



U.S. Fish & Wildlife Service

Fish Lines

Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems



July 2003
Vol. 1 No.5

Iron River National Fish Hatchery; Iron River, Wisconsin
(See the “*Station Spotlight*” on Page 5)



-USFWS

Aerial View of the Iron River National Fish Hatchery; Iron River, Wisconsin

Click here for other issues of “Fish Lines”



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

Conserving America's Fisheries

Fisheries Program

Vision for the Future



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.

Strategic Plan Vision 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. 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.

4. 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.

5. 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.

6. 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.

7. 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.

Inside this Issue

Great Lakes - Big Rivers Region Fisheries Field Offices (Page 4)



- National Fish Hatcheries
 - Sea Lamprey Control Stations
 - Fishery Resources Offices
 - Fish Health Center
 - Fishery Coordination Offices
- (Page 4)

Great Lakes - Big Rivers Regional Fisheries Program (Page 5)



Station Spotlight
Iron River National
Fish Hatchery
(Page 5)

Partnerships and Accountability (Page 6)



Columbia Fishery Resources
Office Educates Missouri
Teachers About Large River
Trawling
(Page 6)

Aquatic Species Conservation and Management Page 10



Invasive Fish Cross Paths
in Illinois Waterway
(Page 10)

Public Use (Page 14)



Brown Trout Festival &
Kids Fishing Derby
(Page 14)

Cooperation with Native Americans Page 16



La Crosse Fishery Resources
Office Assists Prairie Island
Indian Community with Aquatic
Vegetation Sampling
(Page 16)

Leadership in Science and Technology (Page 18)



Ruffe Population Reduction
Assists Lake Sturgeon
Restoration
(Page 18)

Aquatic Habitat Conservation and Management (Page 19)



White Earth Fish Passage
Project for Lake Sturgeon
Completed
(Page 19)

Workforce Management (Page 20)



Student Programs are Part of
Workforce Management at
Jordan River National Fish
Hatchery
(Page 20)

Great Lakes - Big River Fisheries Field Offices (Page 21)



Office contacts for the sixteen U.S. Fish and Wildlife
Service Fisheries Field Offices for the States of
Illinois, Indiana, Iowa, Michigan, Minnesota,
Missouri, Ohio, and Wisconsin
(Page 21)

Click here to visit our Fisheries Web Site

Great Lakes - Big Rivers Region Fisheries Field Offices

National Fish Hatcheries

National Fish Hatcheries develop and maintain brood stocks of selected fish strains with our primary focus on native species such as lake trout, pallid sturgeon, lake sturgeon and brook trout. Hatcheries also provide technical assistance and sources of fish and eggs to cooperating agencies, provide fish and eggs for research, stock fish and eggs as part of native fish restoration programs, stock fish in fulfillment of federal mitigation obligations and assist with restoration of native mussels.

Sea Lamprey Control Stations

Sea Lamprey Control Stations assess and control sea lamprey populations throughout the Great Lakes. This program is supported through funding from the State Department and administered through the Great Lakes Fishery Commission.

Fishery Resources Offices

Fishery Resources Offices perform key monitoring and control activities related to invasive aquatic species; survey and evaluate native fish stocks and aquatic habitats to identify restoration 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 Private Lands and the Great Lakes Coastal Programs; provide coordination and technical assistance toward the management of interjurisdictional fisheries; maintain and operate several key interagency databases; provide technical assistance to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and re-licensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments and treaty authorities.

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.

Fishery Coordination Offices

Fishery Coordination Offices work with Canadian and state natural resource agencies, county, local and tribal governments and other public and private organizations to provide crucial facilitation and inter-agency coordination functions affecting the management of native fishes and aquatic habitats.

Great Lakes - Big Rivers Region Fisheries Field Offices



Great Lakes - Big Rivers Regional Fisheries Program

Station Spotlight - Iron River National Fish Hatchery

The Iron River National Fish Hatchery (NFH) is located in beautiful northern Wisconsin a few miles from Lake Superior near the town of Iron River. It is one of 69 fish hatcheries operated by the U.S. Fish and Wildlife Service. Iron River NFH was established in 1979 to produce lake trout for interagency restoration programs in the upper Great Lakes and to serve as a lake trout brood stock facility.

History of Lake Trout Rehabilitation in the Upper Great Lakes

Originally, lake trout, brook trout, whitefish, and several other species were very abundant and supported major commercial and sport fisheries in the Great Lakes. These resources collapsed in the late 1940s and early 1950s due to the invasion of the parasitic sea lamprey, over-fishing, and habitat destruction.

The United States and Canada negotiated and ratified the 1955 Convention on Great Lakes Fisheries and this led to the establishment of international programs for the protection and restoration of Great Lakes fisheries. For lake trout, the restoration effort includes four major components; sea lamprey control, regulation of the harvest of lake trout, research on lake trout and other Great lakes fishes and the establishment of hatcheries like the Iron River facility to produce fish for stocking.



-USFWS

A crew of 10 temporary workers (finclippers) mark about 1.4 million fish prior to stocking. For some fish, they use a machine to insert a tiny coded wire tag in the snout (shown above).

Station Operations

The mission of the Iron River NFH is to support interagency fish community objectives for the Great Lakes that lead to a healthy ecosystem and benefit society economically and socially.



-USFWS

Staff from Iron River National Fish Hatchery

Left to right: Steve Redman, Dale Bast, Nikolas Grueneis, Angela Baran, Laurie Gucinski, Denise Johnston, John Johnston; Absent - John Anttila

This fish hatchery produces approximately 1.4 million lake trout annually. In addition, about 100,000 brook trout are stocked in Lake Superior waters where stocks are depleted. About 7,500 lake trout adults (5 strains) and 1,300 brook trout adults (2 strains) are held in the brood stock facility to provide 4 million and 500,000 eggs respectively for conservation of these species.



-USFWS

A brook trout's eggs are gently removed by spawning. Native brook trout are raised at the Iron River NFH to restore depleted populations in Lake Superior.

Visitors are welcome at the hatchery every day from 7:30 a.m. to dusk. For detailed information or to reserve a tour, please contact the hatchery at: **(715) 372-8510**

Partnerships and Accountability

Lake Trout Benefit From United States and Canadian Effort to Combat Sea Lampreys in the St. Marys River

In July, Sea Lamprey Control personnel from the Fish and Wildlife Service and Department of Fisheries and Oceans, Canada joined forces to apply lampricide to nearly 240 acres of the St. Marys River (River) known to be densely populated with sea lamprey larvae. The combined effort killed close to 7,000 sea lampreys destined to leave the River this fall and parasitize fish, mostly salmon and trout, in Lake Huron.

This effort is a continuation of an Integrated Management Plan for Sea Lampreys in the River, started in 1997. This effort also includes annual introduction of sterile males and enhanced trapping of spawning-phase migrants. As a result of this continuous effort, the sea lamprey-induced wounding rate on lake trout in Lake Huron has dropped significantly since year 2000. Recent information released by the Michigan Department of Natural Resources (DNR) indicates that the bi-national effort is showing positive results. During their spring assessment, the DNR documented another year of historic low levels of lamprey predation on lake trout in Lake Huron. The Fish and Wildlife Service and Department of Fisheries and Oceans, Canada deliver an integrated program of sea lamprey management in the Great Lakes as contracted agents of the Great Lakes Fishery Commission.

