



U.S. Fish & Wildlife Service

Fish Lines



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Vol. 2 No. 6

Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems

Alpena Fishery Resources Office

(See the "Station Spotlight" on Page 5)



-USFWS and DTE photos

Series of photos depicting Alpena Fishery Resources Office (FRO) activities: (Top Row, Lt. to Rt.) Alpena FRO crew sets gill nets from the M/V Togue for a fall spawning survey in Lake Huron; Lake whitefish; Jim Boase and U.S. Geological Survey staff lift a lake sturgeon set line; (Middle Row) A wetland restoration project accomplished through the Partners for Fish and Wildlife Program; Johnson Creek fish passage project, before and after; (Bottom Row) Invasive Eurasian ruffe are captured in gill nets in Thunder Bay River, Lake Huron; Close-up of invasive ruffe; An invasive round goby captured during a spring aquatic invasive species assessment in Lake Huron.

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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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.

Great Lakes - Big Rivers Region Fisheries Field Offices



Great Lakes - Big Rivers Regional Fisheries Program

Station Spotlight - Alpena Fishery Resources Office

Alpena Fishery Resources Office (FRO) was established in Alpena, Michigan in 1992 under the authority of the Great Lakes Fish and Wildlife Restoration Act of 1990 to provide fishery management assistance to Federal, state, tribal and provincial natural resource agencies in Lake Huron, its connecting waterways, and the western basin of Lake Erie. A diverse array of programs and activities are administered through the office with a staff of ten permanent and term positions and are directed at Fish and Wildlife Service priorities such as habitat conservation and native species restoration.

Alpena FRO provides leadership for implementation of the National Fish Passage Program for Lake Huron and Western Lake Erie Basins. Since 2000 the Alpena FRO has led efforts for 12 fish passage projects in lakes Huron and Erie watersheds restoring access to 75 miles of stream habitat. Numerous partnerships have been developed through these efforts and the network of partners continues to expand.

The Alpena FRO provides leadership for post-stocking evaluations of lake trout reared at National Fish Hatcheries through analysis of coded-wire tag returns and conducts fall spawning surveys at various offshore reefs in Lake Huron. In addition, the Alpena FRO has led an interagency effort in lakes Huron and Erie and the connecting St. Clair waterway to determine the status and trends of lake sturgeon stocks in those waters.



-USFWS

Biologists Aaron Woldt and Adam Kowalski prepare to set a gill net for a fishery independent survey in Lake Huron. Lake whitefish assessments on Lake Huron help determine safe harvest limits under a Consent Decree for fishery management and allocation in 1836 Treaty waters of the upper Great Lakes.



-USFWS

Alpena Fishery Resources Office

Left to Right: Aaron Woldt, Heather Enterline, Scott Koproski, Adam Kowalski, Jerry McClain, Anjanette Bowen, Tracy Hill (recently transferred to the Columbia FRO), Debra Turner, James Boase, Susan Wells

Alpena FRO leads an effort to monitor existing invasive species populations, track their range expansion and quantify their impacts on the native fish community. Surveillance and population monitoring efforts are conducted at numerous Lake Huron ports and river mouths.

In August 2000 a 20-year agreement (Consent Decree) for fishery management and allocation was reached between the U.S., five Native American tribes and the State of Michigan for 1836 Treaty waters of lakes Superior, Michigan and Huron. To comply with terms and requirements for implementation of the Consent Decree, a Treaty Fisheries Unit was established at the Alpena FRO in 2001 to conduct fishery assessment, perform statistical catch-at-age modeling to determine safe harvest limits, and assist with management of lake trout and lake whitefish stocks in Lake Huron. Lake trout rehabilitation serves as a central focus of the Consent Decree and staff from the signatory agencies work together to ensure that commercial and recreational fisheries are conducted in a manner consistent with goals of the rehabilitation effort.

For detailed information about the Alpena Fishery Resources Office, contact the office at (989) 356-5102 or visit the Regional website at:

<http://midwest.fws.gov/alpena/index.htm>

Partnerships and Accountability

Fish and Wildlife Service Biologist appointed to Chair the St. Marys River Fishery Task Group

Alpena Fishery Resources Office (FRO) Biologist Anjanette Bowen was appointed as Chair for the Lake Huron Technical Committee's St. Marys River Fishery Task Group at the committee's summer meeting in July. The Task Group was established in 1997 to achieve an understanding and a joint strategy for enhancing the fishery resources of the St. Marys River.

