



Fish Lines



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Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems

Marquette Biological Station; Marquette, Michigan

(See the "Station Spotlight" on Page 5)



Seated (l. to r.): Bob Wootke, Mike Fodale, Shawn Nowicki. **Standing (l. to r.):** Bob Wollney, Kasia Mullett, Gary Klar, Mike Blohm.



Seated (l. to r.): Thomas Elliott, Tim Peiffer, Anne Keiler, Sue Becker, Joe Genovese, Jamie Criger. **Standing (l. to r.):** Darrian Davis, Dorance Brege, Dave Magno, Dave Johnson, Chris Bouws, Mike St. Ours, Terry Morse.



Front row (l. to r.): Mike Twohey, John Heinrich, Dale Ollila. **Second row (l. to r.)** Cheryl Kaye, Mary Wilson, Elizabeth Doubles, Kyle Krysiak, Tony Beck, Sarah Ruitter, John Weisser. **Third row (l. to r.):** Gregg Baldwin, Matt Symbal, Craig Aho, Chad Andresen, Dennis Smith, Deb Winkler, Mary Henson.



Seated (l. to r.): Mary Jo Bucket, Betty L'Huillier, Nadine Seeke, Bob Kahl. **Standing (l. to r.):** Nikki Allard, Gloria Hoog, Steve Dagenais, Larry Carmack, Pauline Hogan.

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

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.

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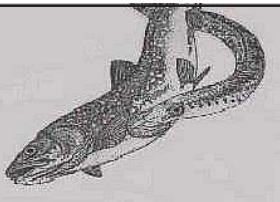
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Click here to visit our Fisheries Web Site

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 and 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. 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 - Marquette Biological Station

The Marquette Biological Station is located in Marquette, Michigan on the south shore of Lake Superior. The office moved in 1992 to a modern facility which provides better office, storage, and maintenance space. The station is staffed by 41 permanent and 34 seasonal employees. The Marquette office is responsible for sea lamprey control in U.S. waters of Lake Superior, northern and western waters of Lake Michigan and northern U.S. waters of Lake Huron. The Marquette office also operates a lamprey sterilization facility at the Lake Huron Biological Station near Rogers City, Michigan.



-GLFC

Sea Lamprey Control Technician collecting lampreys in a Great Lakes tributary.

Sea lampreys are aquatic vertebrates native to the Atlantic Ocean. Sea lampreys resemble eels, but unlike eels, they feed on large fish. They can live in both salt and fresh water. Sea lampreys were accidentally introduced into the Great Lakes in the early 20th century through shipping canals. Today, sea lampreys are found in all the Great Lakes. The Great Lakes Fishery Commission works with Fisheries and Oceans Canada, the U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers to undertake sea lamprey control. The control program uses several techniques to attack sea lampreys. This effort

(known as “integrated sea lamprey management”) includes:

- sea lamprey assessment
- use of lampricides (chemical control)
- barriers to sea lamprey migration
- sea lamprey traps
- the sterile-male-release-technique



-GLFC

Sea Lamprey Control Technician determining lampricide application rate.

The future of sea lamprey management in the Great Lakes is rapidly progressing because of new technology. Since the late 1970's, efforts have been made to develop an integrated pest management approach with the addition of management tools such as low-head barriers, new styles of electrical weirs and sterilization of male sea lampreys for release. The Great Lakes Fishery Commission has stated a goal of reducing dependence on chemical control (TFM) by 20% by the year 2010.

For detailed information about the Marquette Biological Station, contact the office at (906) 226-6571 or visit the websites at:

<http://midwest.fws.gov/marquette/>

OR

www.glf.org/lampcon.asp

Partnerships and Accountability

Fish Population Estimate Conducted for Whittlesey Creek

Four days of barge shocking and back pack electrofishing surveys were conducted in Whittlesey Creek to obtain a population estimate for salmon and trout species. Staff members from the Wisconsin Department of Natural Resources, Ashland Fishery Resources Office (FRO), Iron River National Fish Hatchery, Whittlesey Creek National Wildlife Refuge, and the Wild Rivers Chapter of Trout Unlimited joined efforts to collect this important fish population information. Data will generate population estimates for salmon and trout species. These estimates of cold water species that inhabit Whittlesey Creek are a critical component in the experiment to establish a self-sustaining coaster brook trout population here.

The crew focused on netting trout/salmon species. Length data was collected and the fish were given a fin clip before they were returned to the creek. During a second survey period, any fish collected were monitored for an identifying fin clip. A formula is then used to estimate the population size of trout/salmon based on the number of marked fish in the first survey and the number of recaptured in the second survey. Additional population estimates will be conducted annually for the next ten years. The crews marked over 7,000 Age 0 and Age 1 coho salmon in approximately 7,500 feet of stream located in three survey stations. One floy tagged adult coaster brook trout that was part of a stocking this past summer was also captured and released.

Glenn Miller, Ashland FRO



-USFWS

Staff from the Fish and Wildlife Service, Wisconsin Department of Natural Resources, and Trout Unlimited partner to conduct a fish population estimate for Whittlesey Creek near Ashland, Wisconsin.

Lake Huron Lake Whitefish Planning Meeting

Project Leader Jerry McClain, Treaty Fisheries Unit Leader Aaron Woldt, and Biologist Scott Koproski traveled to Port Huron for a September 8-9 lake whitefish planning meeting. Alpena Fishery Resources Office (FRO) is collaborating on a lakewide Lake Huron whitefish tagging project to better delineate stocks around the basin. Objectives of the meeting were to finalize the overall study plan, coordinate work to be initiated in the fall of 2003, and to discuss standardization of aging protocol to be used by participants in the study. Lake whitefish will be tagged during the spawning season at strategic locations on the main basin of Lake Huron and tag recoveries used to define stock distribution, movement, and fidelity to spawning reefs. Multi-

agency collaboration is essential to complete this large-scale, 3-year study. The study results should greatly enhance our understanding of the Lake Huron whitefish stocks and allow for better modeling and harvest management. This data need has been identified by the Modeling Sub-Committee of the Technical Fisheries Committee for harvest management in 1836 Treaty waters of Lake Huron. Partners involved in the project include the Fish and Wildlife Service, Michigan Department of Natural Resources, Chippewa-Ottawa Resource Authority, Ontario Ministry of Natural Resources, Chippewas of Nawash, Saugeen Ojibwe, Cape Croaker Band, and Bruce Power Company. Better understanding the size, distribution, and the nature of mixing and/or segregation of Lake Huron lake whitefish stocks will greatly improve interagency management of this commercially important species. This effort is consistent with Fish and Wildlife Service priorities regarding management of inter-jurisdictional fish and partnerships and accountability.