Terry Morse, Marquette Biological Station

St. Louis News Staff cover Sturgeon Trawling, the Big Muddy Refuge, and Floodplain Development

St. Louis Post-Dispatch reporter Sara Shipley and photographer Teak Phillips spent the day out on the Missouri River with Fish & Wildlife Service staff to learn more about floodplain development. Rick Hansen of the Columbia, Missouri Ecological Services Office has been working with Sara on a series on floodplain development in the St. Louis area. A fabulous example of the alternative to extensive floodplain development is the Big Muddy National Fish and Wildlife Refuge (NFWR). Tom Bell and Tim Haller of the Big Muddy NFWR supplied a boat and their expertise on the Big Muddy Refuge, while Joanne Grady, Columbia Fishery Resources Office (FRO), was onboard to answer questions about pallid sturgeon and other native fish populations. Three other Columbia FRO staff (Wyatt Doyle, Andy Starostka, and Greg Snellen) were onboard our stern trawling vessel sampling for sturgeon. Both Sara and Teak had the opportunity to participate in trawl sampling and hold young shovelnose sturgeons in their hands. Mark Drobish of the U.S. Army Corps of Engineers, Omaha District, was onboard the trawling vessel for the day as part of our long-term pallid sturgeon monitoring partnership. The floodplain series can be found online at: <http://www.stltoday.com/stltoday/news/special/flood93.nsf/front?openview&count=2000>

Joanne Grady, Columbia FRO

Columbia Fishery Resources Office Educates Missouri Teachers About Large River Trawling

Columbia Fishery Resources Office (FRO) participated in an event coordinated by Missouri Department of Conservation (MDC) which brought Missouri's public school teachers in contact with the Missouri River (River). MDC shuttled by boat over 100 teachers through various stations along 15 miles of the River. The educators learned about various interests on the River including Army Corps of Engineers functions and ecology of the River's fish, amphibian and avian communities.



-USFWS

Wyatt Doyle, Columbia FRO, shows teachers adult shovelnose sturgeon collected in a trawl sample in the Missouri River.

Columbia FRO participated in this event by giving a hands-on demonstration of trawling procedures used to collect benthic fishes and to capture the endangered pallid sturgeon. Columbia FRO trawled for fish along a sand bar directly in front of one station as MDC biologists talked about the various species of fish in the River as well as the different gears used to collect them. Our trawl net was able to capture numerous species of fish as well as various sizes of

shovelnose sturgeon to show the group first hand what these fish looked and felt like. Our biologists, Wyatt Doyle and Andy Starostka, explained to the teachers the biology of the various fish and showed examples of the more common shovelnose compared to relatively rare hybrid pallid/shovelnose sturgeon cross which was collected in one of the samples. This was an exciting demonstration for the teachers and gave a rare opportunity to combine classroom knowledge with hands on experience for teachers to understand Missouri River resources.

Wyatt Doyle, Columbia FRO

Parry Sound Strain Brood Stock Planning

Alpena Fishery Resources Office (FRO) Project Leader Jerry McClain is leading the Fish and Wildlife Service's efforts with Canada to finalize plans for development of a Parry Sound strain lake trout brood stock for use in U.S. waters of Lake Huron. The Parry Sound strain is one of two remnant stocks of Lake Huron lake trout that inhabit Ontario waters of Georgian Bay. This native strain has been instrumental in restoration of wild populations of lake trout in the Parry Sound region of Georgian Bay and is a recommended strain for the lakewide rehabilitation plan for Lake Huron. McClain has been working with Ontario Ministry of Natural Resources (OMNR) biologists to develop a strategy that would enable the Fish and Wildlife Service to create a Parry Sound strain at Hiawatha Forest National Fish Hatchery (NFH). Issues that have slowed the effort include restrictions on importing gametes or fish from Canada that have not been certified as disease free and public resistance from

Canadian citizens to lethal sampling of the wild Parry Sound stock to conduct fish health certification. Recent genetic analysis of Parry Sound brood stock being held in the Ontario hatchery system resulted in the recommendation that they go back to the wild and develop a new line of brood stock of this strain for their rehabilitation program. Ontario has also developed a quarantine facility that will enable them to hold fertilized eggs collected from wild fish and hold them long enough to complete the required fish health screening. If certified as disease free, the fish can be transferred to brood stock hatcheries in Ontario and Michigan for use in the U.S. rehabilitation effort. Additional participants included OMNR management, hatchery, and fish health biologists, as well as Curt Friez and Crystal LeGault from the Pendills Creek/Hiawatha Forest NFH in Michigan and Rick Nelson from the La Crosse, Wisconsin Fish Health Center. Development of a brood stock strain from one of only two remnant Lake Huron stocks should facilitate efforts of the Fish and Wildlife Service's National Fish Hatchery System to produce the best hatchery product as a key component of the lake trout rehabilitation effort in Lake Huron. Stocking the Parry Sound strain in Georgian Bay has led to reestablishment of a self-sustaining population in those waters.

Jerry McClain, Alpena FRO



-USFWS

Jerry McClain holds a Parry Sound strain of Lake Trout. Propagation of this strain in the U. S. is considered a key component to the lake trout rehabilitation effort in Lake Huron.

Thunder Bay River Working Committee Meeting

Tracy Hill, Alpena Fishery Resources Office (FRO), participated in a Federal Energy Regulatory Commission (FERC) Working Committee meeting for Thunder Bay Power (Working Committee). The Working Committee was created to assist Thunder Bay Power with its requirements under the terms of their FERC license. Dr. Hill is the Fish and Wildlife Service representative on the Working Committee. During the meeting, progress on 2003 field activities was discussed. Plans for fish passage were also discussed. The development of a plan for fish passage will be the focus of the next meeting planned for August 26 in Alpena, Michigan. Plans for expansion of a fishing pier below the 9th Street Dam were also finalized. The Working Committee is seeking assistance from the Service to develop grants for funding future projects. The meeting was attended by member representatives from Michigan Department of Natural Resources, Thunder Bay Power and the Fish and Wildlife Service. In addition, representatives from Thunder Bay River Restoration Committee,

Hubbard Lake Sportsmen and Development Association, Northeast Michigan Council of Governments, also participated. Fish and Wildlife Service involvement in this initiative provides an opportunity to minimize the impacts of habitat alteration on fish and other aquatic species from the hydropower facilities.

Tracy Hill, Alpena FRO



-USFWS

The Federal Energy Regulatory Commission (FERC) Working Committee for Thunder Bay Power is planning a fish passage project for this dam on the Thunder Bay River in Michigan.

Service and Stakeholders Begin Recovery Plan for Endangered Beetle

Staff from the Fish and Wildlife Service's Marquette Biological Station participated in the initial endangered species recovery meeting for the Hungerford's crawling water beetle (*Brychius hungerfordi*), a federally-listed endangered species since 1994, held at the University of Michigan Biological Station in Pellston, Michigan on July 28. Personnel from the Fish and Wildlife Service's East Lansing Field Office (Ecological Services) hosted the meeting to encourage stakeholders to share information about the beetle and to present their interests for consideration during the recovery plan process. The sea lamprey management program

continues to work closely with partners to maintain control of sea lamprey populations in tributaries of the Great Lakes to protect the fishery and related economic activities in the basin (an estimated annual benefit of \$4 billion/year to the region) and to comply with the Endangered Species Act of 1973. A total of 21 individuals attended the meeting and represented 4 federal and state agencies, 5 universities, and 3 conservation organizations from the United States and Canada. Participants discussed the current status of the species, research needs and priorities, threats, and proposed recovery objectives and actions. The rare Hungerford's crawling water beetle (Hungerford's) has been found in very few streams (and sites within streams) in the United States and Canada (4 streams in Michigan and 1 stream in Ontario).

