop a Success

On Oct. 30 and 31, more than 130 participants gathered in La Crosse, Wisconsin, for a Driftless Area Stream Restoration workshop. The goal of the workshop was to share information and initiate conversations among those working primarily in the Driftless Area, and unglaciated area encompassing 24,000 square miles in Southeast Minnesota, Northeast Iowa, Southwest Wisconsin and Northwest Illinois. Representatives from Federal, state and local agencies, universities, private consulting firms, and Trout Unlimited came from within and outside of the Driftless Area to share stream restoration techniques, monitoring, research findings, successes and lessons learned. A highlight of the workshop was speaker Eric Schwaab of the Association of Fish and Wildlife Agencies, who gave an overview of the National Fish Habitat Action Plan and demonstrated its use through application under the Eastern Brook Trout Joint Venture. Post-workshop tours allowed attendees and the local public to visit stream restoration sites in Iowa, Minnesota and Wisconsin and ask questions about techniques, materials used, cost, and resource benefits. This two-day workshop was hosted by Trout Unlimited, the Fish and Wildlife Service, and Minnesota, Wisconsin, Iowa, and Illinois DNRs. It will now be an annual event. Workshop program and presentations will be posted on Trout Unlimited's website at: http://www.tu.org/driftless.

Hosting a Driftless Area workshop or forum was as an objective in Trout Unlimited's two-year multi-state conservation grant from the Fish and Wildlife Service's Sport Fish and Wildlife Restoration Program for the development of the Driftless Area Restoration Effort Fish Habitat Partnership.

Louise Mauldin, La Crosse FRO

The Driftless Area, highlighted in black, is located in the heart of the Upper Mississippi River valley, encompassing a 24,000 square-mile area of southeast Minnesota, northeast Iowa, southwest Wisconsin, and northwest Illinois.

Priority Habitat Conservation and Restoration Areas Identified

Carterville FRO staff continued work with the Midwest Region Fish Habitat Team to identify priority areas for fish habitat conservation and restoration in the region. As part of this effort, Carterville FRO fully scored and ranked 39 watersheds in Illinois, Indiana and Ohio. This information will be used along with a partial ranking of all watersheds in the Region to assist the Coastal and Partners for Fish and Wildlife programs in identifying priority areas as part of a national strategic planning effort. This effort will also be used within Fisheries to identify aquatic habitat focus areas. Recent activities include participation in a Region 3 Fish Habitat Team conference call to discuss maps produced by Conservation Planning and the progress of Fisheries offices in fully scoring watersheds. Rob Simmonds also worked with other offices to address questions on the criteria and to continue refinement of draft criteria to rank watersheds.

Rob Simmonds, Carterville FRO

Workforce Management

Intern Project Provides Depths of Understanding

In July and August, Genoa NFH interns Brandon Keesler and Ashley Umberger began surveying the hatchery ponds to develop new baseline volumes to help maintain inorganic nitrogen and phosphorus levels in the ponds. They surveyed all nine renovated ponds, and the new values they established will be a great asset in determining safe and efficient fertilization and treatment levels.

Walleye, largemouth bass, and smallmouth bass are three of the many species reared at Genoa NFH. These fish are integral in the propagation of endangered mussels such as the Higgins' eye pearlymussel, as well as fulfilling fishery management requests throughout the Midwest. Rearing each of these species requires using the hatchery's outdoor rearing ponds, which range in size from ½ an acre to 34 acres. Pond management during the growing season is critical for fish survival and harvest.

Throughout the season, the nitrogen and phosphorus levels in the ponds need to be adjusted to promote phytoplankton and zooplankton communities, which are essential as forage for young fish. By taking water samples weekly, biologists can calculate the amount of inorganic nitrogen and phosphorus that needs to be added to the pond in order to attain a favorable ratio; however, the amount of fertilizer added is dependent on the water capacity of the pond. The last time the water volume of the ponds were calculated was decades ago. Since then, many of the ponds have been dredged and revamped, creating unknown pond volumes. Keesler and Umberger's work helped to change that.
Nick Starzl, Genoa NFH

-USFWS
Genoa National Fish Hatchery interns Brandon Keesler and Ashley Umberger surveyed hatchery ponds to develop new baseline volumes to help biologists maintain inorganic nitrogen and phosphorus levels in the ponds.

Columbia FRO Welcomes Student Volunteer

Meagan Montgomery, a graduate student at the University of Missouri, volunteered for two days with the Columbia FRO. Her master's project is titled *Fish Use of Passage Facility and Seasonal Wetland Pools at Eagle Bluffs Conservation Area.* Meagan spent her day with biologist Jennifer Johnson and technician Nick Siepker, electrofishing for the Missouri River Mitigation Project near Overton, Missouri. Meagan netted stunned fish, collected habitat information, and identified and measured captured fish. By the end of the day, she could easily identify most of the species captured. Meagan also got a first hand glimpse of the "flying carp" she had heard so much about, with several invasive silver carp landing in the boat. The Columbia FRO was happy to have Meagan for the day and looks forward to future outings with students near Columbia.
Jennifer Johnson, Columbia FRO

-USFWS photo by Jennifer Johnson
Volunteer Meagan Montgomery holds an invasive silver carp captured while electrofishing Overton chute on the lower Missouri River.