Jerry McClain, Alpena FRO

Task Group Convenes to begin Development of Rehabilitation Plan for Lake Sturgeon

The Lake Michigan Committee of the Great lakes Fishery Commission has formed a special task group to develop and implement a rehabilitation plan for lake sturgeon in the Lake Michigan basin. Rob Elliott, Fishery Biologist with the Green Bay Fishery Resources Office (FRO), has been named chair of this task group. Fifty-three biologists, researchers and members from the

public representing 18 different agencies, institutions, and public interest groups attended the first task group meeting held in Menominee, Michigan in September. The primary initiative of this first meeting was to get a significant start on development of a comprehensive rehabilitation plan that when completed and approved by the Lake Michigan Committee, will guide future rehabilitation efforts for this important native species throughout Lake Michigan. The Lake Michigan Committee is the primary interjurisdictional body that addresses the lakewide management of fish stocks of common concern and the progress toward achieving the goals and objectives for the Lake Michigan fish community.

Marquette Biological Station staff was in attendance at the meeting to represent interests of the sea lamprey control program and to work with others to assess the effects of lampricide applications on populations of lake sturgeon in the Lake Michigan basin. Since the "Interim Protocol for Application of Lampricides to Streams with Populations of Young-of-Year Lake Sturgeon (*Acipenser fulvescens*)" was implemented in 1998, no mortality of lake sturgeon has been observed during lampricide applications in the United States.

Robert Elliott, Green Bay FRO
John Weisser, Marquette Biological Station

Alpena Fishery Resources Office participates in Great Lakes Fishery Institute hosted by Sea Grant

Anjanette Bowen of the Fish and Wildlife Service's Alpena Fishery Resources Office (FRO) presented information on the station's activities, roles, and a review of aquatic nuisance species in Lake Huron at the Great Lakes Fishery Institute hosted by Sea Grant in Alpena, Michigan on September 27. The Great Lakes Fishery Institute provides community leaders dealing with fishery issues an opportunity to learn about various fishery programs from management agencies and others who contribute to the fishery resource. Bowen presented Power Point presentations and provided handouts for the class. The presentations were well received and spurred interest on behalf of the participants. Sea Grant is a leader in providing educational issues across the Great Lakes and nation. These presentations provided an excellent opportunity to increase the visibility of the Fish and Wildlife Service and provide public education about fishery and natural resource issues.

Anjanette Bowen, Alpena FRO



Eurasian Water-milfoil poses Problem in Northeastern Michigan

Anjanette Bowen of the Alpena Fishery Resources Office (FRO) represented the Fish and Wildlife Service at a public meeting

to discuss Eurasian water-milfoil problems in Fletcher Pond, a fishing hotspot in northeastern Michigan. The meeting was hosted by the Thunder Bay Audubon Society and included participants from Thunder Bay Power, Lake Huron Advisory Council, Huron Pines Resource Conservation and Development, SePRO Corporation, Aquatic Control, Northeast Michigan Council of Governments, and Fletcher Pond Resort Owners. Eurasian water-milfoil is an aquatic invasive species that is prolific and detrimental to navigation and fish and wildlife populations. Presentations were provided on the nature of the Eurasian water-milfoil problem at Fletcher Pond, control options, and current control projects in other areas including use of the native milfoil weevil and potential for control of Fletcher Pond with chemical agents such as Sonar. The meeting was intended to better inform the general public on the issue. The Fish and Wildlife Service seeks to provide aquatic nuisance species (ANS) education and prevention and participate in meetings to stay abreast of rising ANS issues where they are found.

Anjanette Bowen, Alpena FRO



Eurasian water-milfoil is an invasive aquatic plant species that causes problems in many prime fishing lakes.

Suspected Lake Huron Shipwreck Investigated

Staff from the Alpena Fishery Resources Office (FRO) assisted Thunder Bay National Marine Sanctuary and Underwater Preserve (Sanctuary) personnel with investigation of a suspected shipwreck in Lake Huron's Thunder Bay. The site was discovered from side scan sonar surveys conducted by the Office of Coastal Survey during August 2003. Alpena FRO staff Tracy Hill and Adam Kowalski assisted by transporting Sanctuary gear and personnel to the site on the Alpena FRO research vessel. Sanctuary Archeologist and Education Coordinator took pictures and inventoried the location and distribution of the suspected wreck on the lake bottom.

The site was actually comprised of several thousand pine logs of various lengths and diameters. It is suspected that a cargo was lost near this location and the logs eventually sank to the lake bottom. Inventory of this side scan sonar target was part of a larger inventory of shipwrecks and underwater artifacts within the newly established Thunder Bay National Marine Sanctuary and Underwater Preserve.
Tracy Hill, Alpena FRO

Wolf River Lake Sturgeon Restoration Project is a Shocking Experience

Fishery personnel from the Genoa National Fish Hatchery (NFH) traveled to the Wolf River in north-central Wisconsin to participate in collection of adult lake sturgeon. Hatchery crews were asked to participate in a three day project to collect, transport, radio-tag, and

eventually release adult lake sturgeon from waters in the upper Wolf River system into waters within the Menominee Indian Nation. Genoa NFH staff assisted Wisconsin Department of Natural Resources electrofishing crews in the collection portion of the project by operating a capture/recovery boat used to revive and transport sturgeon from remote sites on the river. Once captured, hatchery personnel evaluated the fish and either released or transported the fish to staging areas within the Menominee Nation waters of the Wolf River.

Biologists and technicians from La Crosse Fishery Resource Office, Genoa NFH, U.S. Geological Survey, and Menominee Department of Conservation installed radio telemetry transmitters in 20 adult fish prior to release in reservation waters. The fish will be monitored over the next several years for survival and movement patterns. The long term goal is establishment of resident populations of adult lake sturgeon within reservation waters of the upper Wolf River system.
Roger Gordon, Genoa NFH



-USFWS

Partner agencies combine efforts on the Wolf River Lake Sturgeon Restoration Project. A crew evaluates whether this lake sturgeon is a candidate for relocation.

ConAgra Foods donates \$5,000 to the Friends of the Neosho National Fish Hatchery

Terry Mace, Complex Manager for ConAgra out of Carthage, Missouri, visited the Neosho National Fish Hatchery (NFH) on September 2 and presented a check for \$5,000 for the Friends of the Neosho National Fish Hatchery. The check was given to the Friends of the Hatchery to construct a picnic shelter on the grounds. The picnic shelter will be used for special events as well as for the general public visiting the Neosho NFH. The friends group at this facility has been organized for about two years. Friends Groups offer a tremendous benefit to a hatchery.

David Hendrix, Neosho NFH



-USFWS

Aerial view of the Neosho National Fish Hatchery located in southwestern Missouri within the city limits of Neosho.