Since the 1960s, larval sea lampreys and the Hungerford's were known to co-exist in only two streams, both streams were treated with lampricides, and the beetle still exists in the streams today. Since 1994, lampricide treatments have not occurred in any section of stream known to contain the Hungerford's because the streams did not warrant treatment. Since the Carp Lake River is being projected for treatment during 2004 and the Hungerford's is known to exist in the proposed action area, a Section 7 Biological Evaluation Review will be completed with the East Lansing Field Office to determine the effect of the proposed action on the Hungerford's. Only proposed actions that are not likely to adversely affect the species will be approved.

Although most species of beetles are tolerant to lampricides, toxicity tests have not been

conducted on the Hungerford's. To answer that question, personnel at the United States Geological Survey Upper Midwest Environmental Sciences Center have scheduled tests on a surrogate species (*Peltodytes* species, Family Haliplidae) to determine the concentrations of lampricides that kill larval sea lampreys and cause no mortality to the surrogate (larval and adult stages) for the Hungerford's during October 2003.

The Fish and Wildlife Service delivers a program of integrated sea lamprey control in the U.S. waters of the Great Lakes as a contracted agent of the Great Lakes Fishery Commission.

John Weisser, Marquette Biological Station

Lake Herring Restoration Workshop Attended

The Great Lakes Fishery Commission sponsored a workshop July 9-10 in Ann Arbor, Michigan to discuss the status of lake herring in the Great Lakes and its potential for restoration. Scientists and managers from state, tribal, and federal agencies presented information on the status, biology, and life history of lake herring. Discussion groups were formed to develop opinions on impediments to restoration and the required research and management actions needed to improve our knowledge of the restoration potential.

Chuck Bronte, Green Bay Fishery Resources Office (FRO), attended the workshop as the representative for the Fish and Wildlife Service and was asked to lead the discussion on likely impediments to restoration and selected recommendations for research and restoration. A

report will be prepared that summarizes the group's discussion.

The lake herring was one of the most ecologically important species in the Great Lakes and served as the historical forage fish for most predators prior to its demise from over fishing during the last century. Stocks have only partially recovered in Lake Superior, but only small remnant stocks occur in all of the other four Great Lakes.

Charles Bronte, Green Bay FRO

Missouri River Mitigation Workgroup Plans to Restore and Monitor River Habitats

Jim Milligan, Project Leader for the Columbia Fishery Resources Office (FRO) is helping the Army Corps of Engineers (COE) develop a plan for the Missouri River Habitat Mitigation Project (Project). The Missouri River Mitigation Project is designed to mitigate for fish and wildlife habitat losses that resulted from past channelization efforts on the Missouri River. The Project extends 735 river miles from Sioux City, Iowa to the mouth of the Missouri River near St. Louis. The workgroup consists of representatives from the states, the COE, and the Fish and Wildlife Service. In addition to determining viable habitat restoration projects, the group is working to develop a monitoring program to assess the quality of the restored and created habitats. Columbia FRO has been monitoring restored habitats in portions of the Lower Missouri River since 1997.

Jim Milligan, Columbia FRO



-USFWS

Above is sandbar habitat at Cranberry Bend unit of the Big Muddy National Fish and Wildlife Refuge, on the Missouri River. Columbia FRO staff monitor fish use of restored and created aquatic habitat.



-USFWS

An aerial view of desired Lower Missouri River habitat that the Fish and Wildlife Service is trying to restore for endangered pallid sturgeon and piping plovers.

WATZ Radio Updated on Status of Double-Crested Cormorant Management Plan

Jerry McClain, Project Leader for the Alpena Fishery Resources Office (FRO), was interviewed by WATZ Radio News on the current status of the Fish and Wildlife Service's Double-Crested Cormorant Management Plan. The topic was highlighted as a local issue during the annual Alpena Brown Trout Festival by Michigan Department of Natural Resources (MDNR) biologists in discussions relative to the future of the brown trout stocking program in Thunder Bay near Alpena, Michigan. Cormorants eat yearling brown trout and have

contributed to diminished success of the MDNR stocking program in recent years. MDNR is considering ending the stocking program in Thunder Bay. Alpena is one of the Lake Huron communities where the impacts of cormorants on local sport fisheries prompts frequent discussions and questions with staff of the Alpena FRO. In the interview, McClain explained the alternatives examined in the Draft Environmental Impact Statement, the alternative preferred by the Service and indicated that the final ruling is expected in the fall of 2003. Public outreach is an important component of the Alpena FRO program.

Jerry McClain, Alpena FRO



-USFWS

Cormorant populations in the U.S. have increased beyond their historic population levels and prompted the Fish and Wildlife Service to develop a management plan to control their populations.

Aquatic Species Conservation and Management

Invasive Fish Cross Paths in Illinois Waterway

The Goby Roundup is an annual project organized by the La Crosse Fishery Resources Office (FRO). Fifteen entities, including five federal (Fish and Wildlife Service, Environmental Protection Agency, U.S. Army Corps of Engineers, U.S. Army, and U.S. Geological Survey), two state (University of Illinois and Illinois Department of Natural Resources), two regional (Cook County Forest Preserve and Metropolitan Water Reclamation District of Greater Chicago), and six local public and private businesses help monitor for round goby and Asian carp. This past year, 14 crews and nearly 50 participants monitored almost 100 miles of the Illinois Waterway.

A series of man-made waterways near Chicago link the Great Lakes and Mississippi River drainage basins. Built for navigation and to flush sewage away from Lake Michigan, these canals have acted as portals for invasive aquatic species to move freely between two of the largest drainage basins in North America. The capability of invasive fish like Asian carp and the round goby to readily disperse from one basin to another threatens the integrity of these vast ecosystems, the survival of certain native fishes, and regional fishing economies in both the United States and Canada. A variety of temporary barriers and management actions, designed to reduce the interbasin movements of fish, have been enacted or are under consideration for use until a more permanent solution to the problem can be put into place. To help make these control efforts more timely and



-photo by Chris Young

A close-up view of the head of a round goby.

effective, periodic surveillance with standardized sampling gears deployed at fixed sites is needed to determine the distribution and relative abundance of these invasive fish species.

With an armada of 12 boats, crews surveyed the Illinois Waterway including parts of the Calumet-Sag Channel, the Chicago Sanitary and Ship Canal, the Des Plaines River, and the Illinois River from south Chicago downstream to near Hennepin, Illinois. Results of the 2003 survey indicated that the relative abundance of round goby had decreased substantially in the lower reaches of the Chicago Sanitary and Ship Canal and the Des Plaines River during the past year. In comparison to the 2002 results, round goby catch per unit effort was reduced by 44 percent to 83 percent. Causes for these significant declines in abundance are unknown. Despite its decreased abundance, a round goby was captured near river mile 278 in the Des Plaines River. This represents a 7-mile expansion in the downstream range of the round goby during the past year and is the greatest expansion in the distribution since 1999, when its range grew a distance of 13 miles downstream. Round goby are now at least 55 miles inland from Lake Michigan, about 18 miles

downstream of the electrical fish barrier in Romeoville, and have covered about 17 percent of the distance on their way to the Mississippi River.

