U.S. Fish & Wildlife Service

Fish Lines

Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems

Fiscal Year 2005
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Big Rivers Fisheries

-USFWS photos unless noted

Series of photos depicting Fisheries involvement in the "Big Rivers": (Lt. to Rt.) (Top Row) Tony Brady collects mussel larva, called glochidia, from a Federally endangered Higgins' eye pearlymussel at Genoa National Fish Hatchery (NFH); Pallid sturgeon are reared at the Neosho NFH as part of the Pallid Sturgeon Propagation Program for the Missouri River; Brush piles are ready for placement in Cardinal Lake on Scott Air Force Base in Illinois to improve the recreational fishery for military families; (Middle Row) Invasive zebra mussels; Invasive Asian carp - top to bottom: silver carp, grass carp, bighead carp; Invasive round goby; (Bottom Row) Neosho NFH's annual fishing clinic/derby for the physically challenged and elderly; Carterville Fishery Resources Office (FRO) staff ,in partnership with the Crane Naval Weapons Support Center, measure fish collected during electrofishing assessment operations; La Crosse FRO and the Upper Mississippi River National Wildife and Fish Refuge honor their volunteers during an annual banquet.

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

To view other issues of "Fish Lines", see our Regional website at: (http://midwest.fws.gov/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 Article - Big Rivers Fisheries

The Fish and Wildlife Service's Big Rivers Fisheries Program works in partnerships with many others to conserve nationally significant species in the Upper Mississippi, Lower Missouri, Ohio, and Red Rivers and their major tributaries. We provide technical assistance and stock fish and mussels for restoration and recovery programs throughout seven of the eight states in our region. We focus on restoring interjurisdictional fish, recovering threatened and endangered fish and mussels, combating aquatic invasive species, and restoring aquatic habitats. The program has accomplished great things with our partners.

Partnerships

Partnerships are essential in fisheries conservation. Many agencies, organizations, and private individuals are involved. Combining efforts and expertise with our partners, we are able to tackle challenges facing fisheries conservation.

Aquatic Species Conservation and Management

Threatened and Endangered Species Recovery

Pallid sturgeon – Each year the Fish and Wildlife Service and the State of Montana stocks several thousand pallid sturgeon into the Missouri River to help speed recovery of this endangered species. We are also working to determine the population size of pallid sturgeon in the Lower Missouri River and help guide habitat restoration projects conducted by the Army Corps of Engineers.

Niangua darter – We are working with the state of Missouri to develop solutions for barriers of fish passage for this threatened fish. This effort will help reconnect separated populations. Look for more information about the Niangua darter in an upcoming issue of *Fish Lines*.

Topeka shiner – We are working with the states of Iowa, Minnesota and Missouri to learn more about this endangered species and implement recovery actions.

Higgins' eye pearlymussel – The culture program for this endangered freshwater mussel is the largest such program in the United States. Last year, we stocked an estimated 2.3 million mussels into the waters of four rivers in the Upper Mississippi River Basin.

Winged mapleleaf mussel – Last year, we helped determine the last piece of the puzzle for culturing this critically endangered mussel. Biologists identified certain species of catfish as host fish for this mussel. This year we are starting a similar culturing program as we have for the Higgins' eye.

-USFWS

Wyatt Doyle, Columbia FRO, holds an adult, Federally endangered pallid sturgeon captured during a Missouri River assessment.

Restoring Interjurisdictional Fisheries

Paddlefish and sturgeon – With the help from the Mississippi Interstate Cooperative Resources Association and the states in the Mississippi River Basin, we developed a central tagging database to provide a large-scale stock assessment program for these highly migratory species.

Combating Aquatic Invasive Species

Asian carp – The spread of two species of Asian carp—silver and bighead—has quickly become one of the biggest issues for resource agencies in the Mississippi River Basin. In some habitats, Asian and common carp account for more than 95 percent of the fish. We are working with resource professionals to identify, prioritize, and coordinate actions to manage this voracious invader.

Round goby – Gobies passed from the Great Lakes beyond the site of an electrical barrier in the Illinois River in 1999, before the barrier was activated. We are monitoring the advance of this invasive species, trying to determine when it will enter into the Mississippi River.

Zebra mussels – Zebra mussels, which attach to hard surfaces such as intake pipes, boats, and the shells of mussels have devastated our native mussels. The St. Croix River represents the last stronghold for healthy mussel populations in the Upper Mississippi River, and we are working with others to prevent the spread of zebra mussels into the St. Croix.

-USFWS

Several invasive Asian carp species escaped into the Mississippi River Basin and developed self-sustaining populations. Bighead carp (top) have been collected from 18 states and silver carp (bottom) from 12 states.

Aquatic Habitat Conservation and Management

Fish Passage Program – The Fish Passage Program addresses structures built on rivers and their effects on fish and other aquatic species. Some examples of improved fish passage include helping to remove dams in the Red River basin for lake sturgeon, replacing low-water car crossings for Niangua darters in the Osage River Basin, and replacing culverts for alligator gar on the Mingo National Wildlife Refuge.

Partners for Fish and Wildlife Program – The Partners Program is a voluntary habitat restoration program for private landowners, tribes, and other conservation partners who willingly restore fish and wildlife habitat on their property. We work closely with the Partners Program to identify and restore stream habitats.

Monitoring Big Rivers Habitat Restoration – We work closely with the Army Corps of Engineers to monitor and evaluate their multi-million dollar habitat restoration projects in the Illinois, Mississippi, Missouri, and Ohio rivers. Our fish response information helps the Corps improve its projects.

Public Use

Managing Fisheries on Federal Lands – National Wildlife Refuges in Region 3 are important to river fish. Fourteen refuges manage lands along 800 miles of river. We work with these refuges to help manage and restore fishery resources.

Recreational Fishing – Each office and hatchery in the Big Rivers Program hosts an annual fishing day event during National Fishing and Boating Week. We also work with National Wildlife Refuges, the Department of Defense, States, and Tribes to improve fishing opportunities for the public.