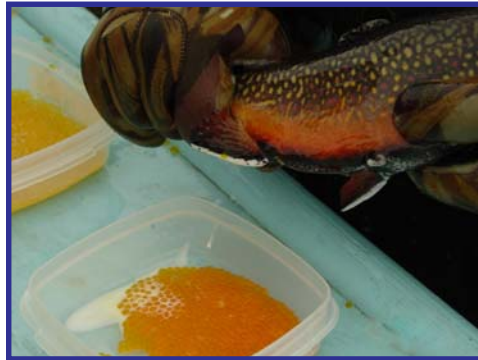
Aquatic Species Conservation and Management

Coaster Brook Trout go Island Hopping

On September 23, 52,500 coaster brook trout from the Iron River National Fish Hatchery (NFH) were stocked into Siskiwit Bay on Isle Royale National Park which is an island complex in Lake Superior off Houghton, Michigan. At midnight the previous night, the fish were loaded onto trucks from the Iron River and Genoa NFHs and transported to Houghton, Michigan by manager Dale Bast and biologists John Johnston and Nic Starzl. At 7:00 AM the fish transport tanks were removed from the trucks and hoisted onto the front deck of the National Park Service's Vessel Ranger III. The young fingerlings weathered a rough boat ride in 8–10 foot seas and were stocked from the vessel in Siskiwit Bay. A four and a half hour voyage resulted in the fish being returned to the natal waters from which their parents originated. From the lower decks of the Ranger III, the Park Service's Regional Director, Chief of Interpretation, Public Affairs Officer, as well as vacationers were impressed to see the fish fall past them and dive immediately upon hitting the surface of Lake Superior.

This was the fifth year in which fish have been stocked into the bay to boost population viability. The parents of the fish came from the island as eggs from collection efforts in 1995 and 1999. Coasters are a migratory form of lake dwelling brook trout that were historically widespread and common in the near-shore waters of Lake Superior. There are only 3 or 4 viable populations remaining in the lake, where there were as many as 118 historical populations.

Brothers and sisters to the fish that went to the island are being used to reestablish populations in other Lake Superior tributaries. *John Johnston, Iron River NFH*



-USFWS

Eggs are gently removed from a female coaster brook trout at Iron River National Fish Hatchery. The resultant eggs were hatched and fish reared for several months. In September 52,500 young "fingerling" coasters were released into Siskiwit Bay of Isle Royale National Park. Siskiwit Bay is the origin of parents of the fingerlings released.

Incidental Captures of Lake Sturgeon yield New Information on their Status in Lake Michigan

The lake sturgeon is listed as threatened or endangered in 19 of the 20 states in its original range, but little is known about the abundance, distribution, and movements of this species in the Great Lakes. Since 1996, volunteer commercial fishers have helped the Fish and Wildlife Service to fill this information gap by providing biologists with data and tissue samples (for genetic analyses) collected from sturgeon captured incidentally. Additional data and tissue samples have been collected through incidental captures by agency assessment crews and consulting firms.

Fishery Biologists Brian Gunderman and Robert Elliott from the Green Bay Fishery Resources Office (FRO) recently prepared a report summarizing

data on 119 sturgeon captured in Lake Michigan from 1996-2002. This analysis yielded new information regarding the movements, depth preferences, spatial distribution, and rate of encounter of sturgeon in Lake Michigan. In addition, researchers at Michigan State University are conducting genetic analyses of tissue samples that should reveal the river of origin for these individuals along with distribution and movement information for sturgeon in Lake Michigan. Incidental capture data was also compiled for Lakes Superior, Huron, and Erie, and the individual lake reports combined and edited by Emily Zollweg of the Lower Great Lakes Fishery Resources Office (Amherst, New York) to produce an overall summary of the incidental lake sturgeon capture data for the Great Lakes. As volunteer commercial fishers continue to provide biologists with data on incidental sturgeon captures, our knowledge of the biology and current status of lake sturgeon in Lake Michigan will expand, and biologists will be able to develop more specific rehabilitation strategies to preserve this native species. *Brian Gunderman, Green Bay FRO*

Annual Aquatic Invasive Species Surveillance completed on Lake Huron

The Alpena Fishery Resources Office (FRO) completed bottom trawling surveillance for aquatic invasive species including Eurasian ruffe, round goby, and others at eight Lake Huron ports in cooperation with the Marquette Biological Station during the week of September 15. Lake Huron

ports and shipping lanes from the St. Marys River to the Saginaw River were surveyed. Both Eurasian ruffe and round goby, two invasive nuisance fish species from Eurasia, were found in Lake Huron during the mid-1990s.

Both species are prolific spawners, allowing them to become abundant quickly and are thought to compete with native species for food and habitat. Surveillance efforts targeting these and other non-native nuisance species are conducted to locate any newly established populations, to examine existing populations, and gather baseline information in areas where invasives have not yet been established. The round goby has spread to many areas around Lake Huron, but the Eurasian ruffe has only been found in Thunder Bay near Alpena, Michigan. No new populations were discovered during surveillance in 2003 and existing populations of round goby continue to persist. Alpena FRO is the Fish and Wildlife Service office responsible for aquatic nuisance species (ANS) surveillance in U.S. waters of Lake Huron.

Anjanette Bowen, Alpena FRO



-USFWS

Marquette Biological Station provided a trawling vessel to monitor for invasive species at eight Lake Huron ports.

Fish and Wildlife Service issues Final Rule on Double-crested Cormorant Management

Double-crested cormorants are large, fish-eating birds that nest in colonies and roost in large numbers. A reduction in eggshell-thinning pesticides (primarily DDT), increased legal protection under the Migratory Bird Treaty Act, and abundant food resources on their breeding and wintering grounds have caused cormorant numbers and distribution to increase greatly in the last 30 years. The current population in North America is estimated at 2 million birds, nearly 70% of which are in the interior population, which includes Region 3 of the U.S. Fish and Wildlife Service (USFWS). The species is widespread throughout the Great Lakes and about 115,000 pairs currently nest there. Conflicts with human and natural resources, including real or perceived impacts on commercial aquaculture, recreational fisheries, vegetation, and other colonial water birds that nest with cormorants, led to a decision by the USFWS to develop a management strategy for the species. After 4 years and a process that generated nearly 10,000 letters of comment from the public and conservation organizations, the final rule on double-crested cormorant management in the U.S. was published recently in the Federal Register (see <http://migratorybirds.fws.gov/issues/cormorant/cormorant.html>). The rule implements the regulatory aspects of the preferred alternative in the USFWS's Final Environmental Impact Statement (FEIS) on cormorant management (published in August 2003) and includes the USFWS's Record of Decision on the FEIS.