The St. Marys River Fishery Task Group has a multi-agency membership including the Michigan Department of Natural Resources, Ontario Ministry of Natural Resources, Chippewa Ottawa Resource Authority, Bay Mills Indian Community, Lake Superior State University, Sault College, Department of Fisheries and Oceans Canada, and the Fish and Wildlife Service. The task group's recently published information on the St. Marys River fishery may be found on the Great Lakes Fishery Commission's website at <http://www.glf.com/lakecom/lhc/lhchome.asp> under "Publications and Products." Efforts will further promote partnerships and a multi-agency approach to fishery conservation and management on the St. Marys River. Partnerships and Leadership in Science and Technology are important components of the Fisheries Vision for the Future.

Anjanette Bowen, Alpena FRO



Cooperators assure Success of 2004 Sea Lamprey Population Monitoring in the Great Lakes

One of the primary methods to assess the long-term effectiveness of the Sea Lamprey Control program is by measuring by the abundance of spawning-phase lampreys in the Great Lakes. Monitoring of spawning-phase sea lampreys is conducted through assessment trapping with a variety of portable and permanent traps. Several cooperators participated in trapping efforts on 19 streams and rivers during 2004: Chippewa/Ottawa Resource Authority, DOW Chemical, Grand Traverse Band of Ottawa and Chippewa Indians, Great Lakes Indian Fish and Wildlife Commission, Lake Superior State University, Little Traverse Bay Band of Odawa Indians, National Park Service, Red Cliff Band of Lake Superior Chippewas, and Wisconsin Department of Natural Resources. Partner cooperation is critical in the continued monitoring of sea lamprey abundance, which determines our progress toward achieving fish community objectives in the Great Lakes.

Jessica Richards, Marquette Biological Station

Consensus achieved on Intra-Service Consultation to comply with the Endangered Species Act

Sea lamprey management staff reached agreement with personnel of the Ecological Services East Lansing Field Office on a project to net sea lamprey transformers in the Carp Lake River in Emmet County, Michigan from October to December 2004. The intra-Service consultation was conducted to protect and avoid disturbance to the Federally-listed endangered Hungerford's crawling water beetle and threatened Pitcher's thistle in or near the Carp Lake River in accordance with section 7 of the Endangered Species Act of 1973, as amended. The sea lamprey program continues to work closely with partners to control populations of sea lampreys in tributaries of the Great Lakes to protect the fishery and related economic activities in the basin (an estimated benefit of \$4-6 billion/year to the region). The Fish and Wildlife Service delivers a program of integrated sea lamprey control in the United States waters of the Great Lakes as a contracted agent of the Great Lakes Fishery Commission.

John Weisser, Marquette Biological Station

Lake Huron Technical Committee Meetings

Project Leader Jerry McClain and Biologist Aaron Woltdt from the Alpena Fishery Resources Office (FRO) participated in the summer meeting of the Lake Huron Technical Committee (LHTC) as well as two associated meetings in July. A group involved in a lake whitefish stock delineation tagging

study met to formalize plans for initiation of a November 2004 project. The Alpena FRO will share the whitefish tagging responsibilities with the Michigan Department of Natural Resource's Alpena Fishery Research Station with the FRO tagging whitefish in the Rockport to North Point region of Lake Huron.

The LHTC's Lake Trout Task Group (LTTG) met in Bay City to discuss a number of issues related to lake trout rehabilitation in Lake Huron. McClain, Woldt and Jordan River National Fish Hatchery (NFH) Project Leader Rick Westerhof are all members of that group. Crystal Legault Anderson also participated in the LTTG meeting to represent the Pendills Creek and Sullivan Creek NFHs.

These two meetings were followed by the LHTC summer meeting. Interagency coordination and collaboration are critical to fishery management in the Great Lakes and are consistent with the Partnerships and Accountability, and Aquatic Species Conservation and Management elements of the Fish and Wildlife Service's Fisheries Program Vision for the Future.