No Asian carp were collected in the Chicago Sanitary and Ship Canal, or in the Des Plaines River, where a bighead carp was captured in 2002 near Channahon. Asian carp still appear to be about 21 miles below the electrical fish barrier and 50 miles from Lake Michigan. However, bighead carp, silver carp and grass carp were caught in abundance in the Illinois River near La Salle and Peru, about 100 miles from Lake Michigan. These findings are used by Asian Carp Rapid Response Team and the Chicago Barrier Advisory Task Force to help guide their upcoming actions to limit the continued dispersal of these fishes. *Mark Steingraeber, La Crosse FRO*

Pallid Sturgeon Monitoring yields Young Sturgeon

Columbia Fishery Resources Office (FRO) biologists have been participating in a joint multi-state pallid sturgeon monitoring project for the last three years. In the month of June, Columbia FRO used new sampling methods designed to target adult pallid sturgeon and young of the year pallid and shovelnose sturgeons. Two pallid sturgeon were collected while drifting trammel nets along with 5 hybrid pallids collected in trammels and trawls. Young of the year sturgeon were collected in otter trawls along with one hundred young of the year paddlefish collected throughout the lower 200 miles of the Missouri River. Paddlefish have only been collected a few times in previous

year's samples. Our June sampling effort shows we are getting closer to developing an effective trawl method capable of sampling a wide range of fish. Partners in this effort include the Army Corps of Engineers, Nebraska Game and Parks Commission, Missouri Department of Conservation, Iowa Department of Natural Resources, South Dakota Department of Game, Fish and Parks, and Innovative Net Designs.

Wyatt Doyle, Columbia FRO



-USFWS

This photo depicts range of size in young of year sturgeon collected in a single trawl haul. Staff from the Columbia FRO have been participating in a joint multi-state pallid sturgeon monitoring project for the last three years.

Survival of Lake Huron Yearling Lake Trout Assessed for Differing Quality

Fishery biologist Aaron Woldt of the Alpena Fishery Resources Office (FRO) analyzed return data from coded-wire-tagged (CWT) lake trout to assess the survival of standard quality versus enhanced quality lake trout yearlings reared at Jordan River National Fish Hatchery (NFH). As part of a lakewide study plan, paired plantings of 30,000 standard quality (~ 20 per pound) and 30,000 enhanced quality (~ 10 per pound) CWT lake trout were stocked at each of four sites in both 1996 (1995 year class) and 1998 (1997

year class). The four sites stocked with experimental lake trout from north to south were Adams Point, Middle Island, Sturgeon Point, and Point Au Barques. Since 1996, these CWT lake trout have been captured in survey, commercial (gill-net and trap-net), and recreational gears. Previous analyses of these return data used the returns from all gear types and demonstrated statistically ($P < 0.0001$) higher rates of survival for the enhanced quality lake trout than the standard quality lake trout. Woldt's analysis used only return data in graded mesh survey gear.

Overall, the catch of enhanced quality lake trout in graded mesh survey gear was higher than the catch rate of standard quality lake trout in graded mesh survey gear; however, catch rates of enhanced quality lake trout were not higher than catch rates of standard quality lake trout at all sites and for all year classes. Results of this analysis seem to support the earlier analysis and confirm that in Lake Huron, enhanced quality hatchery reared yearling lake trout survive better than standard quality hatchery reared yearling lake trout. This may only be the case for Jordan River NFH produced fish, since all fish used in this study came from the Jordan River NFH. Evaluating the effects of hatchery rearing procedures allows the Fish and Wildlife Service better support lake trout restoration efforts by providing the best quality hatchery product possible.

Aaron Woldt, Alpena FRO

U.S. Sea Lamprey Control Program Destroys Lampreys to Save Lake Trout

During July 2003, the Fish and Wildlife Service's sea lamprey control program treated 4 Great Lakes streams (1 in Lake Superior and 3 in Lake Michigan) with lampricide to eliminate larval sea lamprey populations. These treatments destroyed an estimated 120,000 sea lampreys including about 5,000 that would have metamorphosed into the parasitic phase during 2003 and entered the Great Lakes. There, each parasitic phase sea lamprey would have been capable of killing upwards of 40 pounds of lake trout during its year long life in the lakes. The successful control program continues to ensure sport fish rehabilitation in the Great Lakes and protects a fishery valued at over \$4 billion. The Service's sea lamprey control program is conducted under contract with the Great Lakes Fishery Commission. *Dennis Lavis, Ludington Biological Station*

Endangered Pallid Sturgeon stocked in the Missouri River

Endangered pallid sturgeon were successfully raised and stocked into the Missouri River this year. Mulberry Bend, Nebraska was stocked with 1,936 fish on July 15th; Bellevue, Nebraska was also stocked with 1,936 fish on July 16th; and Booneville, Missouri was stocked with 1,423 fish on July 17th. The pallid sturgeon were raised at Gavins Point National Fish Hatchery in Yankton, South Dakota. The fish were tagged with Passive Integrated Transponder (PIT) tags, which provide the fish with individual identification numbers. Jim Milligan, Project

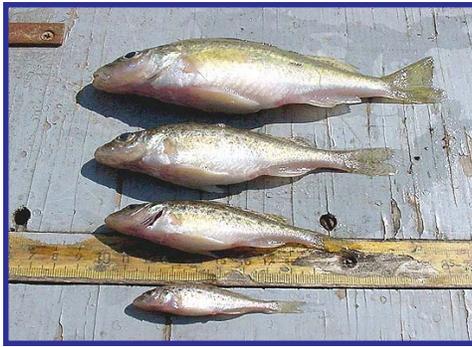
Leader at the Columbia Fishery Resources Office (FRO), coordinated the hatchery stocking for the Fish and Wildlife Service, and with state agencies and the media. As coordinator of the Middle Basin Pallid Sturgeon Recovery Workgroup, Milligan is responsible for maintaining the Lower Missouri River fish stocking plan. All the fish stocked at Boonville looked healthy even after 18 hours in the hauling truck. Our staff hopes to recapture some of the fish to assess fish health, movement, and habitat preference in our fall trawl and winter gill net sampling.

Jim Milligan, Columbia FRO

Ruffe Surveillance in Lake Superior Expands to the Soo Locks

In cooperation with the Michigan Department of Natural Resources, Ashland Fishery Resources Office (FRO) shifted invasive ruffe surveillance eastward from Keweenaw Bay to the St. Marys River near the Soo Locks in the eastern corner of Lake Superior. Using bottom trawling and trap nets, the ruffe crew surveyed four embayments, five river estuaries, and Marquette Harbor over a two-week period. The rugged substrate and heavy shipping traffic in the St Marys River presented the greatest challenge for the crew. The three most abundant species collected in trawls were trout-perch, spottail shiner, and ninespine stickleback, while rock bass dominated the trap nets. The exotic threespine stickleback was collected in Marquette Harbor where they were previously collected. No ruffe were captured.

Gary Czypinski, Ashland FRO



-USFWS

These invasive ruffe were captured during a ruffe surveillance survey in Lake Superior. Fishery Resources Offices monitor range expansion of this Great Lakes invasive species.

Lake Sturgeon Reproductive Success in Green Bay Tributaries Evaluated

The reproductive success of spawning lake sturgeon in four Green Bay tributaries recently was evaluated by biologists from the Green Bay Fishery Resources Office (FRO), Purdue University, the Wisconsin Department of Natural Resources, and Stantec Consultants. This investigation was funded by the Great Lakes Fishery Trust and the Giovanni Auletta Armenise Harvard Foundation, and was part of a cooperative effort between nine agencies and universities to determine the status of lake sturgeon in Lake Michigan. Lake sturgeon populations in the Great Lakes have not recovered from the catastrophic declines caused by commercial over fishing and dam construction in the late 1800s. The information collected during this study was needed to develop rehabilitation plans for the four major sturgeon populations inhabiting Green Bay.

Drift net sampling for larval sturgeon was conducted on the Fox, Oconto, Peshtigo, and Menominee rivers during May-June, 2003. Larval sturgeon were captured in each of the four study

ivers, but the extent of larval production appeared to vary greatly between systems. Large numbers (up to 160 individuals per night; 1.5 larvae/net hour) of larvae were collected on the Peshtigo River, suggesting that there is substantial natural recruitment in this system. Conversely, only six lake sturgeon larvae (0.026 larvae/net hour) were captured on the Oconto River where the annual spawning run appears to be much smaller. Forty-eight larval sturgeon (0.19 larvae/net hour) were collected on the Fox River, and 21 individuals (0.78 larvae/net hour) were collected during limited sampling effort on the Menominee River. The capture of larval lake sturgeon in the Fox, Oconto, and Menominee rivers in 2003 has provided the first conclusive documentation of larval production at these locations. A sub-sample of the larval sturgeon collected in each system was preserved for genetic analyses to be conducted by researchers at Michigan State University.