Under the rulemaking, a Public Resource Depredation Order (PRDO) has been established that allows State fish and wildlife agencies, Federally-recognized tribes (on tribal lands), and U.S. Department of Agriculture (USDA) Wildlife Services to control cormorants, without a Federal permit, in 24 states (including all states in the Upper Midwest) when the birds are causing conflicts with public resources provided that the agencies have landowner permission and fulfill certain reporting and monitoring requirements. Public resources include fish (free-swimming as well as hatchery stock at public facilities), wildlife, plants, and their habitats. Agencies and tribes undertaking cormorant control under the PRDO will have to indicate why such actions are needed and monitor and report on the effectiveness of the actions and their impacts on cormorants and other co-nesting birds. Conservation measures to protect threatened and endangered species are included in the rule. All Federal agencies, including the USFWS, will have to work through the USDA Wildlife Services or the states if they wish to control cormorants that are impacting public resources. The primary role of the USFWS will be to provide oversight of control activities to ensure that populations of cormorants and co-nesting bird species are not adversely affected. The rulemaking also modifies the existing Aquaculture Depredation Order for cormorants to allow birds to be killed (with landowner permission) at winter roost sites near aquaculture facilities. This will not affect anything in the Upper Midwest except that a larger kill of birds on the wintering grounds will presumably mean

fewer breeding birds returning to our region. However, since birds that winter together can breed in many different areas, including much of prairie Canada, the degree to which U. S. Great Lakes breeders would be affected is not likely to be severe.

The rulemaking was effective on November 7, 2003, and the regulations it establishes in 50 CFR 21.48 require that agencies wishing to control cormorants under the PRDO notify the USFWS before they undertake such activities. Only agency personnel or their designees are allowed to control cormorants.

Steve Lewis, Migratory Birds (RO)



-USFWS

Double-crested cormorants are large, fish-eating birds that nest in colonies and roost in large numbers.

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

During September, the Fish and Wildlife Service's sea lamprey control program treated 9 Great Lakes streams (2 in Lake Superior, 3 in Lake Huron, and 4 in Lake Michigan) with lampricide to eliminate invasive larval sea lamprey populations. These treatments destroyed an estimated 284,000 sea lampreys including about 17,100 that would have metamorphosed to the parasitic phase in 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 and salmon during its year long life in the lakes. The Fish and Wildlife Service's sea lamprey control program is conducted under contract with the Great Lakes Fishery Commission. The successful control program continues to ensure sport fish rehabilitation in the Great Lakes and protects a fishery valued at over \$4.0 billion.

Dennis Lavis, Ludington Biological Station

Lake Michigan Lake Sturgeon Status Assessment Project completes Second Year

The Green Bay Fishery Resources Office (FRO) completed its second large-scale collection of lake sturgeon from the open waters of Green Bay in northwestern Lake Michigan. This work is part of the Fish and Wildlife Service's involvement in the Lake Michigan Lake Sturgeon Status Assessment Project, a large cooperative initiative by biologists and researchers from nine partner agencies and institutions around the Lake Michigan basin to gather information necessary to proceed with rehabilitation efforts for this species. Rob Elliott, Fisheries Biologist with the Green Bay FRO, serves as project manager for this project.

A contract was made with Hickey Brothers Fisheries to set and help fish six large commercial trap nets in southern Green Bay during May-June. A total of 155 lake sturgeon were captured, including both juvenile and large adult fish ranging from 24-82 inches and up to 140 lbs. Captured sturgeon were measured, sampled

for genetics, tagged with passive integrated transponder (PIT) tags for later identification, and pectoral fin spines were collected from a sub sample for aging. Seven of the fish had been previously tagged during other components of this basin wide status assessment project. The biological information, catch rate and recapture data, along with analysis of the genetic samples are being used to help determine the origin, abundance, distribution, and movement of these fish contributing to the mixed stock of lake sturgeon residing in Green Bay.

While sturgeon were commonly encountered years ago when these waters were heavily fished commercially, large trap nets have not been fished in southern Green Bay in many years, and, until the initiation of this component of the project, no biological data existed on the mixed stock of sturgeon from these waters. Funding for the project was provided by the Great Lakes Fishery Trust and the Giovanni Auletta Armenise Harvard Foundation.

Robert Elliott, Green Bay FRO



-USFWS

A biologist collects data and releases a lake sturgeon while fishermen process their whitefish catch. Green Bay Fishery Resources Office contracted local commercial fishermen to set trap nets in southern Green Bay capturing 155 lake sturgeon.

Goby impacts on Lake Trout Investigated

Staff from the Alpena Fishery Resources Office (FRO) completed round goby sampling on a near shore Lake Huron lake trout reef during September. The purpose for the sampling is to determine if goby are a potential impediment to lake trout rehabilitation.

Round goby are an aggressive bottom dwelling fish that negatively impact native species through their competition for food and habitat, egg predation, and rapid proliferation. The study is funded by a grant from the Environmental Protection Agency's Great Lakes National Program Office and is designed to determine if round goby are consuming lake trout fry or eggs. Goby were captured using baited setlines and minnow traps. Only 14 fish were captured during the two day sampling event, probably due to cold water temperatures. The Fish and Wildlife Service has responsibility for aquatic nuisance species control and monitoring and native species restoration for lake trout in the Great Lakes. The information gathered from this project will assist our agency with its efforts to rehabilitate lake trout in Lake Huron.

Tracy Hill, Alpena FRO

Juvenile Lake Sturgeon Research in Southern Lake Huron

Fishery Biologist James Boase from the Alpena Fishery Resources Office (FRO) and fishery technician Joe Tetreault from Ontario Ministry of Natural Resources visited Point Edward, Ontario on September 11 to work with commercial fishers from Purdy Fisheries Inc. The goal of

the visit was to collect juvenile lake sturgeon, implant them with an ultrasonic transmitter, and then release them back into Lake Huron. Purdy Fisheries has consistently captured juvenile lake sturgeon while fishing for yellow perch during the fall fishing season. Review of the catch logs provided by Purdy Fisheries revealed that the juvenile lake sturgeon are consistently captured in the same relative location year after year.

Although no lake sturgeon were captured during the September 11 fishing trip, information about the area was collected including; range of depth, water temperature range, and substrate composition. If enough juvenile lake sturgeon are collected during the next few weeks, fish will be implanted with ultrasonic transmitters and released. Information derived from the implanted fish will greatly enhance our understanding about the habitat requirements of juvenile lake sturgeon in southern Lake Huron and the St. Clair River with direct application to other areas of the Great Lakes.

The trip to Point Edward provided an excellent opportunity for Boase to work and interact with commercial fishers and biologists from Ontario. Maintaining this cooperative relationship with the commercial fishers and Canadian biologists is vital to lake sturgeon rehabilitation efforts taking place in this region of the Great Lakes. The visit also provided the opportunity to explain the Fish and Wildlife Service's mission and efforts to restore native fish. In addition, knowledge gained from the trip will aid in focusing our energy and limited resources to rehabilitate lake sturgeon.

James Boase, Alpena FRO



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This juvenile lake sturgeon will be implanted with an ultrasonic transmitter to enhance our understanding about habitat requirements.