Jerry McClain, Alpena FRO

Great Lakes Lake Sturgeon Coordination Meeting in Planning Stage

Ashland Fishery Resources Office (FRO), other Fish and Wildlife Service offices, state, tribal, provincial, and academic partners are planning for the second Great Lakes Lake Sturgeon Coordination Meeting. This meeting will be held at the Quality Inn in Sault St. Marie, Michigan in November, 2004. The meeting purpose is to provide a bi-annual forum to foster communication and exchange of information related to the study, management, and restoration of lake sturgeon in the Great Lakes basin, to address priority research and assessment needs, and to address selected emerging issues.

In addition, three priority issues will be addressed from the 2002 meeting. They are habitat classification (spawning, rearing and juvenile), habitat restoration and enhancement, and fish passage. There will also be follow-up presentations on two important issues covered at the 2002 meeting (use of stocking and genetic considerations to rehabilitate populations, and development of standardized assessment techniques).

Henry Quinlan, Ashland FRO

Lake Whitefish Population Survey - Getting By With a Little Help from Our Friends

The Ashland Fishery Resources Office (FRO) conducted gill net assessments for lake whitefish out of Grand Marais, Michigan during July. This was a cooperative effort between the Fish and Wildlife Service, Bay Mills Indian Community, Chippewa-Ottawa Resource Authority (CORA), and Michigan Department of Natural Resources (DNR). The information obtained is used by agencies to manage the commercial and recreational harvest of lake whitefish in Lake Superior.

During the assessment, our vessel (RV Chub), developed a crack in the hull which caused it to list to port and fill with water several days later. With assistance from Pictured Rocks National Lakeshore, the Grand Marais Coast Guard Auxiliary, and several local businesses, the vessel was righted and towed to the landing where it was loaded onto a trailer. The following day, the National Park Service provided a boat and operator that allowed us to lift a portion of our nets, while CORA contributed a boat and operators over the next four days to help us complete the survey on schedule. Without this invaluable assistance from our partners, the surveys would not have been completed this year. These surveys are coordinated by the Technical Fisheries Committee (TFC) of the 2000 Consent Decree for 1836 Treaty waters of Lake Superior. Members of the TFC include the Michigan DNR, CORA, and Fish and Wildlife Service.

Glenn Miller, Ashland FRO



Aquatic Species Conservation and Management

Winning Sea Lamprey Battle in the St Marys River make Fish Happy!

During July, sea lamprey management teams from the Fish and Wildlife Service and Department of Fisheries and Oceans, Canada continued their assault on invasive sea lampreys in the St Marys River which is the international boundary between the two countries. Over 200 acres of river bottom, identified as having high densities of sea lamprey larvae, were treated with a lampricide. This annual effort, combined with an intensive trapping program for spawning-phase adults and a vigorous effort at releasing sterile male lampreys during spawning seasons, has resulted in a significant decline in lamprey numbers in the river and northern Lake Huron. If fish had lips, they would be smiling!

Terry Morse, Marquette Biological Station



-USFWS

Fish and Wildlife Service personnel apply lampricide on the St Marys River to areas with high densities of invasive sea lampreys. Over 200 acres of river bottom was treated. The St Marys River is the international boundary between the United States and Canada.

Search for Brook Trout in Tributary Streams of Lake Superior

Ashland Fishery Resources Office (FRO), with the assistance of Trout Unlimited and the Red Cliff tribe, conducted fishery assessments on Bayfield Peninsula tributaries of Lake Superior (Chicago Creek, Red Cliff Creek, Raspberry River, and Sucker Creek), and in unnamed tributaries on Oak and Stockton Islands to determine the presence of brook trout in these waters. During electrofishing efforts, brook trout were targeted for capture while estimates of abundance of other species were noted (e.g. few, common, abundant). Captured brook trout were measured, weighed, a scale sample taken for aging, and a fin clip for genetic analysis. These efforts completed the summer component of a larger study. A fall sampling component will include stream electrofishing and electrofishing near-shore in Lake Superior to determine whether brook trout are coming into the streams to spawn. Information gathered will be used by the cooperating parties to manage brook trout in the region with a goal to establish populations that exhibit the migratory life history.