The Big Rivers Fisheries Program is comprised of three Fishery Resources Offices (Carterville, IL; Columbia, MO; and La Crosse, WI) and two National Fish Hatcheries (Genoa, WI and Neosho, MO).

For additional infomation, contact Mike Oetker at the Great Lakes/Big Rivers Regional Office.
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Partnerships and Accountability

Community Member Rallies in Washington, D.C. to Conserve Fish and Wildlife

Ken Visger of the Friends of the Upper Mississippi River Fishery Services attended the 2005 Refuge Friends Conference - Friends in Action to learn how to better support the fishery programs in the La Crosse, Wisconsin area. While in Washington, Visger visited with Members of Congress from Wisconsin and Minnesota to explain how important the Fisheries program is to conservation, recreation, and the community. "Everyone in the community can appreciate the outdoors and this conference is going to help the Friends of the Upper Mississippi River Fishery Services improve our conservation efforts and reach out to legislators and area residents," said Visger before he left for the conference.

The conference allowed Friends members from around the country to network and share ideas on projects, advocacy and membership recruitment.

Currently, nearly 20 Fishery Friends groups support fisheries offices around the nation; the greater La Crosse Friends of the Upper Mississippi River Fishery Services was one of the first. The Friends of the Upper Mississippi River Fishery Services was established in 2001 to unite area volunteers in support of fishing and aquatic resources. Volunteers provide help to the La Crosse Fishery Resources Office (FRO), La Crosse Fish Health Center (FHC), and the Genoa National Fish Hatchery (NFH), all part of the Fish and Wildlife Service.

Since 1871, the Fisheries program of the Fish and Wildlife Service has played a vital role in conserving and managing the nation's aquatic resources. Today, the Fisheries program is a critical partner with other Fish and Wildlife Service programs, states, tribes, private organizations, and interested citizens.

"By establishing a national network of Fisheries program Friends groups, we can go a long way toward achieving our goals of healthy fish, healthy habitat, healthy economies, and healthy people," according to Assistant Director for Fisheries and Habitat Conservation Dr. Mamie Parker.

The Friends of the Upper Mississippi Fishery Services holds monthly meetings, hosts winter and spring fishing events for kids, provides volunteers for field activities, and advocates for fishery and aquatic resource issues.

Pam Thiel, La Crosse FRO

-USFWS

Ken Visger and "Friends in Action" pose for a photo during the 2005 Refuge Friends conference in Washington, D.C. Ken is a member of the "Friends of the Upper Mississippi Fishery Services" based out of the La Crosse, Wisconsin area.

Michigan Staff Review Lake Huron Double-Crested Cormorant Management

In February, Alpena FRO Project Leader Jerry McClain participated in a meeting hosted by the Michigan Department of Natural Resources' (DNR) Alpena Fisheries Research Station to review double-crested cormorant management activities in the Les Cheneaux Islands region of Northern Lake Huron in 2004. Consistent with terms of the Fish and Wildlife Service's 2003 Public Resource Depredation Order, the U.S. Department of Agriculture's Wildlife Services (WS) and Michigan DNR have initiated a program to control cormorant populations near Cedarville, where increasing cormorant populations have been linked to declines in yellow perch numbers. At the meeting, WS State Director Pete Butchko summarized the results of control efforts in 2004 and discussed possible next steps for areas of concern in Lake Huron.

The DNR discussed the Thunder Bay region of Lake Huron as a site for future cormorant management efforts because of its concerns about possible predation effects on stocked salmonids, lake whitefish, and smallmouth bass, as well as habitat concerns for some of the islands in this area.

Also at the meeting, Steve Kahl, Ed DeVries, and Jim Dastyk from Shiawassee National Wildlife Refuge (NWR) provided input on issues related to the islands portion of the Michigan Islands NWR in Thunder Bay. Discussion will continue between the agencies as further plans are developed.

Collaboration between federal, state and tribal agencies is essential for effective management of Great Lakes natural resources. Meetings to discuss concerns and evaluate management strategies are critical to maintain partnerships.

Jerry McClain, Alpena FRO

Aquatic Species Conservation and Management

La Crosse Staff Monitors the Health of Wolf River/Lake Winnebago Lake Sturgeon

In conjunction with the opening of Wisconsin's 2005 lake sturgeon spearing season on Lake Winneconne, Dave Wedan and Heidi Keuler from La Crosse FRO, Eric Leis from La Crosse FHC, and La Crosse District Refuge employee Tessa Hovland collected tissue, kidney, spleen, and blood samples from lake sturgeon.

The La Crosse FRO crew worked closely with a Wisconsin DNR fisheries crew at a state sturgeon spearing registration station on Lake Winnebago and the Wolf River, where DNR biologists closely monitor and regulate the spearing harvest. The 2005 spearing season lasted 12 days on Lake Winnebago and one day on the upriver lakes of Butte Des Mortes, Poygan, and Winneconne. Harvest totals were 893 on Lake Winnebago, seven on Butte Des Mortes, 222 on Poygan, and 116 on Winneconne, for a total of 1,238 fish. The largest sturgeon speared was taken from Lake Poygan and weighed in at over 165 pounds.

The Lake Winnebago/Wolf River system holds the largest remaining lake sturgeon population in the world. The La Crosse FHC is continuing long-term sturgeon diagnostic monitoring, and five years of sampling have shown no sign of any disease or virus present in Lake Winnebago/Wolf River System lake sturgeon. With continued monitoring, research, and management cooperation by the Wisconsin DNR, Fish and Wildlife Service, tribes, and partners such as the "Sturgeon for Tomorrow" group, the future for this ancient fish looks positive.
Dave Wedan, La Crosse FRO

-USFWS

Tessa Hovland (La Crosse District, Refuges) helps Eric Leis from the La Crosse FHC collect spleen and kidney samples from lake sturgeon. The La Crosse FHC along with partners monitor the health of the Lake Winnebago-Wolf River system population which provides a very popular sport fishery.