Lakers return Home to Lake Superior

On a bright, sunny day at the shores of beautiful Lake Superior, 450 sub-adult lake trout of the Lake Superior Isle Royale Wild strain were released. Staff from the Iron River National Fish Hatchery (NFH) loaded the trout at the hatchery and planted them near Port Wing, Wisconsin. The trout averaged between 10 and 14 inches in length and weighed about a pound each. Before release, each fish had a right ventral and adipose fin removed to identify that it came from a hatchery. The fish were stocked to alleviate crowding in the brood stock rearing facility. In addition, the demand for strain specific lake trout eggs does not require these additional fish to be held. One goal of the Iron River NFH is to produce eggs for the National Broodstock Program. The need for brood stock reductions occasionally occur at the hatchery and stocking is both beneficial to the fish and to the local community.

Steve Redman, Iron River NFH

Public Use

Baby Lake Sturgeon Displayed during Centennial Event at Lake Erie Metropark

Fishery Biologist James Boase traveled to Gibraltar, Michigan in September to staff the Fish and Wildlife Service's fishery display booth at Lake Erie Metropark. The display was one segment of the centennial celebration for the Detroit River International Wildlife Refuge. The display consisted of an aquarium housing six month old lake sturgeon and a display wall with posters describing lake sturgeon life history, threats to survival, and current habitat construction taking place in the Detroit River in southern Lake Huron. Approximately 600 visitors ranging in age from young children to senior citizens visited the display during the two day event. Boase answered questions from the general public and from other professionals attending the event. Most questions pertained to fisheries research and the health of the Great Lakes.

The forum was an excellent opportunity for Boase to explain how the Alpena Fishery Resources Office (FRO) is working with other Fish and Wildlife Service program staff, natural resource agency biologists, recreational anglers, and commercial fishers from both Canada and the U.S. in efforts to improve the health of the Great Lakes. This event provided a unique opportunity to explain to the public the Fish and Wildlife Service's mission and efforts to restore native fish and our efforts to control exotics in the Great Lakes. Specifically, answers to posed questions focused on efforts to rehabilitate lake sturgeon populations in the Great Lakes and

the role of Fishery Resources Offices in this endeavor. Benefits of native species restoration was clearly defined and explained, as well as the negative impacts that exotic species have on that effort. *James Boase, Alpena FRO*



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Service biologist James Boase is ready to answer questions about lake sturgeon. Aquarium displays are excellent outreach tools at events.

Get Your Hiking Boots On

Iron River National Fish Hatchery (NFH) is located a few miles from the Lake Superior shoreline in northern Wisconsin. This summer hatchery staff began development of a public hiking trail in cooperation with Northland College from Ashland, Wisconsin. For several years, students have been planning a trail to be constructed on hatchery property. We are also working with the Bayfield County Forestry Department who are allowing a portion of the trail to run on county forest land. This summer our maintenance man, John Antilla, has been busy clearing brush off

paths for the trail. The students mapped out the entire trail and marked sites for future information stops along the way. A large trail map will be on display in the hatchery visitor center. *Angela Baran, Iron River NFH*



-USFWS

The Iron River National Fish Hatchery is located a few miles from the Lake Superior shoreline in northern Wisconsin. In addition to viewing hatchery operations, visitors can now roam the northwoods on a public hiking trail adjacent to the hatchery.

These Fish Came from Where? Lake Sturgeon Education and Outreach Materials Surprise Many

The Green Bay Fishery Resources Office (FRO) has participated in several activities during the summer of 2003 aimed at increasing awareness and educating the public on the natural history, status, management, research, and rehabilitation of lake sturgeon in Lake Michigan and Green Bay. A display was staffed and presentations made at the Little Sturgeon Days Festival in Little Sturgeon, Wisconsin and at the Crossroads At Big Creek Environmental Learning Center Science Fair in Sturgeon Bay, Wisconsin. Both events drew surprise from attendees who did not realize that sturgeon were still

living and swimming in area waters.

Working in cooperation with Wisconsin Department of Natural Resources, Rob Elliott from the Green Bay FRO designed a large display of historic and current photographs and figures with accompanying text describing the history, status, and current research and management of sturgeon in Green Bay and Lake Michigan. The display also featured brochures, videos, and numerous hands on samples and scientific equipment used in the study of sturgeon, providing a variety of learning opportunities for the wide range of ages attending the events. For the Little Sturgeon Days event, the large holding tank containing a live adult male, adult female, and juvenile lake sturgeon drew great interest. These sturgeon were collected from the waters of Green Bay, an area many people think has been devoid of sturgeon for years. The display of live sturgeon provided the first opportunity for many of the festival attendees to see and touch a live lake sturgeon.

Lake sturgeon were once an abundant and important component of the Great Lakes fish community and played a prominent role in the history of the Green Bay and Sturgeon Bay areas in Wisconsin. They declined dramatically during the late 1800s due to over-fishing, habitat destruction, and degraded water quality. Increased awareness of sturgeon is an important aspect of successful rehabilitation efforts.

Robert Elliott, Green Bay FRO



-USFWS photo by Robert Elliott

Visitors at the Little Sturgeon Days festival in Little Sturgeon, Wisconsin take advantage of the opportunity to observe lake sturgeon up close.

Chaseburg Rod and Gun Youth Learn about Fishery Biology and Technology

Chaseburg, Wisconsin hosted its annual Youth Day on Saturday, September 6th. Employees from the La Crosse Fishery Resource Office (FRO) and Genoa National Fish Hatchery (NFH) gave presentations to 80 people about technology of fishery biology, identification and biology of fish species, collection of fish for research, and hatchery operation. Children and their chaperones viewed electro shocking, radio telemetry, and fish tagging equipment, as well as several live mussel and fish species. A shocking boat was displayed with a generator, shocking box, and booms with droppers. Pit tags, spaghetti tags, and coded wire tags were some of the tagging devices shown to the audience. The aquarium contained lake sturgeon, walleye, largemouth bass, and

several other native fish and mussel species.

Other presentations and activities at the event included trap shooting, .22 target shooting, a bow shoot, tomahawk and knife throwing, arrow painting, arrowhead and spearhead crafting, reloading shot gun shells, fishing tackle displays, dog training, and several others. This was a great opportunity for Fish and Wildlife Service offices to reach out to local sport clubs and inform them about current projects and issues. Several groups of people requested presentations at their club meetings.

Heidi Keuler, La Crosse FRO

Sea Lamprey Display Shuffles Off to Buffalo, New York

Personnel from the Sea Lamprey Management program participated in the Lower Great Lakes Fishery Resources Office's Fish & Wildlife Festival on September 13. The festival was sponsored by Topps Supermarket, Knoll's Mobil, and Friends of Fish, Amherst, New York. The festival was an extension of the Lower Great Lake Fishery Resource Office's "open house". A number of groups and government agencies participated including Friends of the Lower Great Lakes Fishery Resources Office; Allegheny National Fish Hatchery, Warren, Pennsylvania; New York State Department of Environmental Conservation; Iroquois National Wildlife Refuge; Dr. "B" Suited for Science; Buffalo Zoological Society; and First Niagara Bank. Entertainment was provided by the Ghost Riders.