Brian Gunderman, Green Bay FRO



-USFWS

This juvenile lake sturgeon was captured during a fishery assessment. Assessment work is a critical component in managing native species.

Portable Assessment Traps capture 55,000 Sea Lampreys in 56 Great Lakes Tributaries

Portable assessment traps captured 55,000 adult sea lampreys in 56 Great Lakes tributaries during 2003. Lampreys are trapped during their spawning migrations to assess lakewide populations of adult lampreys and to provide male sea lampreys for the sterile male release technique in the St. Marys River. Population estimates derived from trapping operations are an indicator of the effectiveness of the control program. Traps were removed from streams after cessation of the sea lamprey spawning migrations in July. The Fish and Wildlife Service delivers an integrated program of sea lamprey management in U.S. waters of the Great Lakes as contracted agent of the Great Lakes Fishery Commission.

Michael Twohey, Marquette Biological Station



-GLFC

Sea lampreys are attached to this adult lake trout. Each parasitic phase sea lamprey is capable of killing upwards of 40 pounds of lake trout during its year long life in the Great Lakes.

2003 Fish Distribution Completed at the Jordan River National Fish Hatchery

Distribution of brood year 2002 lake trout was completed on June 27 from Jordan River National Fish Hatchery (NFH). We released a grand total 1,983,190 fish weighing 186,402 pounds into Lakes Michigan and Huron. This could not have been accomplished without the assistance of our cooperating hatcheries (Iron River, Pendills Creek, and Genoa). A total of 1,149,882 (100,475 pounds) lake trout were stocked in Lake Michigan of the Green Lake, Lewis Lake, Apostle/Gull Island, Isle Royale, and Seneca Lake strains. A total of 833,308 (85,927 pounds) lake trout were stocked in Lake Huron of the Lewis Lake, Seneca Lake, and Marquette strains.

Rick Westerhof, Jordan River NFH

Rainbow Trout Mitigation in Lake Taneycomo

A total of 24,596 (8,556 pounds) rainbow trout were stocked in Lake Taneycomo during the month of July from Neosho National Fish Hatchery (NFH). The three loads of 10 inch and larger fish contribute to a great recreational fishery in this large Missouri Lake. Production of trout for Lake Taneycomo help mitigate the loss of fish caused by dam construction on the White River. This effort is mandated by Congress.

Roderick May, Neosho NFH

Fishery Surveys Conducted at Tamarac National Wildlife Refuge

Fishery surveys were conducted at Tamarac National Wildlife Refuge (NWR) by LaCrosse Fishery Resources Office (FRO) personnel with assistance from the refuge staff. Pine, South Chippewa and Blackbird Lakes were sampled with gill nets and trap nets and, at Johnson Lake, night electrofishing was conducted. The Ottetail River was also monitored at three separate sections. Pine Lake currently has a good population of northern pike and Blackbird Lake has a nice population of northern pike and pumpkinseed sunfish. The Ottetail River was targeted in an effort to collect lake sturgeon and non-game species. Lake Sturgeon have been stocked in Round Lake which is in the Ottetail drainage. No lake sturgeon were collected; however, the Ottetail River holds a diverse fish community due to its great water quality and habitat. Management recommendations will be made after the data is analyzed.

Scott Yess, La Crosse FRO



-USFWS

Fishery survey at Tamarac NWR.

Public Use

Celebrating a Centennial – La Crosse Fishery Resources Office Style

The National Wildlife Refuge System Centennial Celebration was a great opportunity for the La Crosse Fishery Resources Office (FRO), La Crosse Fish Health Center, Genoa National Fish Hatchery, and the La Crosse District Refuge Staff to work together as well as with many other federal and state agencies. This was a great chance for outreach and a fun day for families. Children not only learned about history, but also about conservation.

Flags and hands were waving and folk music strumming as the massive and very impressive American Queen docked on the banks of the “Mighty Mississippi” in historic La Crosse, Wisconsin. People from all over the Coulee Region came to see the floating vessel and to partake in the festive activities during the National Wildlife Refuge System Centennial Celebration. Many federal and state agencies as well as local organizations set up exhibits to view, activities to have fun with, and had answers to many questions the public had. The newly created, Friends of the Upper Mississippi Fishery Services had an exhibit and helped pass out beverages with the Refuge’s Friends Group. The La Crosse FRO set up several exhibits including: an informational table, an activity called “Factor of Fear,” a fishing pond, a fish imprint table, and a casting contest. “Factor of Fear” was a bait touching contest in which the contestants had to hold on to the plastic worm, night crawler, or leech for almost half a minute. Children “fished” for prizes at the

fishing pond and casted in the casting contest into hula hoops for coloring books. People made their own handkerchiefs with fish on them at the fish imprint table. Rubber molds in the shape of bluegills were painted bright colors, and then different colored handkerchiefs were placed on top and rolled with rollers. Children’s faces lit up when they saw a mirror image of the fish they just painted. Even though throughout the day there were thunderstorms and light showers, people’s spirits didn’t dampen with all the fun to be had at the Centennial Celebration. *Heidi Keuler, La Crosse FRO*

Educators Learn About Great Lakes Exotics

Fish and Wildlife Service staff presented an outdoor class to K-12 educators on sea lampreys and other aquatic exotic species of the Great Lakes. The event was hosted by The Western U.P. Center which is a partnership of Copper Country and Gogebic-Ontonagon Intermediate School Districts and Michigan Technological University, serving 21 school districts and the communities in Houghton, Baraga, Gogebic, Ontonagon, and Keweenaw counties in Michigan. Educators came away with information and ideas to help actively engage their students by applying information from the classes to real world challenges, and how to incorporate it into their curriculum.

John Weisser, Marquette Biological Station

Brown Trout Festival & Kids Fishing Derby

The annual Brown Trout Festival was held in Alpena, Michigan July 19-27. This family event included a fishing derby for children. Alpena Fishery Resources Office (FRO) participated in this event by providing a booth with activities and literature. New educational fishery games were implemented for this event. Games included a salmon migration game that describes the plight of the fish to grow and spawn and fish puzzles which teach children the anatomy of a fish. These games are focused for children ages 12 and under and were a huge success at the event. Biologists Wells, Koproski, and Bowen staffed the booth for this event. This accomplishment provided an educational and outreach opportunity for the local community surrounding the Alpena FRO. We utilized a hands-on approach to teaching these 300 children about fish and their habitat requirements. They were also exposed to ongoing projects at the Alpena FRO and the different programs within the Fish and Wildlife Service.

Susan Wells, Alpena FRO



-USFWS

Alpena FRO staff attends numerous outreach events sharing the mission of the Fish and Wildlife Service.

New Look for the Great Lakes Coastal Program Website

Thanks to the efforts of Frank Stone, Ted Koehler, Mark Dryer (Ashland Fishery Resources Office) plus Craig Czarnecki and Bob Kavetsky (East Lansing Field Office), the Great Lakes Coastal Program has an updated website. The site is just one of many interesting links off the Great Lakes Basin Ecosystem Team web page. To go directly to the Coastal Program web page, point your Internet browser to: <http://greatlakes.fws.gov/glcoastal.htm> and enjoy the ride.