Jonathan Pyatskowit, Ashland FRO

Fish Health Assessment completed on Pool 5A of the Mississippi River

Members of the La Crosse Fish Health Center (FHC), La Crosse Fishery Resources Office (FRO), and the La Crosse Refuge District Office completed a fish health assessment on Pool 5A of

the Mississippi River near Winona, Minnesota. Several viruses are of high concern in the upper Mississippi River. Largemouth Bass Virus or LMBV negatively affects largemouth bass but is carried by most members of the sunfish family. In carp, the virus of concern is Spring Viremia of Carp Virus or SVCV. This is an exotic disease in United States waters and native suckers can also be affected.

Environmental Careers Organization (ECO) interns, Anne Bolick (La Crosse FHC) and Carlos Lozano (La Crosse FRO) assisted with the wild fish health assessment. ECO is an organization based out of Boston, Massachusetts working to diversify the environmental fields. It gives hundreds of internships every year working with Federal, state, and private programs. Internship Program Coordinator Josephine Xiong, from ECO also observed the assessment. Normally Josephine interviews the interns in an office setting, but the opportunity arose where she was able to see the interns in action.

Corey Puzach, La Crosse FHC



-USFWS

Members of the La Crosse Fish Health Center and the La Crosse Fishery Resources Office take samples from numerous wild fish species to monitor the health of populations in the Mississippi River.

Welcome Home!

The Iron River National Fish Hatchery (NFH) has completed the 2003 distribution season with outstanding success. In a collaborative effort between the Iron River, Pendills Creek, and Jordan River NFHs 1,194,400 fingerling lake trout were successfully planted from Iron River. Lake Huron received 100,750, Lake Michigan 904,450, and Lake Superior 189,200 lake trout. Fish were loaded onto trucks, transported many miles, loaded aboard the M/V Togue, and stocked at several sights throughout the Great Lakes. The mission of the Iron River NFH is an essential part of a plan to rehabilitate populations of lake trout in the Great Lakes. Production activities began in 1983, with the first yearling lake trout stocked out of the facility in the spring of 1984.

Steve Redman, Iron River NFH



-USFWS

Staff from the Iron River National Fish Hatchery transfer lake trout to the offshore stocking vessel, M/V Togue. Approximately 1,194,400 fingerling lake trout were planted from the Iron River facility.

Sea Lamprey Control Program destroys Lampreys to save Lake Trout

During July, the Fish and Wildlife Service's sea lamprey control program treated 13 Great Lakes streams (five in Lake Superior, two in Lake Huron and six in Lake Michigan) with lampricide to eliminate invasive larval sea lamprey populations. These treatments destroyed an estimated 817,000 sea lampreys including about 14,000 that would have metamorphosed to the parasitic phase in 2004 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 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



-GLFC

Invasive sea lampreys are attached to this lake trout. During July, the sea lamprey control program treated 13 upper Great Lakes streams with lampricide to eliminate larval sea lamprey populations.

Shocking Discoveries at the Iron River National Fish Hatchery!

Biologists Steve Redman and Nikolas Grueneis captured wild trout from Shacte Creek with backpack shockers. This collection effort was targeted primarily for brook trout found within a three-quarter mile section of the creek that borders the Iron River National Fish Hatchery (NFH). Because the creek is the primary source of water for the hatchery, it's essential to maintain wild fish stocks to a minimum to reduce the potential for transferring fish diseases to the hatchery fish. A total of 70 brook trout were removed for fish disease analysis. Although disease problems have not yet been positively diagnosed from wild trout within this system, collections for disease inspection will continue to be carried out on an annual basis.

Steve Redman, Iron River NFH



-USFWS

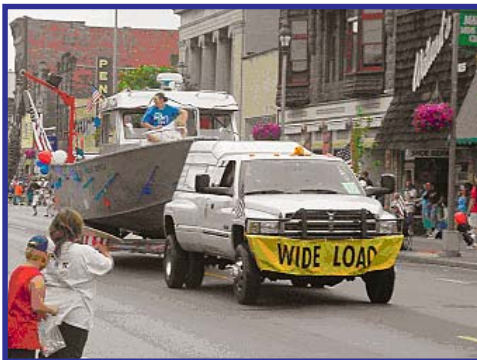
Nick Grueneis uses a backpack shocker to temporarily stun fish in Shacte Creek. The creek is the water supply for the Iron River National Fish Hatchery. Wild fish are periodically relocated from this portion of the creek to minimize the potential of disease transfer to cultured fish.