Terry Morse, Marquette Biological Station

Cooperation with Native Americans

Ashland Fishery Resources Office assists Tribes With Fall Walleye Surveys

Frank Stone, Ashland Fishery Resources Office (FRO), completed the fourth week of an eight week project assisting the Great Lakes Indian Fish and Wildlife Commission in determining recruitment levels of juvenile walleye. The objectives of these surveys are to estimate relative abundance of young-of-the-year walleye in several lakes of northern Wisconsin. The data from these surveys will be used in conjunction with spring population estimates, to set walleye safe harvest levels for Wisconsin tribes. Stone will be conducting fishery surveys on a total of 32 lakes over an eight-week period.

The sampling effort takes place at night when walleye activity is the highest and catch efficiency is maximized. Using a boat electrofishing system, fish collection is relatively fast and efficient. Both length and scale/spine samples are collected. Catch per unit effort values are calculated by dividing the number of fish collected by the total minutes of effort. These data reflect the lake's recruitment values and are combined with the spring population surveys to yield the information needed to help determine the number of adult walleye that can be safely harvested.

Frank Stone, Ashland FRO



-USFWS

Ashland Fishery Resources Office biologist Frank Stone is geared up for cold weather. Stone is assisting the Great Lakes Indian Fish and Wildlife Commission in determining recruitment levels of juvenile walleye in several northern Wisconsin lakes.

Green Bay Fishery Resources Office surveys Lake Whitefish Populations in Northern Lake Michigan

The Fish and Wildlife Service's Green Bay Fishery Resources Office (FRO) surveyed lake whitefish populations in northern Lake Michigan. September surveys were completed in Manistique and Escanaba, Michigan in cooperation with staff from the Chippewa-Ottawa Resource Authority. The surveys employed more than 15,000 feet of graded mesh gill-nets to sample the relative abundance of lake whitefish and to collect data on whitefish length-at-age and maturational stage. These data are independent of the whitefish data collected from commercial fishery catches. Within a few years, these independent assessment surveys will provide a time-series of data that can be used to validate and improve the performance of lake whitefish projection models and ultimately will improve the process of setting lake whitefish harvest quotas in Great Lakes waters covered under the Consent Decree of 2000.

Better lake whitefish projection models allow fishery managers to set safe harvest quotas that conserve an adequate number of adult spawners to sustain the lake whitefish populations.

Dale Hanson, Green Bay FRO

Alpena Fishery Resources Office assists the Chippewa Ottawa Resource Authority with Walleye Assessments in 1836 Treaty Waters

During the week of September 22, Fishery Biologist Scott Koproski of the Alpena Fishery Resources Office (FRO) traveled to Sault Ste. Marie, Michigan to assist the Chippewa Ottawa Resource Authority (CORA) with their annual walleye assessments. CORA stocks walleye at various locations in the St. Marys River, and the Alpena FRO provides an electrofishing vessel and operator to electrofish the stocking locations. This annual sampling helps CORA measure the effectiveness of their stocking efforts. Koproski and CORA staff successfully sampled three stocking locations. A fourth stocking site was not assessed due to inclement weather. Alpena FRO staff have assisted CORA with their annual walleye assessment for the past 11 years. In addition to providing assistance to tribal resource agencies, the assessment of walleye in the St. Marys River is another example of Alpena FRO's commitment to native fish conservation and assessment. Walleye are an important native recreational and commercial fish species in Lake Huron. Alpena FRO will continue to assist CORA to evaluate stocking efforts, if requested.

Scott Koproski, Alpena FRO

Stream Surveys at Keweenaw Bay Indian Community

At the request of the Keweenaw Bay Indian Community, Fish and Wildlife Service biologist Frank Stone recently conducted seven stream surveys near the Keweenaw Bay Indian Reservation (Falls River). The lack of historical brook trout surveys has made management recommendations difficult for the Keweenaw Bay Natural Resources Department (NRD). To adequately understand the species diversity and recruitment levels of these fisheries, the Keweenaw Bay NRD and the Ashland Fishery Resources Office (FRO) conducted stream surveys to monitor several index stations. Tribal biologists are primarily interested to know if any stream restoration measures are needed, where they can collect trout for possible relocation, and where the tribe can stock the brook trout fingerlings that are now being reared at the Keweenaw Bay Indian Fish Hatchery. By knowing the characteristics of each stream and where brook trout reproduction is occurring, the tribe can better focus its management efforts. The Keweenaw Bay Indian Community is located near Baraga, Michigan.

Frank Stone, Ashland FRO



-USFWS
Keweenaw Bay staff conduct stream surveys to develop baseline information to manage their fisheries.

Stream Quality surveyed in the Oneida Nation Reservation

The Green Bay Fishery Resources Office (FRO) worked cooperatively with the Oneida Tribe of Indians of Wisconsin to sample eleven sites on seven streams within the Reservation. Assessments will help determine biological health and quality of the fishery resources. The objectives were to identify species composition, describe the biological health of each stream, and assist with a Tribal creel survey. Sampling was performed with electro shocking equipment during the summer. A total of 2,758 fish representing 28 species were sampled during the assessments. Game fish species sampled included largemouth bass, walleye, northern pike, and smallmouth bass. An Index of Biotic Integrity (IBI) score was calculated for applicable sites to determine the biological health or integrity of each stream. The IBI scores will enable the Tribe to monitor stream integrity over time and determine the impact land use change has on stream health within the Reservation.

Stewart Cogswell, Green Bay FRO

Fish and Wildlife Service Co-Chairs Modeling Subcommittee Meeting for 1836 Treaty Waters

Fishery Biologist Aaron Woldt of the Alpena Fishery Resources Office (FRO) attended and co-chaired the September 16-18 meeting of the Modeling Subcommittee (MSC) of the Technical Fisheries Committee (TFC). The primary focus of this meeting is to generate preliminary 2004 harvest limits for lake whitefish in 1836 Treaty waters of Lakes Huron, Superior, and

Michigan. As stipulated in the 2000 Consent Decree, preliminary lake whitefish harvest limits must be calculated by the MSC, reviewed by the TFC, and presented to the parties to the decree by November 1 each year. The 2000 Consent Decree is a 20 year fishery allocation agreement for 1836 Treaty waters signed by the State of Michigan, United States, Bay Mills Indian Community, Sault Ste. Marie Tribe of Chippewa Indians, Grand Traverse Band of Ottawa and Chippewa Indians, Little River Band of Ottawa Indians, and Little Traverse Bay Bands of Odawa Indians.