The new Great Lakes Coastal Program site is divided into four main categories; How the Program Works, Accomplishments, Fact Sheets and How to Apply. Within each of these pages are additional links to related Great Lakes Coastal Program information. Be sure to look at the Accomplishments page which has a link to ongoing Coastal Program projects plus an image library of before and after pictures. The Great Lakes Coastal Program is developing innovative partnerships with local and statewide land trusts and other conservation partners to identify and protect some of the most valuable fish and wildlife habitat and species in the Great Lakes basin. The addition of this website will serve as one of many tools used by the Region to share information with our cooperators and to inform the public of the tremendous progress being made through the Great Lakes Coastal Program.

Frank Stone, Ashland FRO

Highlights of Tours and Outreach Events at Jordan River National Fish Hatchery

For the second consecutive year, Jordan River National Fish Hatchery (NFH) attended the Traverse City Match and Science Workshop. The workshop focuses on water quality issues across the Great Lakes. Rick Westerhof provided a presentation about the hatchery program and potential water quality impacts on the Jordan River. The presentation was given twice during the day long event to middle and high school students. The students come from all over the Grand Traverse Bay area as part of the Water Watch program and focus on science.

In May, staff provided hatchery tours to fifteen first and second grade kids and four adults from the Concord Academy Antrim. The kids learned a little bit about fish culture, invasive species, and basic fish anatomy. At the end of the tour, we treated them to Goldfish crackers, Capri Sun drink pouches, and lollipops - just enough sugar to make the bus ride home fun. Paul Haver gave a tour to approximately twenty Boyne City High School Natural Resources students and provided direction in the dissection of lake trout to ninety-four Eighth Grade students at the Boyne City middle school.

In June, one-hundred kindergarteners chaperoned by sixteen adults from Gaylord Community School, visited the fish hatchery. After a brief welcome and introduction, the children were divided into four groups of twenty-five. The groups then rotated between four different locations on the hatchery grounds. The locations included the visitor's center, tank room, metal building, water source, raceways, and a

video. At all locations the children were given the opportunity to ask questions and share their knowledge of fish. In the visitor's center, the children received a narrative about hatchery operations as they viewed the pictures and models which illustrate key points from hatching to distribution of fish. Since the kindergarteners were too short to peer into the tanks in the basement, they were taken out to the metal building to see medium size fish. From the metal building, the kindergarteners hiked up to the source of the hatchery's water. There they observed the manner in which the water flow is directed from the stream to the hatchery. When the kindergarteners went down to the raceway they were allowed to feed some fish. In addition to the aforementioned activities, the kindergarteners had a snack and watched a short segment about the hatchery from the local television show "Hook and Hunting" hosted by Dan Boss. The segment featured the process of coded wire tagging the fish. Just before the kindergarteners left they were given a fish hatchery coloring book. Overall the kindergarteners were excited to be at the hatchery, albeit tired at the end from the walking. A few days later the classes sent a thank-you note and a book of pictures the kindergarteners drew of the hatchery. In addition, a tour was given to eight fisheries students from the Aquatic Biology class at the AuSable Institute.

Rick Westerhof, Jordan River NFH

Cooperation with Native Americans

La Crosse Fishery Resources Office Assists Prairie Island Indian Community with Aquatic Vegetation Sampling

La Crosse Fishery Resources Office (FRO) staff and volunteers are currently working with Environmental Project Coordinator, Craig Wills from the Prairie Island Indian Reservation near Red Wing Minnesota on an Aquatic Vegetation Sampling Project in Sturgeon Lake and North Lake on the Mississippi River. Prairie Island Dakota Community is interested in the establishment of rice beds in the study area. Very little data exists on aquatic vegetation diversity and density, as well as river bottom substrate, and water depth.



-USFWS

La Crosse FRO biologist, Heidi Keuler, samples aquatic vegetation on the Prairie Island Indian Reservation near Red Wing, Minnesota.

Staff sampled 35 sites in two bays on North Lake. Random sample points located with Global

Positioning System (GPS) coordinates were generated previous to the sample dates. Vegetation in the southern bay included submergent species: sago pondweed, curly pondweed, and coontail. Filamentous algae were also present in the samples. The most abundant plant species was sago pondweed. Water depth averaged about 0.5 meters. Plant density was not very high, but detritus was common. The substrate was mostly a combination of silt and clay. Very little vegetation was found in the northern bay due to higher water levels and current. Average water depth was about 1.5 meters. Substrate was mostly silt with clay or silt with sand. Only one sample contained vegetation, but vegetation was observed at another sample area. Only one emergent vegetation species, white water lily was sampled.

In Sturgeon Lake 31 sites were sampled and vegetation included submergent, emergent and floating plant species. Species in the sample sites included: Eurasian water milfoil, white water lily, small duckweed, sago pondweed, longleaf pondweed, and coontail. Filamentous algae were abundant in the lake. Very little diversity of plant species was observed. The greatest amount of cover observed was Eurasian water milfoil. Plant density and diversity was not very high in most of the lake, but was higher in the northern part of the lake near the islands. The lake substrate ranged from silt with clay to sand. A mussel bed was found near Site 82 with several different species present. A full report will be completed during the winter months.

Heidi Keuler, La Crosse FRO

Independent Lake Whitefish Assessment

During a 10-day trip from July 14-22, Ashland Fishery Resources Office (FRO) completed independent assessments of lake whitefish in 1836 Treaty waters of Lake Superior out of Grand Marais, Michigan under the 2000 Consent Decree. Assessments were conducted using 3600' variable mesh gill nets set on the bottom along 8 randomly selected transects within the study area. Each transect had a deep set (>100' depth) and a shallow set (<100' depth). Data collected from the fish captured included, length, weight, sex and maturity, age structures, stomach contents, and sea lamprey marks. Information collected will be used in models that were developed to help allocate safe harvest levels for both sport and commercial fisheries and allow for continued restoration of lake trout. Ashland's new boat, the RV Chub, proved to be a very usable platform for working Lake Superior waters, and allowed the crew to cover considerable distances and to complete work comfortably and safely in moderate seas.

Jonathan Pyatskowitz, Ashland FRO

Ashland Fishery Resources Office helps with Keweenaw Bay Fish Distribution and Station Disinfection

Frank Stone, Ashland Fishery Resources Office (FRO), assisted the staff from the Iron River National Fish Hatchery (NFH) with the transfer of lake trout and the disinfection of the Keweenaw Bay (KB) Indian

Community fish hatchery. At the conclusion of the 4th fish isolation agreement between the Fish and Wildlife Service (Service) and the tribe, Service employees transferred lake trout for future brood stock from the KB fish hatchery to the Iron River NFH and to Michigan Department of Natural Resources rearing facilities. After the fish were moved from the hatchery, the rearing building was disinfected with bleach to kill any lingering bacteria that may be present.