University of Missouri Fisheries Techniques Revisits the River

For the second year, University of Missouri Fisheries Professor Dr. Douglas Noltie asked Columbia FRO to assist with his Fisheries Techniques course. Biologist Jeff Finley was a student in the Fisheries Techniques course the first year it was offered. The course focuses on basic fish collection, water quality and habitat assessment techniques commonly used in fisheries, but is largely focused on "flat water management" and historically lacked a river component. To mitigate this shortcoming, Dr. Noltie scheduled a day on the river with Columbia FRO staff to help teach fundamentals of sampling fish communities within a riverine environment.

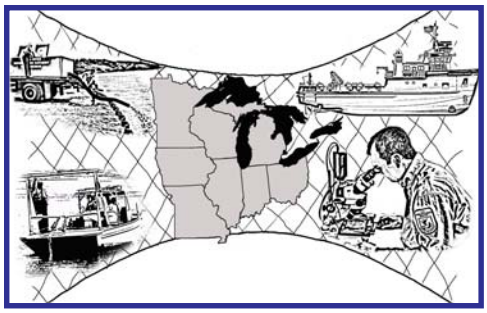
The class divided into small groups and assisted in collecting data for the Habitat Assessment and Monitoring Program. The groups collected fish samples from mini-fyke nets and drifted trammel nets and otter trawls from both the stern trawler and the push trawl boats. The experience helped to understand the challenges faced in collecting fish from a river with swift currents, shifting or soft substrates, and drifting debris. It

was an enlightening experience for the Techniques Students and an opportunity to increase awareness of this station and our continued efforts to support the Fishery Program at the University of Missouri.
Jeff Finley, Columbia FRO

Region 3 Publication Artwork Approved

Line art for the cover of Regional Fisheries publications was recently approved. A committee was formed last year to develop a publication policy for the Region 3 Fisheries program. Out of the initial conference call arose a need for unique artwork to signify the wide realm of Region 3 Fisheries activities. After several drafts, a line art drawing using a gillnet background, with images from a classic photo of an Iron River NFH stocking, a shot of the Columbia FRO stern trawler *Phoenix*, an image of the *M/V Spencer F. Baird*, and a biologist at a microscope balance the foreground. Centered is a map of the Midwest Region. The line art was approved by Regional staff and will now be used on all Region 3 Fisheries Data Series, Fisheries Progress Reports, Fisheries Technical Reports, and Fisheries Management Plans. Only the title and color of the cover will differ. Cover colors have not yet been determined.

A National Publication Policy is currently being developed. This policy will trump the need for individual region policy; however, using our own unique art work produced by Region 3 employees should still be appropriate.
Jeff Finley, Columbia FRO



-USFWS artwork by Jeff Finley
This artwork will adorn the front cover of publications produced by the Region 3 Fisheries program.

La Crosse FRO Shows "What it Takes to Be a Biologist"

Some 2,200 high school sophomores and juniors from 28 school districts in the La Crosse, Wisconsin, area attended the La Crosse Center's October Career Expo, a joint effort of the Greater La Crosse Area Chamber of Commerce, Western Wisconsin Technical College, the Wisconsin Education Fair and 22 high schools. Fifty booths focused on six career clusters: Agri-Business Science Technology & Natural Resources; Arts, Humanities & Communication; Business Management, Administration & Marketing; Health Care; Human Services & Education; and Industrial Science & Manufacturing Technologies.

Heidi Keuler from the La Crosse FRO spoke to approximately 100 students about the career of a biologist. Students asked questions during an informal discussion and gained insight from photos taken of field biologists. Many students were interested in the Student Temporary Employment Program, Student Career Experience Program and volunteer programs. The Fish and Wildlife Service booth at the Career Expo was a great opportunity for the students to not only learn about the careers in the Fish and Wildlife Service, but also how biologists help manage natural resources.
Heidi Keuler, La Crosse FRO

Genoa NFH, Viterbo University Enhance Resource Conservation

On Halloween some kids dress up as ghost or goblins, while others may dress in uniforms of their dream profession. This Halloween, Genoa NFH hosted a biology class from Viterbo University and presented a new profession that they may one day pursue. Viterbo University is primarily a pre-med and nursing school, but Dr. Michael Alfieri wanted to let his students know that there are other possibilities for careers in the field of biology. The students were given a tour of the hatchery grounds, where they encountered rainbow and coaster brook trout, lake sturgeon and freshwater mussels. The students were curious about the many different programs at Genoa NFH, as well as the degree requirements it takes to become a biologist. Students were told about the Student Temporary Employment Program and the many volunteer opportunities available at the hatchery.

The students were excited to hear about the volunteer opportunities since they must record 30 volunteer hours to complete graduation requirements. While no tricks were played, both the Genoa staff and the students from Viterbo were treated to thoughts of partnerships to come. The contacts made are expected to enhance the station's volunteer program by supplying willing and eager students, and help the Fish and Wildlife Service achieve its mission of conserving, protecting and enhancing fish, wildlife, and plants and their habitats for the continuing benefit of the American people.
Tony Brady, Genoa NFH

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-Jerry French Postcard Collection; U.S. Fish Hatchery, Farlington, Kansas (1945)

Windows in time

A Glimpse into our Proud Past:

The Farlington Fish Hatchery was located in Crawford County, in southeastern Kansas. The hatchery was established in 1939 and was transferred to the State of Kansas in 1971.

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