Genoa NFH Helps with Coaster Brook Trout Stocking and Gamete Collection on Isle Royale

For biologists Nick Starzl of Genoa NFH and Nikolas Grueneis of Iron River NFH, the trip to Isle Royale National Park last fall had dual purposes — to stock nearly 58,000 yearling coaster brook trout into the Siskiwit Bay area, and then to collect wild gametes to enhance the hatchery brood population.

The first phase of the operation began at midnight on September 28 as Starzl and Grueneis loaded young, three- to four-inch coasters into five portable tanks and headed for the National Park Service dock in Houghton, Michigan. On arrival at the dock, the crew of the Park Service *Ranger III* lifted the tanks off the trailers and positioned them aboard the vessel, and boat, crew, and biologists departed on a six-hour boat ride to Siskiwit Bay. When they arrived at Isle Royale, the crew assisted in releasing the fish at Hay Point and Center Point in Siskiwit Bay. After the stocking, Starzl continued on with the *Ranger III* and accompanied the emptied fish tank back to the mainland, while Grueneis returned to Isle Royale to start the gamete collection.

Gamete collection took place in the Big and Little Siskiwit rivers on Isle Royale. Several federal agencies worked in cooperation to collect a future wild brood lot of the Isle Royale Siskiwit Bay coaster brook trout population. Two consecutive crews spent a week and a half each on the island trying to cover the entire spawning run. The first crew, consisting of Glenn Miller from the Ashland FRO and Grueneis, set fyke nets in the Big and Little Siskiwit rivers and electrofished both rivers to collect spawning adults. They checked the nets every day, weather permitting, and identified, counted, and recorded all of the catch. They also weighed, measured, and marked all captured brook trout. All of the coaster brook trout that had the potential to spawn were kept in holding pens in the Big Siskiwit River.

Midway through the project, Genoa NFH Assistant Manager Roger Gordon and Ashland FRO Biologist Jonathan Pyatskowit joined the first crew on the island. The two crews checked all previously collected brook trout for ripe males and females. They collected a small amount of eggs and milt from the ripe fish and crossed them in one-to-one pairings, then released the contributing adults. As a result, eight pairs of coaster brook trout were successfully mated and their eggs delivered to the Genoa NFH,

where they will be raised and kept in isolation for 18 months. As these fish develop, they will undergo routine health inspections. If the fish pass all of the health inspections, they will be brought to the Iron River NFH and integrated into the brood stock program.

Once abundant thoughout the near shore waters of Lake Superior, the coaster brook trout is now relegated to a few populations. The first hatchery coaster brood lot was collected in 1995 from the rivers in the Siskiwit Bay area. This hatchery population was originally created to safe guard the valuable genetics of a unique native species of brook trout from possible extinction and as a resource for rehabilitation stocking in the Great Lakes and tributaries. This trip marks the fifth time federal agencies have gone to Siskiwit Bay to collect gametes to infuse wild genes into the current hatchery population.
Nikolas Grueneis, Iron River NFH

Fish and Wildlife Service Maps 2004 Stocking Trips of the *M/V Togue*

At the request of Fisheries Assistant Regional Director Gerry Jackson and Jordan River NFH Manager Rick Westerhof, Biologist Aaron Woldt of the Alpena FRO created a geographic information system-based map of lake trout stocking trips made by the *M/V Togue* in 2004. Based in Cheboygan, Michigan, the *Togue* is the Fish and Wildlife Service's offshore stocking vessel used to plant yearling lake trout in U.S. waters of lakes Huron and Michigan in support of interagency lake trout rehabilitation programs.

Woldt worked with Boat Captain Mike Perry to obtain coordinates for all waypoints and lake trout stocking locations used by the *M/V Togue*. He also worked with Jordan River NFH biologist Tim Smigielski to create a map showing *Togue* trip paths, waypoints, stocking locations, total miles traveled, and total number of lake trout stocked in lakes Huron and Michigan. In 2004, the *M/V Togue* traveled 965 miles in Lake Huron, stocking 1,280,090 yearling lake trout, and 1,662 miles in Lake Michigan, planting 1,792,827 yearling lake trout.

Woldt formatted a poster-size electronic version of his map and forwarded it to the Regional Office for printing. This map will be used by Region 3 personnel to educate the public and other Fish and Wildlife Service employees about *M/V Togue* operations, and will be displayed at the 2005 Upper Lakes meeting. Woldt and Smigielski prepared a presentation showing trip-by-trip stocking operations for use at outreach events.
Aaron Woldt, Alpena FRO

2004 lake trout stocking trips of the *M/V Togue*.

New Backup Power Supply Averts a Disaster

Thanks to a recently installed backup generator system and automated power transfer switch, Genoa NFH was able to avert a disaster after a fallen tree knocked out power to the station. When power was interrupted in the area and to both power companies that service Genoa, backup power was supplied from a 75-kilowatt generator. The station had the generator stored on site since 1999, but had not installed it because of a lack of maintenance funds. During construction of a sturgeon culture building last summer, money was furnished through the Fish and Wildlife Service's annual maintenance account to install the generator and an automatic transfer switch in case of power grid failure or power loss to the station. As a result of this investment, valuable strains of coaster brook trout broodstock and all of the spring coaster brook trout production fish were saved from water loss and asphyxiation after the power outage. Many thanks go to our fish hatchery supervisor, Todd Turner, for finding the needed funds to complete the project. Thanks also to Erin McFadden of our Regional Engineering Department and Genoa staff for making this backup system a working reality.
Doug Aloisi, Genoa NFH

Genoa National Fish Hatchery Hosts Annual Mussel Cage Build-Off

Genoa NFH held its fourth annual "mussel cage build-off" in February, marking the starting point of the station's annual recovery efforts for the Higgins' eye pearlymussel. The hatchery hosted volunteers from the Friends of the Upper Mississippi River Fisheries Services and natural resource professionals from Iowa. Volunteers assisted hatchery staff in constructing 36 mussel culture cages to be used as part of a comprehensive recovery effort for this endangered mussel.

The Higgins' eye pearlymussel is just one of the many freshwater mussel species that have experienced severe reductions in population and range in the United States in the past half century. Habitat alterations, poor land management practices, pollution, and invasive species have all contributed to freshwater mussels being recognized as one of the most endangered aquatic fauna in North America.