Public Use

R/V Chub floats through July 4th Parade

Ashland Fishery Resources Office (FRO) staff and volunteers decorated the station's Great Lakes Vessel, R/V Chub, with patriotic colors and decorations and floated down Main Street in the Ashland, Wisconsin for the July 4th parade. During the parade, aquatic nuisance species key chains and Conserving America's Fisheries key chains were distributed to cheering crowds. The station hopes to continue this effort in future years for continued exposure in the community.

Jonathan Pyatskowitz, Ashland FRO



-USFWS

Ashland Fishery Resources Office staff and volunteers proudly showcase their Great Lakes vessel, R/V Chub, at the local July 4th celebration.

Sea Lampreys a Hit at the County Fair

“Eeewwww!” “What an ugly lookin’ critter!” “Oh, it’s like a leech.” “Hon, come, look at this thing.” “When I catch one on a fish, I cut its head off and kill it.” These were some of the comments heard at the sea lamprey display booth at the Western Michigan Fair in Mason County, Michigan. Staff from the Ludington Biological

Station’s Sea Lamprey Management Program was invited by fair officials nearly a year ago to present a booth featuring live adult lamprey, a series of larval specimens of different age groups, and the tabletop display, along with a short video presentation on sea lamprey control methods. Pamphlets and coloring books were distributed in large numbers. The public, which is not often exposed to information about invasive sea lampreys, was very interested in discussing the control of this pest, known as the vampire of the Great Lakes.

Sea lampreys destroyed the lake trout fishery in the Great Lakes during the middle of the last century. Control began during the 1950s, after establishment of the Great Lakes Fishery Commission, and has resulted in a sustainable fishery returning between 4.5 to 6.0 billion dollars to the Great Lakes economy. The control program is contracted by the Great Lakes Fishery Commission to the Fish and Wildlife Service in the United States and the Department of Fisheries and Oceans in Canada, creating a truly international effort aimed at reducing the damage this parasite causes. Estimates indicate that the control effort has resulted in up to a 90-95% reduction in numbers from their peak population.

Dennis Lavis, Ludington Biological Station

Alpena Downtown Friday Night

Alpena Fishery Resources Office (FRO) Biologist Susan Wells and Student Trainee Andrea Gray staffed a Fish and Wildlife Service information booth at Alpena Downtown Friday Night in July. Downtown Friday Night is a family event held in the city of Alpena. Children’s games and activities were used to educate the youth on the morphology of fish and habitat requirements. Downtown Friday Night participants received information about Lake Huron fisheries and fisheries management by visiting the booth. Approximately 200 people visited the booth. This citywide event provided the Alpena FRO the opportunity to fulfill one of the station goals of distributing information to the general public about fish and wildlife resources, natural ecosystems, and programs of the Fish and Wildlife Service. Providing public use through education and outreach is an important component of the Fish and Wildlife Service’s Fisheries Program Vision for the Future.

Susan Wells, Alpena FRO



Cooperation with Native Americans

Prairie Island Indian Community Prairie Restoration Project

The restoration of native prairie is a high priority of the Prairie Island Indian Community (Community). The island is located near Red Wing, Minnesota and was historically dominated by prairie plants but has since been converted to cropland or pasture. The Ashland Fishery Resources Office (FRO) provided technical assistance and funding through the Partners for Fish and Wildlife Program, and the Bureau of Indian Affairs provided funding through the Circle of Flight Program.

The native prairie grass restoration will also provide expanded opportunities for the Community's bison herd. Bison are an important cultural symbol to the Community, and there are plans to use the restoration area for flash grazing by the herd. Native plants evolved under pressure from large ungulate grazers and short term grazing will provide a unique management opportunity for the native landscape. The project site also contains historic Native American cultural sites dating back hundreds of years. Tribal elders are pleased that areas around these sites will no longer be disturbed by farming practices and the landscape will be protected for future generations.