Since 1995, the Keweenaw Bay Indian Community fish hatchery has played a vital role in restoring lake and brook trout to the Great Lakes region by trading services with the Fish and Wildlife Service to provide a "safe house" for rearing trout collected in the wild until a disease history for these fish can be established. Once the health of the fish is determined (a process that normally takes two years) they are transferred to larger fish culture facilities as new brood stock for the restoration efforts already underway in the Great Lakes. The new lake trout brood stock will be sexually mature in 4 to 6 years. *Frank Stone, Ashland FRO*

Coded Wire Tag Extraction

During the last two weeks of July 2003, fishery biologists Adam Kowalski and Scott Koproski extracted and read coded-wire-tags (CWT's) from lake trout. CWT's are microscopic metal tags placed in the snouts of juvenile lake trout at the hatchery. Hatchery personnel inject tags into the fish and remove the fish's adipose fin so that tagged lake trout can be identified by anglers and researchers. Lake trout heads were collected during the spring



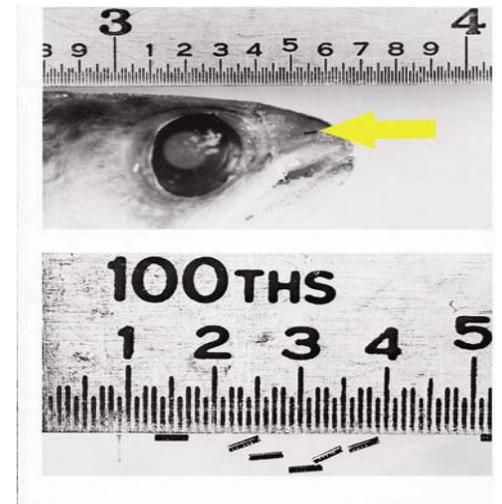
-USFWS

Employees at the Iron River NFH use a machine to insert coded wire tags in certain groups of yearling lake trout. The unique number on a tag yields information such as stocking location, stocking date, fish age, fish strain, and hatchery of origin.

fishery independent lake whitefish survey conducted by the Alpena Fishery Resources Office (FRO). We also extracted and read CWT's from sport-fishery caught lake trout heads collected by Michigan Department of Natural Resources (DNR) creel clerks in Lake Huron. CWT's are extracted by cutting lake trout snouts into smaller and smaller pieces until the tag can be seen and removed. A metal detector is used to help the extractor find tags. CWT's 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 and Koproski removed and read 168 tags were from approximately 200 heads. Not all adipose clipped lake trout contain CWT's, because some lake trout shed their tag others appear to have an adipose fin clip. Additional lake trout heads will be received from Bay Mills Indian Community (BMIC), Chippewa Ottawa Resource Authority (CORA), State of Michigan creel program, and the Alpena FRO. These heads will be processed when received. Data collected from lake trout CWT's are used in

several ways. First, lake trout age data are used in population models that determine lake trout harvest limits for parties to the 2000 Consent Decree. Second, stocking location data are used to determine lakewide lake trout movement patterns. Finally, two existing studies to determine differences in survival between enhanced quality and standard quality stocked lake trout and differences in survival of various lake trout strains depend on CWT data. These outcomes are consistent with the Fish and Wildlife Service's goal of building and maintaining self-sustaining populations of native fish species while providing recreational fishing opportunities and meeting the needs of tribal communities. The multi-agency 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

The arrow in this photo points to a tiny coded wire tag implanted in the snout of a lake trout.

Leadership in Science and Technology

Ruffe Population Reduction Assists Lake Sturgeon Restoration

In cooperation with the Michigan Department of Natural Resources (DNR) and Michigan Technological University (MTU), the Ashland Fishery Resources Office (FRO) conducted an experiment to remove 90% or more of the Eurasian ruffe population from the Ontonagon River estuary. Using bottom trawling and trap nets, a total of 85 ruffe was removed over 7 days and nights. Since ruffe were discovered in this estuary in 1994, their catch per unit effort in trawls has steadily increased to 33 per hour in 2002. The purpose of this experiment was to significantly reduce the population of spawning ruffe in this peripheral colony, thereby adversely affecting their ability to colonize new areas to the east in Lake Superior. Analysis of results is pending.

The bycatch included 63 juvenile lake sturgeon. The sturgeon were tagged and had been stocked by Michigan DNR to restore a spawning lake sturgeon population in the Ontonagon River. MTU is monitoring the progress of the Ontonagon River sturgeon restoration with MIDNR, and accompanied Ashland FRO. Historically, lake sturgeon are known to have spawned in the Ontonagon River, and this surveillance is monitoring the success of the restoration effort.
Gary Czypinski, Ashland FRO



-USFWS

Eurasian ruffe is an invasive species in the Great Lakes. Fish and Wildlife Service field station staff closely monitor range expansion and affects on native species.



-USFWS

Ashland FRO, in cooperation with the Michigan Department of Natural Resources (DNR) and Michigan Technological University, caught 63 juvenile lake sturgeon while netting for spawning age invasive ruffe in the Ontonagon River estuary of Lake Superior. The lake sturgeon shown in this picture were previously tagged and stocked by Michigan DNR to restore a spawning population in the Ontonagon River.

Green Bay Fisheries Office Develops Software to Facilitate the Assessment Modeling Process

John Netto of the Green Bay Fishery Resources Office (FRO) has recently completed a revision to a model diagnostic and viewing software package he developed. The software is designed to read in output text files generated from AD Model Builder, the non-linear modeling package used for the 1836 treaty

waters fishery assessment models. With this software, modelers can instantly produce dozens of graphs for use in standard annual reports and for model diagnostics. The software also includes a module to assist with interpretation of uncertainty analyses conducted on any model. This recent revision includes unit conversions and other modifications to allow the software to be used by assessment biologists with the Ontario Ministry of Natural Resources who manage fisheries in the Great Lakes outside of the 1836 treaty waters. This revision also expanded the diagnostic capacities for the lake whitefish models to match those generated for the lake trout models. At the lake trout assessment meetings this spring, the software package was used extensively prior to the meeting by the lake trout modelers to produce standard graphics for review by the committee. The software also allowed immediately viewing the results of changes made to the models when suggestions or questions were expressed during the meeting. By allowing biologists to immediately view the results of model modifications and diagnostic procedures for interpretation, this software tool enhances our ability to refine the models to better characterize the fisheries modeled.

John Netto, Green Bay FRO

Aquatic Habitat Conservation and Management

White Earth Fish Passage Project for Lake Sturgeon Completed

This fish passage project is a piece to a larger effort which is to link as much of the Red River Drainage as possible to allow fish movement. This will especially benefit the newly restored lake sturgeon populations. Lake sturgeon stocked into White Earth Lake now have a chance to migrate to the Red River and back.

La Crosse Fishery Resources Office (FRO) joined forces with White Earth Department of Natural Resources (DNR) on a fish passage project on the White Earth River, on the White Earth Reservation in northwest Minnesota. White Earth Lake is one of the premier lakes on the White Earth Reservation and is currently being stocked with lake sturgeon to restore this majestic fish into the Red River watershed. One obstacle to fish movement within the drainage was the dam on White Earth Lake. It's a small dam built in the 1930's to raise the lake level and store flood water. This dam would not allow fish to migrate back to White Earth Lake, so a plan was prepared to create a rock rapids allowing fish passage. Luther Aadland (Minnesota DNR stream specialist) was consulted for design and engineering on the project. The contract was let by the White Earth DNR to Butch Gordon, and on July 21 the project was completed. This project will not only benefit the recently stocked lake sturgeon but will also provide excellent habitat for several other riverine species. Much gratitude goes to Gary Robideaux who provided access to the project from his property. *Scott Yess, La Crosse FRO*



-USFWS

This fish passage project, located on the White Earth River, replaces a dam with cascading riffles and pools allowing lake sturgeon and other native species access to White Earth Lake.

Kozie Wetland Project Completed

Construction is complete on the Kozie Wetland Project. This Partners for Fish and Wildlife project restored one wetland, approximately 1/2 acre in size. The project took place in an idle hayfield with altered drainage history. The natural flow regime for this parcel was restored as well as enhancing the sites wetland and wildlife value.



-USFWS

This Partners for Fish and Wildlife project, Kozie Wetland, restored approximately 1/2 acre of wetland habitat.

Wildlife species which will benefit from the project include the green frog, spotted salamander, wood duck, yellow-rumped warbler, and black and white warbler. A wetland/habitat development agreement was signed protecting a total of 1 acre

of wildlife habitat within and around the wetland for 10 years. The landowner and family are avid wildlife enthusiasts, and they are in the process of restoring and enhancing wildlife habitat on an additional 30 acres surrounding the project site.