This project, which involves several federal agencies and four upper Midwest states, hopes to reverse the downward population spiral that this species has experienced through population augmentation and habitat identification/protection. This project is funded primarily through a U.S. Army Corps of Engineers recovery grant and Region 3 Fisheries dollars.

Tony Brady, Genoa NFH

-USFWS

An Iowa DNR employee assists the Genoa NFH staff by building mussel cages. Cooperation between partners is needed to build cages which are vital to the recovery effort of Higgins' eye pearlymussels.

Outta Here! Iron River NFH Distributes Trout Eggs

Iron River NFH sent lake trout and brook trout eggs everywhere last fall — to Jordan River NFH, Genoa NFH, and even to the Grand Portage Tribal Hatchery – as it continued its egg distribution program.

Genoa NFH Biologist Roger Gordon arrived on November 11 and 16 to collect green, fertilized Tobin Harbor coaster brook trout eggs after the staff at Iron River finished spawning. Green eggs have a 48-hour window for handling after fertilization. After this, they become very sensitive to any type of stress. Once eyed—approximately 35 days after spawning—the eggs may again be handled.

Once Gordon left for Genoa with his eggs, the remaining eggs were shipped as "eyed," after the good eggs were sorted from the bad eggs using a mechanical egg picker. Iron River ships eggs in coolers with special divider trays and ice to keep the eggs cool and moist, and sent additional eyed eggs to Genoa for future brood lots and production fish.

Iron River also shipped a total of 150,000 coaster brook trout eggs of various egg takes to Grand Portage Tribal Hatchery for its program. A shipment of 864,268 Superior Apostle Island strain lake trout eggs went traveling to Jordan River NFH to meet its fish production requests.

Angela Baran, Iron River NFH

Eggs are placed in specially designed containers for shipment to other facilities. They are wrapped in a cloth cover and placed into divider trays to keep them from getting crushed. These trays also have holes in them to allow water from melting ice in the top tray to drip through the lower trays keeping the eggs moist.

-USFWS photos

Northland College American Fisheries Society Student Subunit Teams Up with Ashland Fishery Resources Office

The newly formed Northland College American Fisheries Society Student Subunit and Ashland FRO volunteered the weekend of February 12th to help the Wisconsin DNR monitor the spearing harvest of lake sturgeon from Lake Winnebago. Northland students Lindsey Lesmeister, Brandon Kemp, Justin Spring, and Becca Schoon, and Ashland FRO biologist Glenn Miller, worked registration stations along with DNR personnel to register some of the 560 lake sturgeon tagged on the opening Saturday and 161 sturgeon registered on Sunday. During this annual event, more than 10,000 participants try to get lucky and spear a lake sturgeon. The season is based on either a 16-day season or a "harvest cap" system that was implemented in 1999. The spearing harvest allows biologists an opportunity to see a large number of sturgeon, increasing their knowledge of this ancient fish.

Along with assisting in the registration of the lake sturgeon, the volunteers also collected "black egg" from adult female sturgeon that would have spawned this spring. After collecting the individual sturgeon ovaries, the bags were labeled and brought back to the lab at the Wisconsin DNR headquarters in Oshkosh. That evening the volunteers, along with DNR biologists Ron Bruch and Joe Kurz, weighed the eggs from each ovary in the female, sub-sampled the eggs by weight and counted eggs in each sub-sample. Each sub-sample also had ten eggs measured to determine their average size. This fecundity study is the first to be done on the Lake Winnebago lake sturgeon in more than 40 years. Results will be published this year.

The 2005 season turned out to be longer than expected, lasting for 12 days. A total of 1,238 lake sturgeon were harvested: 560 males, 417 adult females, and 261 juvenile females. Cloudy water that limited the spearers' visibility was the main reason cited by the participants for a longer but limited harvest.

Glenn Miller, Ashland FRO

-USFWS

Northland College students along with Ashland FRO staff volunteered to help the Wisconsin DNR monitor the spearing harvest of lake sturgeon from Lake Winnebago.

Genoa National Fish Hatchery Receives Coaster Brook Trout Eggs

Genoa NFH received its second and third batches of coaster brook trout eggs from the Iron River NFH throughout December and January. Several spawns throughout the season are taken to enhance the genetic make up of the brook trout reared at the hatchery.

The brook trout produced at Genoa NFH are part of an ongoing Great Lakes multi-agency restoration effort involving the Fish and Wildlife Service, National Park Service, and the states of Wisconsin, Minnesota, and Michigan. The "coaster" strain of brook trout is endemic to the Great Lakes and many drainages along the Atlantic coast. The species is threatened because of over fishing, competition with invasive species, and habitat loss throughout its range.

Each year, Genoa NFH distributes thousands of brook trout to restore populations in and around areas such as Michigan's Pictured Rocks National Lake Shore and Grand Portage, Minnesota. Genoa NFH's 2005 production is scheduled to include approximately 30,000 stockable fish ranging in size from two to nine inches, and three backup brood lines for the Iron River NFH.

Nick Starzl, Genoa NFH

-USFWS

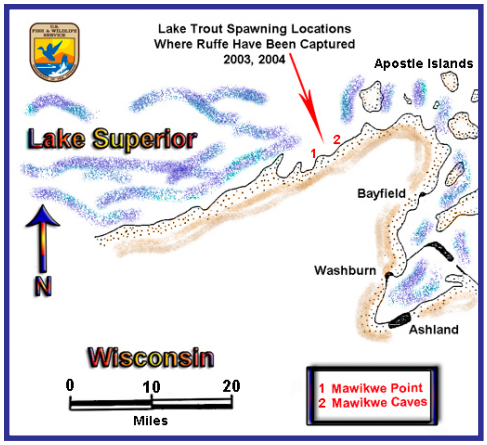
Coaster brook trout eggs are gently removed from a female and fertilized with milt from male fish. They will then be shipped to the Genoa NFH in support of multi-agency restoration efforts.