Ted Koehler, Ashland FRO



-USFWS

The Prairie Island Indian Community prairie restoration project provides expanded opportunities for their bison herd. The restoration was funded through the Partners for Fish and Wildlife and Circle of Flight programs.

Crossing the Border

Iron River National Fish Hatchery (NFH) partnered with the Grand Portage Band of Chippewa Indians, Ashland Fishery Resources Office, and Ontario Ministry of Natural Resources to stock coaster brook trout. On June 15th, hatchery staff transported 55,500 fingerling fish to the border waters of Minnesota as part of a plan to restore populations to Lake Superior waters. The fingerlings were divided and stocked into 5 streams: Reservation River, Hollow Rock Creek, Grand Portage Creek, Pigeon River, and the Upper Pigeon River. The fingerlings were all marked with the chemical oxytetracycline (marks the ear bone of the fish) and were Superior Isle Royale Siskiwit Bay (SSW) strain coasters. The fingerlings were hatched and raised at the Iron River NFH where a brood population is maintained of two Isle Royale strains.

The brood fish were created by spawning wild fish at Siskiwit Bay and collecting a small percentage of the eggs. After clearing three disease inspections, the resultant fish were transferred to Iron River NFH. Wild brood eggs are collected periodically to maintain

the genetic diversity of the strains and also to keep a current brood population. This stocking event is part of a cooperative agreement with the Grand Portage Tribal Hatchery to restore a naturally reproducing coaster brook trout population.

Angela Baran, Iron River NFH

2004 Fishery Independent Lake Whitefish Survey in Northern Lake Huron

From July 12 to July 30, staff from the Alpena Fishery Resources Office (FRO) conducted a fishery independent lake whitefish survey in 1836 Treaty waters of northern Lake Huron. Staff involved included Treaty Unit Coordinator Aaron Woldt, Project Leader Jerry McClain, and biologists Adam Kowalski, Scott Koproski, Anjie Bowen, and Susan Wells. Assistant Regional Director for Fisheries Gerry Jackson also participated in the survey. The goal of this survey was to collect fishery independent abundance and biological data of lake whitefish stocks in treaty waters for use in statistical catch-at-age (SCAA) population models that are updated annually to determine harvest regulation guidelines (HRG's) for tribal commercial fishers in 1836 Treaty waters.

As dictated in the 2000 Consent Decree (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), the Modeling Subcommittee (MSC) of the

Technical Fisheries Committee (TFC) annually collects data and conducts model runs to determine lake whitefish HRG's for five management units in northern Lake Huron. In 2002, the MSC identified fishery independent lake whitefish data as a critical information need. This survey meets the data need identified by the MSC.

Using the Alpena FRO's 30' research vessel and staff, 13 overnight, variable mesh gill net sets were conducted at randomly selected sites in lake whitefish management unit 4 (Alpena to Presque Isle) and lake whitefish management unit 5 (Presque Isle to Hammond Bay). Net sets included standard bottom set survey nets as well as legged nets with a 3' gap near the substrate. The Alpena FRO is evaluating whether these legged nets increase lake whitefish catch and decrease lake trout bycatch.

All lake whitefish collected were measured, weighed, checked for lamprey wounds, sexed, and assessed for maturity and visceral fat content. Non-target fish species were worked up in a similar manner as well. We took scale and otolith samples from each lake whitefish for age determination and removed stomachs whole. The stomach contents will be identified and counted by staff at the Great Lakes Environmental Research Lab in Muskegon, Michigan. This survey will be completed in August.

Data collected in this survey will improve the accuracy of current population models being used to set lake whitefish harvest guidelines in 1836 Treaty waters of northern Lake Huron. Good model output is essential to sound and sustainable management of the lake whitefish resource in northern

Lake Huron, and lake whitefish is the central component to the Native American commercial fisheries in 1836 Treaty waters. Harvest limits allow lake whitefish fisheries to be executed while still protecting the biological integrity of lake whitefish stocks. This outcome is consistent with the Fish and Wildlife Service's Fisheries Program Vision for the Future element for Aquatic Species Conservation and Management by maintaining self-sustaining populations of native fish species while meeting the needs of tribal communities.