Ted Koehler, Ashland FRO

Big Elk River Restoration Site Survey Completed

The initial survey has taken place for the Partners for Fish and Wildlife Program - Patrow Project. This river restoration project will take place in Price County along approximately 800 feet of the Big Elk River and is a partnership between the landowner, Price County Land Conservation District, Wisconsin Department of Natural Resources and the Fish and Wildlife Service.

The restoration is located at the site of an old farmstead. Clearing of the natural vegetation has caused increased pressure on the river bank and will eventually impact County Highway H. The section of river impacted was mapped and morphological characteristics were identified. Using this information, we will use an ecosystem restoration approach to solve the erosion problem, while also designing a solution that is fish and wildlife friendly. In addition to the instream work, the riparian area where the farmstead once stood will be restored through native tree and shrub planting. A few of the many species that will benefit from restoration activities at this site include wood thrush, yellow warbler, wood duck, walleye, and smallmouth bass. *Ted Koehler, Ashland FRO*

Workforce Management

Student Programs are Part of Workforce Management at Jordan River National Fish Hatchery

On June 16, Danielle Miller began working at the Jordan River National Fish Hatchery (NFH) as part of the Student Temporary Employment Program (STEP). She will be assisting the hatchery staff with the care and feeding of lake trout and numerous maintenance projects. Danielle is a recent graduate of Hillsdale College (Michigan). She is pursuing a career in the medical profession. In mid-August she will be attending the School of Osteopathic Medicine at Michigan State University in East Lansing, Michigan. Danielle is the hatchery's third STEP student. The program has been instrumental in supplying quality individuals to assist staff during a time of critical personnel shortages.

Summer Internship Program Eric Semer, second-year aquaculture student from Hocking College (Ohio), began his internship here on June 23. His role has been to gain practical experience in cold water fish culture and to provide assistance with grounds and facilities maintenance and record keeping. Eric's work has been much appreciated. His internship will be completed on Labor Day. *Rick Westerhof, Jordan River NFH*



-USFWS

Danielle Miller, above and Eric Semer, below began working at the Jordan River NFH in June. Danielle is working through the Student Temporary Employment Program (STEP) and Eric is an intern from Hocking College, Ohio.



-USFWS

The Volunteer.gov Website provides Valuable Career Work Experience

Tiffany Hamilton of Kansas City, Missouri joined Columbia Fishery Resources Office (FRO) staff in the field at the Cranberry Bend unit of the Big Muddy National Fish & Wildlife Refuge for a day of fish sampling. Tiffany is a student at UM-KC, majoring in fisheries and wildlife. She discovered the opportunity to work with us at the volunteer.gov website.

Joanne Grady, Columbia FRO

Alpena Fishery Resources Office Meets with General Services Administration on Future of Alpena Federal Building

General Services Administration (GSA) personnel from the Chicago office were in Alpena on July 1 to meet with tenants of the Alpena Federal Building relative to possible closure of the facility. Alpena Fishery Resources Office (FRO) Project Leader McClain met with GSA to discuss program operations and facility needs to help them with their planning efforts. A decision is expected by fall 2003 on the future of the Alpena Federal Building. Options include renovation of the existing building to meet tenant operational, safety and accessibility needs as well as relocation to a new Alpena site. Currently the Alpena FRO has office and laboratory facilities in the federal building and has separate warehouse space for housing of boats and assessment gear at a remote location two miles from the federal building. Efficient operation of the Alpena FRO requires adequate work space for station staff and its management assistance activities. The possible closure of the federal building that currently houses the office will require effective communication with General Services Administration to ensure that new office space will be adequate to meet staff and operational needs of the office. This activity is consistent with Workforce Management objectives of the Fish and Wildlife Service's Fishery Program Strategic Vision. *Jerry McClain, Alpena FRO*

Great Lakes - Big Rivers Regional Fisheries Offices

Regional Office, 1 Federal Drive, Fort Snelling, MN 55111-4056; 612/713-5111

Illinois

Carterville Fishery Resources Office
9053 Route 148, Suite A
Marion, Illinois 62959
Greg Conover (greg_conover@fws.gov)
618/997-6869

Large Rivers Fisheries Coordination Office
4469 48th Ave. Ct.
Rock Island, IL 61201
Jerry Rasmussen (jerry_rasmussen@fws.gov)
309/793-5811

Michigan

Alpena Fishery Resources Office
Federal Building; 145 Water Street
Alpena, MI 49707
Jerry McClain (jerry_mcclain@fws.gov)
989/356-3052

Jordan River National Fish Hatchery
6623 Turner Road
Elmira, MI 49730
Rick Westerhof (rick_westerhof@fws.gov)
231/584-2461

Ludington Biological Station
229 South Jebavy Drive
Ludington, MI 49431
Dennis Lavis (dennis_lavis@fws.gov)
231/845-6205

Marquette Biological Station
1924 Industrial Parkway
Marquette, MI 49855
Gary Klar (gerald_klar@fws.gov)
906/226-6571

Pendills Creek/Hiawatha Forest
National Fish Hatchery
21990 West Trout Lane
Brimley, MI 49715
Curt Friez (curt_friez@fws.gov)
906/437-5231

Missouri

Columbia Fishery Resources Office
608 East Cherry
Columbia, MO 65201
Jim Milligan (jim_milligan@fws.gov)
573/876-1909

Neosho National Fish Hatchery
East Park Street
Neosho, MO 64850
David Hendrix (david_hendrix@fws.gov)
417/451-0554

Wisconsin

Ashland Fishery Resources Office
2800 Lake Shore Drive East
Ashland, WI 54806
Mark Dryer (mark_dryer@fws.gov)
715/682-6185

Genoa National Fish Hatchery
S5689 State Road 35
Genoa, WI 54632-8836
Doug Aloisi (doug_aloisi@fws.gov)
608/689-2605

Green Bay Fishery Resources Office
2661 Scott Tower Drive
New Franklin, WI 54229
Mark Holey (mark_holey@fws.gov)
920/866-1717

Iron River National Fish Hatchery
10325 Fairview Road
Iron River, WI 54847
Dale Bast (dale_bast@fws.gov)
715/372-8510

LaCrosse Fish Health Center
555 Lester Avenue
Onalaska, WI 54650
Richard Nelson (rick_nelson@fws.gov)
608/783-8441

LaCrosse Fishery Resources Office
555 Lester Avenue
Onalaska, WI 54650
Pamella Thiel (pam_thiel@fws.gov)
608/783-8431



Fish Lines
Region 3, Great Lakes/Big Rivers
July 2003 Vol. 1 No.5

U.S. Fish & Wildlife Service
Region 3
Division of Fisheries
1 Federal Drive
Ft. Snelling, MN 55111

Phone: 612/713-5111

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



Printed on 30%
Recycled by Fiber
Weight Paper



Windows in time

A Glimpse into our Proud Past

Loading a milk can full of water and fish for aerial distribution

Fish Lines is produced by the Fisheries Program, Region 3, U.S. Fish & Wildlife Service, Ft. Snelling, Minn. Items included are selected from monthly reports submitted by Region 3 fisheries offices. Photos included are used by permission and may be copyrighted.

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

Equal opportunity to participate in, and benefit from programs and activities of the U.S. Fish and Wildlife Service is available to all individuals regardless of race, color, national origin, sex, age, disability, religion, sexual orientation, status as a parent and genetic information. For information contact the U.S. Department of Interior, Office for Equal Opportunity, 1849 C Street N.W., Washington, DC 20240