Aquatic Invasive Species

Diet Analysis Completed on Eurasian Ruffe Captured from Lake Trout Spawning Reefs

The Ashland FRO identified the stomach contents of 12 invasive Eurasian ruffe captured from lake trout spawning reefs in Western Lake Superior. One lake whitefish egg was found in a six-inch, age 3+ female, and five lake herring eggs were found in a 5.6-inch, age 3+ female. Both ruffe were captured in early November in a gill net off Mawikwe Point set by the Red Cliff Tribal Fisheries Department at a depth of 18 feet. No eggs were found in the other 10 captured ruffe. Of four lake trout spawning reefs sampled, 10 ruffe were captured from Mawikwe Point, and two ruffe were captured from Mawikwe Bay. The most abundant food items were scuds (amphipods), midge fly larvae (chironomids), and caddis fly larvae (trichoptera). In 2003, no eggs were found in the stomachs of nine captured ruffe, eight of which were also captured from Mawikwe Point.

This study was initiated in 2001 to assess the potential impact of ruffe on lake whitefish recruitment. Ruffe predation on whitefish eggs played a major role in the decline of a whitefish fishery in a Central European lake. In 2003, the study was expanded to include the potential impact on lake trout recruitment. No ruffe have been captured from lake whitefish spawning reefs since this study began; however, no nets were set on the whitefish reefs in 2004 due to unstable weather conditions.
Gary Czypinski, Ashland FRO



This map shows two lake trout spawning locations (Mawikwe Point and Mawikwe Caves) where invasive Eurasian ruffe have been captured. Biologists monitor invasive species and document any potential impacts they have on native species.

Students Learn About Destructive Impacts of Invasive Species

A hundred high school students in Crystal Falls, Michigan listened as Fish and Wildlife Service personnel from the Marquette Biological Station presented information on the devastating impacts invasive species have had in the Great Lakes. Live sea lampreys gave students a hands-on experience with this invasive, parasitic fish. Students also learned the importance of biodiversity in the aquatic community, the significant effects sea lampreys and other invasive species are having on the health of the aquatic ecosystem, and the economic impacts of invasives in the Great Lakes. The students also learned about rewarding career opportunities with the Fish and Wildlife Service.
John Weisser, Marquette Biological Station

Sea Lamprey Management Program Display Delights Duluth

The Sea Lamprey Management Program display traveled to Duluth, Minnesota in February for the 2005 Duluth Boat, Sports and Travel Show, marking the show's 39th continuous year of operation in the Duluth Entertainment Convention Center. The Duluth show is ranked the second most popular outdoor recreation show in Minnesota and draws people from Northern Minnesota, Northwest Wisconsin, Thunder Bay, Ontario, and the Upper Peninsula of Michigan. The sea lamprey display was again a real crowd pleaser and was well attended.
Terry Morse, Marquette Biological Station

-GLFC

Mike St. Ours, Marquette Biological Station, answers questions from concerned visitors at the Duluth Outdoor Show.

Public Use

Annual Mississippi River Ice Fishing Clinic Instructs Kids

La Crosse FRO staff and volunteers worked at the annual Ice Fishing Clinic sponsored by the Winona District of the Upper Mississippi River National Wildlife and Fish Refuge. The February 19 event took place on Lake Winona in front of the Lake Park Lodge in Winona, Minnesota. Seventy kids between the ages of six and 13 came from as far as Rochester, Minnesota and Viroqua, Wisconsin to participate in ice fishing, fish identification and minor regulations activities, and a safety ice pick building activity. Participants first learned how to safely ice fish and about the benefits of certain types of warm clothing, and viewed a video from the University of Manitoba on how to survive if you fall through the ice. Children were then split into groups with a group leader and went ice fishing for about an hour before heading in for lunch.

While inside the Lake Park Lodge, children were able to "ice fish" through a table for about 15 different species of cutout fish images. Children identified, measured, and decided whether the cutout fish could be legally kept. After lunch, the kids headed back outside to fish. Children had the opportunity to try fishing inside and outside of several different kinds of ice fishing shanties.

Although the fishing was slow, the day was a success and several of the children caught nice bluegills and black crappies. At the end of the day, prizes such as ice fishing poles and fishing tackle were raffled off. Each participant went home happy with a photo of themselves, sunglasses, key chains or other small prizes. This public outreach event was a great way for the Fish and Wildlife Service to give something back to the community in which they work and for the public to learn about the Service's role in protecting natural resources.
Heidi Keuler, La Crosse FRO

-USFWS

Jenny Lilla helps young anglers ice fish for the first time at the Annual Ice Fishing Clinic that was held on the Upper Mississippi River National Wildlife and Fish Refuge.

Alpena FRO Stays Warm During WinterFest

In February, biologists Susan Wells and Scott Koproski participated in the Sprinkler Lake Education Center's annual WinterFest, a day-long winter fun festival in Harrisville, Michigan, featuring interactive science displays, dog sled rides, crafts, and a petting zoo. The Alpena FRO sponsored a booth at the event with educational material and interactive fish puzzles. Approximately 700 children and adults visited the booth. The festival allowed Alpena FRO to fulfill one of the station's goals of distributing information to the general public about fish and wildlife resources, natural ecosystems, and programs of the Fish and Wildlife Service.
Susan Wells, Alpena FRO

Fish and Wildlife Service Booth Stands Out at the La Crosse Sports Show

Flying fish brought diverse crowds in flocks to the Fish and Wildlife Service's booth at the 28th Annual La Crosse Boat, Sports and Travel Show. More than 3,000 visitors saw the Fish and Wildlife Service's booth featuring displays from the Genoa NFH, La Crosse FHC, La Crosse FRO, La Crosse District of the Upper Mississippi River National Wildlife and Fish Refuge, and the newly formed Friends of the Upper Mississippi Fishery Services. Fish mounts hung from the ceiling and appeared to "fly" above the heads of onlookers, and a monitor showed footage of the "flying" (jumping) invasive silver carp.