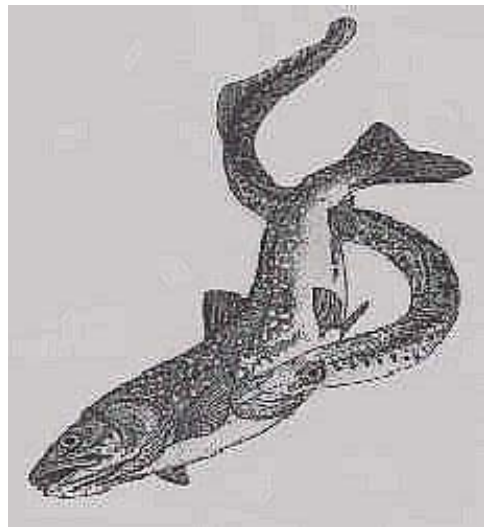
Preliminary lake whitefish harvest limits were presented to the TFC for review on October 8. The MSC will complete final lake whitefish harvest limits and present them to the parties by December 1 as stipulated in the Decree. Harvest limits produced at this meeting, when reviewed by the parties and finalized, will become binding 2004 lake whitefish harvest limits for 1836 Treaty waters. These harvest limits protect the biological integrity of the lake whitefish stocks. This outcome is consistent with the Fish and Wildlife Service's goal of building and maintaining self-sustaining populations of native fish species while meeting the needs of tribal communities.

Aaron Woldt, Alpena FRO

Leadership in Science and Technology

Fewer Sea Lampreys produced in the St. Marys River

Trapping and the sterile-male-release technique reduced reproduction of invasive, parasitic sea lampreys in the St. Marys River. Traps operated by the Fish and Wildlife Service and its partner, the Department of Fisheries and Oceans, Canada, removed 33% of the spawning lamprey population from the river which borders the U.S. and Canada. In addition to removing the reproductive potential of females, traps also removed males which reduced competition for sterile males seeking mates in the river. About 29,000 male sea lampreys captured in 20 Great Lakes tributaries in the U.S. and Canada were sterilized and released into the St. Marys River.



-GLFC

Invasive sea lamprey attach to fish during its parasitic life stage.

The sterile-male-release technique reduces reproduction by causing females to waste their eggs in matings that will fail. The combination of trapping and sterile-male release reduced

reproduction by about eighty percent during 2003. The technique has reduced reproduction in the river by about eighty-seven percent since 1997. 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*

Aging Scale Samples from Whitefish is a Critical Component of Surveys

Lake trout and lake whitefish age data are used in population models that determine lake trout and lake whitefish harvest limits for parties to the Year 2000 Consent Decree. During the month of September, Fishery Biologist Adam Kowalski aged all scale samples collected during the spring fishery independent lake whitefish survey conducted by the Alpena Fishery Resources Office (FRO). To age scales, Image Pro Plus software is used. It allows a digital camera connected to a dissecting scope to take pictures of the scales and display them on a computer screen. A picture of every scale is taken and electronically archived for future reference. After the picture is taken, the software allows the ager to place marks on the scale to label annuli. These marks are then saved separately from the scale image. This is done so that multiple agers can read the same scale and compare age assignments.

A combined total of 473 lake trout, lake whitefish, and round whitefish assessments were aged.

All of these aged samples will be used in models to calculate harvest limits for the 2004 lake trout and 2005 lake whitefish fishing seasons in 1836 Treaty waters. Aging these samples is critical to meet 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.

Adam Kowalski, Alpena FRO

Alpena Fishery Resources Office provides Technical Assistance to U.S. Geological Survey

Fishery Biologist Scott Koproski was contacted by Chuck Madenjian of the U.S. Geological Survey Great Lakes Science Center to assist with aging burbot otoliths from Lakes Michigan and Huron. Madenjian has been collecting burbot for three years in an attempt to identify growth characteristics of Great Lakes burbot populations. Koproski has extensive experience aging otoliths, and Madenjian provided samples to Koproski for analysis. Koproski used the crack and burn technique to identify annuli formation within 82 pairs of otoliths. Age data was then provided to Madenjian for analysis. Burbot are a native Great Lakes species. This work is an example of Alpena Fishery Resources Office (FRO) staff developing partnerships with other federal agencies to enhance native fish species. Although burbot are not a highly prized fish species by commercial or recreational fishers, they are an important native species that needs to be monitored and protected.

Scott Koproski, Alpena FRO

Aquatic Habitat Conservation and Management

Little Carp River Restoration and the "Stream Sweeper"

In August a device called the "stream sweeper" was tested at the Keweenaw Bay Indian Community (IC) on the Little Carp River near Keweenaw Bay of Lake Superior to remove excessive sediment deposited by the failure of an upstream road crossing. The stream sweeper is a small portable dredge which can "walk" over dry land on tracks or "swim" in the water. It is being tested at this site by Michigan Technological University (MTU). Keweenaw Bay IC Natural Resources Department is the lead on the effort which will restore 2,500 feet of river. The Fish and Wildlife Service's Great Lakes Coastal Program is a partner on this project which also includes Trout Unlimited and the Natural Resources Conservation Service.



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The "stream sweeper" is being tested on the Little Carp River at the Keweenaw Bay Indian Community. It is a small portable dredge for removing excessive sediment deposits.

The project also serves as an educational demonstration project for MTU students, local elected officials, county conservation boards, and various technical personnel. The result of this project is better fish passage for

fish species such as brook trout, as well as improved aquatic habitat for amphibians and aquatic invertebrates.

Ted Koehler, Ashland FRO

Celebrating the Centennial through Habitat Restoration

The Alpena Fisheries Resources Office (FRO) and Ottawa National Wildlife Refuge (NWR) hosted a refuge centennial event on September 20 as part of National Public Lands Day that included a small scale habitat restoration project. A group of volunteers applied bank stabilization techniques along one hundred feet of Crane Creek using soft engineering. Crane Creek is a low gradient stream which flows through the refuge and empties into Lake Erie through a flooded river mouth. The creek provides habitat for migratory birds and lake fish species. It is a vital component to the refuge and the Lake Erie system. This project utilized methods of stabilization which will enhance the habitat and reduce sedimentation into the Creek without the use of large rock. Materials utilized for this project included coconut filter fabric, coir logs, and native live plants and seed mixes. The materials used are completely biodegradable, within a 5 -10 year span, after the vegetation has been established.

Biologist Susan Wells and Public Use Specialist Rebecca Hinkle planned this refuge centennial event to allow people the opportunity to become involved in habitat management on a small portion of the refuge. The people involved with the project responded with positive attitudes toward the restoration project and

enjoyed the opportunity for the hands on work. This is an opportunity which is not usually offered to the public and their efforts can be viewed from the walking trails. A sign will be erected commemorating their efforts.

The event was such a success that there have been requests to repeat the project next year with some volunteers even offering construction materials. Due to the high support by volunteers, plans have already begun between the Alpena FRO and Ottawa NWR to repeat the project on a larger scale in 2004. This accomplishment provided multiple resource outcomes by integrating educational and outreach opportunities with on the ground restoration. Ten volunteers participated in the event.

Susan Wells, Alpena FRO



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Biologist Susan Wells and volunteers stabilize the bank at a habitat restoration site along Crane Creek at Ottawa National Wildlife Refuge.