Aaron Woldt, Alpena FRO



-USFWS

Assistant Regional Director Gerry Jackson assisted the Alpena Fishery Resources Staff with a whitefish survey in 1836 Treaty waters of northern Lake Huron.

Huron Bay Fish Assessment completed for the Keweenaw Bay Indian Community

The Ashland Fishery Resources Office (FRO) completed a fish assessment of Huron Bay, Lake Superior for the Keweenaw Bay Indian Community. The assessment is part of a Quality Assurance Project funded by the Environmental Protection Agency. Experimental gillnets, trawls, and modified Windermere traps were used to identify the fish community over each of three major substrates described in the bay (cobble, sand, or mud). Species diversity consisted of 16 species over cobble, 15 species over sand, and 22 species over mud. A total of 27 species were collected. At least two additional species, lake sturgeon and northern pike, are known to occur in Huron Bay but were not collected in this survey. The majority of species overlapped the three substrates, but coaster brook trout, longnose dace, and pearlrose dace were collected only over cobble; chinook salmon was collected only over sand; and brook stickleback, smallmouth bass, yellow perch, and the invasive threespine stickleback were collected only over mud.

Gary Czypinski, Ashland FRO



-USFWS

The Ashland Fishery Resources Office conducted a fishery assessment of Huron Bay, Lake Superior for the Keweenaw Bay Indian Community.

Leadership in Science and Technology

Mussel Recovery Effort now 'In-Synch'

Once found throughout many Midwestern rivers, only three populations of the Federally endangered winged mapleleaf mussel are known to exist. The population inhabiting a 10-mile stretch of the St. Croix National Scenic Riverway that borders Minnesota and Wisconsin is the only one known to be reproducing and efforts to recover this species are currently focused here. During the fall of 2003, laboratory tests conducted in La Crosse, Wisconsin by Department of the Interior colleagues from the U.S. Geological Survey's Upper Midwest Environmental Sciences Center and the Fish and Wildlife Service's La Crosse Fishery Resources Office (FRO) identified blue catfish and channel catfish as suitable host fish species upon which parasitic winged mapleleaf larvae (glochidia) will transform into free living juveniles. However, because these tests were conducted at unseasonably warm water temperatures to accelerate the transformation process, none of the 20,000 juveniles recovered during mid- to late-autumn were in phenological synchrony with the natural environmental conditions of the St. Croix River in November when many of these mussels were placed in cages here. Prospects that these juveniles would survive the winter and resume growth during the following spring were considered poor, due in part to the unnatural sequence and duration of thermal regimes they encountered.

In an effort to transform winged mapleleaf glochidia into juveniles for release into the St. Croix River in an appropriate phenological manner that would

increase chances for its survival, four glochidia-infested channel catfish were maintained by Mark Steingraeber, a fishery biologist at the La Crosse Fishery Resources Office, for a 9-month period (October 2003 – June 2004) at a thermal regime that closely followed the reported mean daily water temperature of the St. Croix River. All fish survived the winter and remained infested with glochidia while in cages that were submerged in a pond for five months. Fish were returned to individual aquaria during spring when mussel development resumed at water temperatures above 48°F. A total of about 3,500 active juvenile mussels were later recovered during a one-week period at the start of summer.

An interagency team of divers from the Fish and Wildlife Service, National Park Service, and Minnesota Department of Natural Resources subsequently assembled on July 2 near Marine-on-St. Croix, Minnesota to place about 3,100 of the recently transformed juvenile winged mapleleaf mussels inside protective enclosures in the St. Croix River. It is hoped that many of these juvenile mussels will survive and continue to grow here, thermally 'in-synch' with their natural environment. The knowledge and experience gained during this successful long-term scientific investigation will soon be put to practical use by the Fish and Wildlife Service and its partners with appropriate phenological propagation efforts to help restore the St. Croix winged mapleleaf population and recover this species in other portions of its historic range.

Mark Steingraeber, La Crosse FRO



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This is a juvenile winged mapleleaf mussel less than 24 hours old. The mussel larva (glochidia) that formed this juvenile was inoculated onto the gills of a channel catfish 266 days earlier.