Children of all ages were drawn to an aquarium full of live juvenile lake sturgeon, walleye, bluegill, perch, and several other species, as well as animal pelts and mounted ducks on a stick. A brand new freshwater mussel display included specimens of the federally endangered Higgins' eye pearlymussel and winged mapleleaf mussel. The refuge's Friends group sponsored a photo contest in which visitors could vote for entries from photographers from the La Crosse area. Area citizens discussed such issues as the Mississippi River draw-down, control of aquatic invasive species such as Asian carp, freshwater mussel propagation, bird and mammal viewing opportunities, waterfowl issues, and native fish restoration. Several members of the Fisheries Friends group volunteered their time to speak with the public about issues of concern and about being a member of the Friends group.
Scott Yess, La Crosse FRO

Cooperation with Native Americans

Regional and Washington Offices Recognize Menominee Tribal Biologist

For his efforts to restore lake sturgeon on the Menominee Reservation, Don Reiter, fish and wildlife biologist for the Menominee Indian Tribe of Wisconsin, received special recognition at the opening ceremony for the Menominee Tribe's first sturgeon fishery. The opening of the sturgeon fishery on February 5 marked the first time in more than 50 years that Menominee people could once again harvest lake sturgeon from their waters. Ann Runstrom, fishery biologist from the La Crosse FRO, presented Reiter an award signed by Regional Director Robyn Thorson and Hannibal Bolton, chief of Fish and Wildlife Management and Habitat Restoration in the national Division of Fisheries and Habitat Conservation.

Reiter's skill at working cooperatively with individuals of varying interests helped to make the dream of restored sturgeon populations on the reservation a reality. The lake sturgeon population in Legend Lake was established through the efforts of a team of biologists from the Menominee Tribe, Wisconsin DNR, Fish and Wildlife Service, University of Wisconsin Sea Grant Institute, and the U.S. Geological Survey. Reiter's willingness and friendly nature made it easy for this diverse group to put aside differences and work toward the good of the resource and the people. The efforts of this group working together made it possible to reach the goal of allowing tribal harvest 15 years earlier than anticipated.

Ann Runstrom, La Crosse FRO

-Menominee Nation News

Ann Runstrom presents Fish and Wildlife Biologist Don Reiter , from the Menominee Indian Tribe of Wisconsin, with a special recognition for his efforts to restore lake sturgeon on the Menominee Reservation.

Menominee Tribe Harvests Sturgeon for First Time in More than 50 Years

A dream of several tribal elders came true on February 5 when the Menominee Indian Tribe of Wisconsin opened its first regulated sturgeon fishery on Legend Lake. During the past decade, La Crosse FRO biologists have been working with the Menominee Tribe, Wisconsin DNR, and Genoa NFH to restore lake sturgeon on the reservation. This multi-agency team reviewed the assessment data from 2003 and 2004 and supported a proposal to open a limited fishery to tribal members in the winter and spring of 2005, several years earlier than anticipated. The winter season was open from February 5-20 and a spring season will be open April 9-24. Regulations include restricting gear to spears or hook and line, minimum harvest size of 36 inches, and no use of artificial lights during the winter season. Participants were required to apply for a sturgeon tag with one tag issued per person and a maximum of 100 tags issued. Those who harvest fish are required to register with the Menominee Department of Conservation.

The Menominee people once relied heavily on lake sturgeon as an important food source, and the importance of the lake sturgeon as a Menominee totem remains today. Lake sturgeon were extirpated from the Menominee Indian Reservation in Northeast Wisconsin during the 1950s, and sturgeon have been absent from the diet of Menominee Tribal members since that time, with the exception of a small number of ceremonial fish provided to the tribe by the Wisconsin DNR each year since 1995.

The opening of the fishery is a result of the willingness of individuals to work together for the benefit of the resource and the people. The multi-agency team began stocking Legend Lake in 1994. Annual stocking rates and size of fish varied with availability, and 56,000 lake sturgeon have been stocked through 2004. Harvest success during the winter fishery was low (total catch=0), but participants began to learn the habits of the fish and best use of their gear. In hopes of spreading knowledge, Menominee Department of Conservation searched unsuccessfully for living elders that had experience harvesting lake sturgeon. Hopes are high that the open water season in April will be more productive.

Ann Runstrom, La Crosse FRO

-USFWS by Duane Raver

Lake Sturgeon

Alpena Staff Make Experimental Gill Net Repairs

Biologists Scott Koproski and Adam Kowalski from the Alpena FRO repaired experimental assessment gill nets used during the 2004 fishery independent lake whitefish survey in 1836 Treaty waters. The experimental gill nets do not have lead weights secured to the net frame as standard bottom-set gill nets do, and have a three foot dropper line from the bottom of the net frame tied to a continuous piece of lead core line. The dropper lines are tied every 18 inches between the frame and the lead core line. This results in a "mesh free" area at the bottom three feet of the water column which helps reduce lake trout bycatch, since trout typically associate themselves with the lake bottom.

During the 2004 fishery independent lake whitefish surveys, biologists fished the standard and experimental assessment nets simultaneously. Preliminary results indicate that lake whitefish catch per unit of efforts (CPEs) increased slightly using the experimental assessment nets, and lake trout CPEs dropped significantly. Another gang of experimental assessment nets will be built prior to the 2005 fishery independent lake whitefish survey and fished to further compare catch rates in each net type. Maintenance of gill nets and other equipment is performed annually to ensure assessment activities can be completed.

Scott Koproski, Alpena FRO

-USFWS photo by Aaron Woldt

Gill nets are used for fishery surveys for lake whitefish. Alpena FRO biologists Scott Koproski and Adam Kowalski began repairing experimental assessment gill nets which will be used during the 2005 fishery independent lake whitefish survey in 1836 Treaty waters.

Bad River Natural Resources Department Holds Open House

The Bad River Natural Resources Department hosted an open house in January to discuss environmental projects, program areas, and work being done on the reservation by the department and with area partners. Ashland FRO presented posters describing work the Fish and Wildlife Service conducts to monitor lake sturgeon populations in the Bad River. One poster described assessment activities that characterize the lake sturgeon spawning population, including capture methods, population estimates, aging information, and tagging. The second poster described the collaborative effort between the FRO, U.S. Geological Survey, and the tribe to characterize juvenile nursery habitat in the lower 4.4 miles of the river through the use of sonar, trawl data, aerial photography, and geographic information systems. Agency staff answered questions regarding the display and followed up on a request for additional information.