Griffin Wetland Restoration Project Completed

Construction has finished on the Griffin Wetland Project in northern Wisconsin. This Partners for Fish and Wildlife project consists of one wetland restoration site with a total of 2 wetland acres. The project took place in a 40 acre idled hay field in the Iron River watershed. This wetland will enhance wildlife habitat on the adjacent upland as well, and approximately 80 surrounding acres have been positively impacted for wildlife. Species which will benefit include the American black duck, American woodcock, and gray wolf.

The landowners, Mike and Kaytee Griffin, have been improving their entire 80 acre site for wildlife since purchasing the land. The project was led by Ted Koehler from the Ashland Fishery Resources Office (FRO) with survey assistance from Mike Pero and Eric Maki from the Ashland, Bayfield, Douglas and Iron County Land Conservation District. After the design was completed, the contract was awarded to K & D Excavating of Mason, Wisconsin. Construction of the earthen embankment with a grassed spillway was completed in August 2003. A Wetland Development Agreement was signed to protect a total of 2 acres for 10 years.
Ted Koehler, Ashland FRO



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The Griffin Wetland is a Partners for Fish and Wildlife project in the Iron River watershed that will restore 2 wetland acres and have a positive impact on wildlife in the surrounding 80 acres. Species which will benefit include the American black duck, American woodcock, and gray wolf.

Island Construction in Polander Lake benefits Fish on the Upper Mississippi River

La Crosse Fishery Resources Office (FRO) initiated a project this year as requested by the Upper Mississippi Wildlife and Fish Refuge - Winona District. The study is designed to determine fish usage in Polander Lake's new island complex. These islands were constructed as part of the Habitat Rehabilitation and Enhancement Project (HREP) on the Upper Mississippi River. Several HREPs have islands as a feature built into the project. The islands help break up wind fetch which should reduce suspended sediments and create slack water habitat which promotes vegetation growth and provides food and cover for both fish and wildlife. Nesting habitat for waterfowl and turtles are also benefits of island construction.

Fishery monitoring was conducted Sept. 25-26. This information will be compared to the spring and summer data which will help determine seasonal use. Both electrofishing and trap netting were conducted, and fish collected were weighed, measured and released. This project is a

great follow up to the paddlefish work which was conducted in Polander last year. The information obtained from this project will help resource managers make critical decisions on habitat projects.

Scott Yess, La Crosse FRO

Partners for Fish and Wildlife Program

The Fish and Wildlife Service's Partners for Fish and Wildlife Program, is a voluntary partnership program that helps private landowners restore wetlands and other important fish and wildlife habitats on their own lands. The program provides financial and technical assistance to private landowners through voluntary cooperative agreements. Usually, a dollar-for-dollar cost share is achieved by working with landowners and a host of nationally based and local entities (e.g., Federal, State, and local agencies, soil and water conservation districts, and private conservation organizations). Landowners sign an agreement to retain the restoration projects for the life of the agreement (at least 10 years) and otherwise retain full control of their land.

In Fiscal Year 2002, the Fish and Wildlife Service and its partners restored and improved the following fish and wildlife habitats: 64,760 acres of wetlands; 184,860 acres of native prairie and grasslands; 550 miles of riparian corridors, streambanks, and instream aquatic habitat; 21 fish passage barriers were removed and reopened 70 miles of streams were reopened to fish passage. For more information about the Partners for Fish and Wildlife Program, visit their website at: <http://partners.fws.gov/RO/Fisheries>

Workforce Management

Volunteers survey for Goby on Shiawassee National Wildlife Refuge

Alpena Fishery Resources Office (FRO) and Shiawassee National Wildlife Refuge (NWR) hosted an angling survey to document the native fish community and to look for the presence of round goby in Refuge waters in September. The round goby is a nuisance fish species that was accidentally introduced to the Great Lakes in 1990. It is a prolific spawner allowing it to become very abundant and has since spread to many areas around the Great Lakes. The goby is now found in many Michigan river tributaries of Lake Huron including the upper reaches of the Shiawassee and Flint Rivers and the mouth of the Saginaw River. There was some question as to whether it was impacting native fisheries on the Shiawassee NWR. In 1999 angling surveys were conducted to look for the goby in refuge waters. No goby were found.

The Shiawassee survey was repeated in 2003 to determine if the goby had reached the refuge over time. Rebecca Goche and Doug Spencer (Shiawassee NWR) and Anjanette Bowen (Alpena FRO) coordinated the event with volunteers. Two stretches of the Cass River and Spaulding Drain (Flint River) were surveyed. Low water levels prohibited sampling on the Shiawassee River. Again in this survey, no goby were captured. Freshwater drum and channel catfish were the most common species captured. Native fish community data was preserved to determine future changes. The Fish and Wildlife Service is responsible for aquatic nuisance

species (ANS) surveillance, monitoring, early detection, and educational activities in the Great Lakes. Shiawassee NWR is Fish and Wildlife Service land protected and managed for the benefit of fish and wildlife.

Anjanette Bowen, Alpena FRO



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Fish and Wildlife Service staff from Alpena FRO and Shiawassee NWR coordinated the invasive goby survey on the Refuge. The Cass River and Spaulding Drain were surveyed using angling gear by volunteers.

Sea Lamprey Control Staff works Jointly with Fishery Resources Office to Achieve Program Goals

Kyle Krysiak of the Marquette Biological Station and Anjanette Bowen of the Alpena Fishery Resources Office (FRO) completed a week-long project where fishery operations objectives for both stations were met. After the Alpena FRO learned earlier this summer that their trawling vessel was no longer field operational due to structural problems, the Sea Lamprey Control Program office in Marquette offered their vessel and qualified operator to Bowen and the Alpena FRO to conduct their annual survey for ruffe in key harbors of the upper Great Lakes. Krysiak, in turn, was able to use this time as a training exercise to gather valuable experience in the

operation of a larger vessel with several advanced navigational devices and safety equipment on board. Working together, all designated trawling stations were completed and much valuable experience was gained in navigation and marine operations.

John Heinrich, Marquette Biological Station

Genoa National Fish Hatchery participates in Motorboat Operator Certification Course held in La Crosse, Wisconsin

Employees from Genoa National Fish Hatchery (NFH) participated in the Motorboat Operator Certification Course (MOCC) held at the La Crosse Fishery Resources Office. Dan Kumlin and Jeff Lockington, Genoa NFH staff, were two of the instructors of the MOCC while other Genoa NFH staff, Hatchery Manager Doug Aloisi and Mussel Biologist Tony Brady, were two of the ten participants taking the course. Dan and Jeff instructed the participants using their many years of boat operations experience on the Upper Mississippi River. The setting for the course was beautiful Lake Onalaska where students learned the finer points of motorboat operations, trailer handling and towing, and most importantly safety rules of the road for boat operations.

Tony Brady, Genoa NFH

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Fish Lines
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A Glimpse into our Proud Past

South Dakota Unit students, Tom Felix and Jim Sinning, marking trout plant with fluorescent dye on the Yellowbank River

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