Jonathan Pyatskowit, Ashland FRO

Joint Fishery Assessment Steering Committee Meets at the Great Lakes Indian Fish & Wildlife Commission

Frank Stone from the Ashland FRO participated in an annual meeting of the Joint Fishery Assessment Steering Committee held at the Great Lakes Indian Fish & Wildlife Commission. Representatives from the commission, Wisconsin DNR, Bureau of Indian Affairs, and Red Cliff and Bad River Indian Reservations discussed inland walleye population surveys from 2004 that were funded in part by the steering committee. Assessment data collected from spring, summer, and fall surveys were presented, as well as 2005 assignments and the projected 2005 budget.

The data collected from the 416 surveys reflect the lake's recruitment values. These values are combined to determine the number of adult walleye that can be safely harvested.

Frank Stone, Ashland FRO

-USFWS

Walleye sampling in Northern Wisconsin is a critical component to estimate adult populations, determine recruitment, and establish harvest levels.

Leadership in Science and Technology

Sturgeon Tagging Database in Progress

Alpena FRO Biologist Adam Kowalski led efforts with Fish and Wildlife Service personnel to finalize the structure for a Great Lakes-wide lake sturgeon tagging database. In 2004, Kowalski received a grant for $11,000 from the Great Lakes Fishery Trust to construct and maintain a database to house information such as tag type, number and location, and tagger contact information. Lake sturgeon are tagged by several resource agencies and universities for research studies and evaluations throughout the Great Lakes. Once the database is finalized and posted on the Internet, users will be able to access it to query contact information for pit tag and external tag numbers for any tagged lake sturgeon.

To date, all existing Fish and Wildlife Service data has been entered into the database. We are building a test Web site for all other agency and university partners to view before sending out data submission requests. The test Web site will be working soon. This database will improve the information-sharing process between agencies and the general public who may encounter tagged lake sturgeon. The multi-partner nature of this work is consistent with the Fish and Wildlife Service's goal of establishing and maintaining open, interactive communication with its partner agencies.

Adam Kowalski, Alpena FRO

- USFWS photo by Tracy Hill

The jaw tag in this lake sturgeon allows biologists to quickly identify this particular fish. Alpena FRO Biologist Adam Kowalski has organized efforts to finalize the structure of a Great Lakes-wide lake sturgeon tagging database which is funded by a grant from the Great Lakes Fishery Trust.

Getting a Closer Look at What's Going Through a Fish's Head

From mid-December through February, all production lake trout at Iron River NFH get individual attention. A crew of seven dedicated employees handles about 1.2 million fish, effortlessly marking them using a year-specific fin clip. A select group of lake trout received a coded wire tag in addition to the clip. After tagging, a sample is obtained from every lake trout lot to determine accurate tag placement by removing the heads and having them x- rayed by a veterinarian—giving biologists a first-hand look at what, literally, is going on inside the fish's head. This year, biologists had 120,000 fish tagged for a paired strain evaluation in Lake Huron. Julien's Reef in Lake Michigan will receive 60,000 and 90,000 tagged fish will be stocked in the tribal waters of Lake Superior. The small wire tag contains information as to its time and place of origin that will enable biologists to gather information for Great Lakes lake trout rehabilitation.

Steve Redman, Iron River NFH

Ashland FRO Biologist Participates in Wisconsin Wetland Association Science Forum

The Wisconsin Wetland Association held its 10th annual Wetland Science Forum in Green Bay in January. The theme of this year's forum was coastal wetlands, in recognition of the recent attention the Great Lakes have received because of the Council of Great Lakes Governors priorities for restoration and protection of the system. Ted Koehler from the Ashland FRO gave a presentation on the Fish and Wildlife Service's Great Lakes Coastal Program, discussing the history of the Great Lakes Coastal program, partnership priorities and examples, the program's vision, and how to apply to the program.

Other forum activities included Dr. Roger Kuhns' presentation on the geologic history of Door County. Twenty-five exhibitors from local industry, restoration companies, consultants, nature groups, government agencies and tribes filled the exhibit hall with information. The conference was a great success with hundreds in attendance taking advantage of dozens of informative presentations and two well-planned field trips.

Ted Koehler, Ashland FRO

Aquatic Habitat Conservation and Management

Acoustics Can Describe Sturgeon Habitat

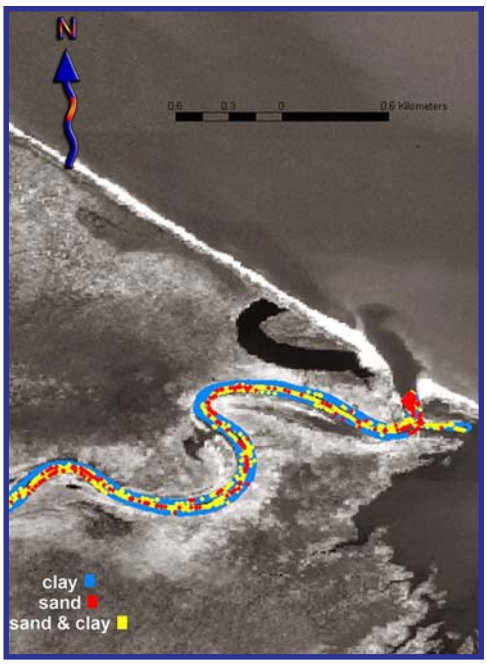
A multi-agency project to describe, quantify, and geo-reference aquatic habitat in tributary and nearshore waters of Lake Superior and integrate associated sturgeon capture locations is near completion. This project is another step toward developing quantifiable objectives for lake sturgeon in Lake Superior based on available and suitable habitat. The project will also help address our lack of knowledge of juvenile sturgeon habitat requirements, which is critical to rehabilitation efforts.

A Fish and Wildlife Restoration Act grant helped purchase a transducer capable of operating in shallow water. Using hydro acoustics, a U.S. Geological Survey crew mapped habitat in the Lower Bad River and off the mouth in Lake Superior. In Lake Superior, 78 percent of the substrate surveyed was a sand/silt mixture and 15 percent was sand. In the river, substrate was predominantly sand, followed by sand/clay mix and clay. Geo-referenced juvenile sturgeon capture data collected by the Ashland FRO in 2001 was integrated with the substrate mapping information by the Bad River Band to show the type of habitat used by sturgeon. Higher resolution fish capture information is needed to match the habitat data and describe critical juvenile sturgeon habitat. The cooperators recommend using telemetry or habitat stratified trawl surveys to define critical fish habitat. The final report was completed in March.

Henry Quinlan, Ashland FRO

-USFWS

This is a juvenile lake sturgeon. A multi-agency project is underway to describe, quantify, and geo-reference aquatic habitat in tributary and nearshore waters of Lake Superior. The data will be integrated with sturgeon capture locations.



-U.S. Geological Survey

This image displays the substrate composition of the Lower Bad River. Geo-referenced juvenile lake sturgeon data is being integrated into the mapping to show the type of habitat used by native lake sturgeon.

Partners Program at the Alpena Fishery Resources Office ranks 2005 Projects

In February, Alpena FRO personnel ranked Partners for Fish and Wildlife projects for the 2005 field season. Projects included watershed and wetland restoration efforts spanning six watersheds, including road crossing restoration, large woody debris placement (in lake and riverine ecosystems), and restoration of erosion sites; habitat improvement for endangered species, and reducing the impact of invasive Eurasian watermilfoil. Wetland restoration projects are located in seven counties in Northern Michigan for a total of 115 acres. The Alpena FRO successfully funded an estimated $150,000 worth of projects for the 2005 field season. All projects have a minimum of a 1:1 federal to partner money match.

Heather Enterline, Alpena FRO

-USFWS photo by Heather Enterline

Alpena FRO personnel have their Parters for Fish and Wildlife projects ranked for the 2005 field season. Projects include watershed and wetland restoration projects, several working with improving habitat for endangered species.

Workforce Management

La Crosse FRO Recognizes Volunteers

The La Crosse FRO and the La Crosse District of the Upper Mississippi River National Wildlife and Fish Refuge held their annual volunteer banquet, honoring more than 20 individuals who contributed their time to station activities.

In fiscal year 2004, 20 fishery volunteers contributed over 800 hours to the La Crosse FRO, assisting in lake sturgeon netting and tagging, endangered mussel propagation, invasive species monitoring, fish collections for the wild fish health survey, and several general fishery surveys. The La Crosse FRO would not be able to function like they do without this help. We recognized Pete Schaettle of La Crosse as the 2004 Volunteer of the Year. Pete has volunteered for many years and has assisted on almost every type of project the office is involved in. He is a huge asset to our program.

La Crosse FRO also would like to recognize Don Schroeder. Don holds a record for the most hours volunteered with the La Crosse FRO—more than 1,200. With great enthusiasm and energy, Don assists with native mussel projects, lake sturgeon netting, fishery surveys, and woodshop work.

This year's banquet theme was "Quiz Bowl" and everyone had to guess facts about the fish, bird, and amphibian species on the table in front of them. Barbequed ribs and fish were served and expert falconer Bob Anderson discussed the history of prairie falcon reestablishment in the Midwest.

Thank you volunteers!

Heidi Keuler, La Crosse FRO

-USFWS

Scott Yess presents Pete Schaettle with the 2004 "Volunteer of the Year" award for his assistance in activities of the La Crosse FRO.

Job Shadowing Allows Students an Opportunity to Learn about Careers in Fisheries

Two students from Alpena, Michigan shadowed at the Alpena FRO. Biologist Anjanette Bowen provided an overview of Fish and Wildlife Service programs, job opportunities, and offices located in Michigan. Bowen also provided information on station activities to determine the movements and habitat preferences of native lake sturgeon in the St. Clair and Detroit Rivers, and activities to monitor and control aquatic invasive species in Lake Huron and the St. Marys River.

Biologist Heather Enterline provided information on station activities related to habitat and ecosystem health, including efforts to improve fish passage and decrease siltation of streams at road stream crossings, and improving fish and wildlife habitat in aquatic areas.

Biologists Scott Koproski and Adam Kowalski introduced the students to lab techniques commonly used by the station including fish ageing techniques, coded-wire tag (CWT) recovery, and net building. They also demonstrated fish ageing with two different structures (scales and otoliths) enhanced for ageing using Protech computer software. They showed how to remove and read a CWT, which is about the size of a pencil lead and is used to mark study groups of hatchery reared lake trout to determine their movements following release. CWT recovery is very important to the lake trout rehabilitation program in Lake Huron. Koproski and Kowalski also provided a demonstration of gill net construction and repair. Gillnets are a main staple sampling gear for lake trout, aquatic invasive species, and treaty fishery studies of lake whitefish.

Anjanette Bowen, Alpena FRO

Genoa National Fish Hatchery Partners to Increase Workforce Diversity

Genoa NFH recently began outreach efforts aimed at participating as a worksite location in the American Fisheries Society Hutton Junior Fisheries Biology Program, a summer mentoring and scholarship program that encourages interest in the fisheries science career by groups currently under-represented in this field. Successful applicants will enjoy hands-on fishery experience for eight weeks this summer and a $3,000 scholarship to encourage post-high school education. Contacts were made with biology teachers at two local high schools, and brochures and posters were provided to the schools.

Doug Aloisi, Genoa NFH

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Questions or comments concerning ***Fish Lines*** can be addressed to Dave Radloff, 612/713-5158 or email at david_radloff@fws.gov

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Windows in time

A Glimpse into our Proud Past

A wagon train is on its way to Yellowstone National Park to spawn cutthroat. The small figure on the horse at the left is supposed to be son Edward Booth. Mrs. Booth and daughter Katharine are in the second vehicle with people. D.C. Booth may be there too. (circa 1909)

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