Sea Lampreys respond to Pheromones in Field Tests

Sea lamprey pheromones were released into Michigan streams this spring to test their potential to help control Great Lakes invasive sea lamprey populations. Pheromones are chemical signals that pass between organisms of the same species to communicate. Recent research indicates that sea lampreys rely heavily upon these cues to find spawning rivers and mates. Larval sea lampreys release a potent pheromone that attracts migratory adult sea lampreys into streams, and sexually mature male sea lampreys release a pheromone that attracts females to a nest. Studies were designed to test each of these pheromones.

The first study was designed to assess our ability to influence the movement of migrating adult lampreys within a stream by releasing migratory pheromone into one branch of a "Y"-bifurcated stream. Concentrated washings from larval lampreys were applied to one of two traps placed into each branch. Sea lampreys were individually implanted with passively integrated transponder (PIT) tags and then released downstream of the stream

branches. Remote sensing devices were placed in the stream to monitor lamprey movements. Preliminary results suggest that lampreys showed a strong preference for the branch that was treated with pheromone and entered the pheromone treated traps more often than the untreated traps.

In the second study we tested the hypothesis that as the density of bait (spermiating male lampreys) increased in traps, the number of females captured would increase as well. Ovulating female sea lampreys were released downstream. Preliminary analysis showed that the female lampreys entered the more densely baited traps more often than less densely baited traps when the traps were placed across the width of the stream. The Fish and Wildlife Service conducted the field trial in cooperation with the Department of Fisheries and Oceans, Canada; the U.S. Geological Survey; Michigan State University, and the University of Minnesota.

The migratory pheromone study was conducted under an Experimental Use Permit from the Environmental Protection Agency, the first such permit granted for release of a pheromone for a vertebrate species. Analysis of data from both studies is continuing and plans for additional studies are being formulated. These preliminary results are encouraging and suggest a new alternative control technology may become available.

Michael Twohey, Marquette Biological Station



-GLFC

A technician from the Sea Lamprey Control Program releases invasive sea lampreys with implanted PIT tags during a migratory pheromone field trial. Pheromones are chemical signals that pass between organisms of the same species to communicate. Preliminary results of this study are encouraging and suggest a new alternative control technology may become available.

Come One, Come All

Over a period of two weeks, Iron River National Fish Hatchery (NFH) had visitors from far and wide arriving to view the mass marking trailer from Northwest Marine Technologies. This type of trailer is currently used by salmon hatcheries out west and was on site at Iron River to test how well it works with lake trout. Fishery staff from Federal, state, and tribal agencies, and universities came to see how the trailer worked and to ask questions about how well it would work for each of their needs. The Great Lakes Fisheries Commission sponsoring the event.

Dale Bast, Iron River NFH

Sea Lampreys captured in Fish Wheel

The Marquette Biological Station evaluated an "old" technology for use in the battle against Great Lakes invasive sea lampreys. A fish wheel was operated in the Cheboygan River (Cheboygan, Michigan) for several days near the end of the lamprey spawning migration in June. The

fish wheel uses river current to turn baskets on an axel, capturing upstream migrating fish, and depositing them live in a holding cage. Fish wheels have been used to capture migrating fish in the United States and Canada for more than a hundred years. Fish wheels are used most prominently on the Pacific Coast to harvest and assess salmon.

The Cheboygan River fish wheel was constructed by fisheries technicians who researched successful designs used on the Pacific coast. It was fabricated on an old pontoon boat. The fish wheel was successful in capturing more lampreys than adjacent traps during some nights of operation. This technology may have a role in capturing lampreys at sites with large dams, or other characteristics that make traditional lamprey traps less effective. Its performance will be evaluated for the potential to assist in the existing network of Great Lakes sea lamprey traps.

Michael Twohey, Marquette Biological Station



-GLFC

This fish wheel uses river current to turn baskets on an axel, capturing upstream migrating fish, and depositing them live in a holding cage. This technology is being evaluated for capturing migrating invasive sea lampreys in the Great Lakes.

Aquatic Habitat Conservation and Management

Horse Power on North Fish Creek Project

Large boulders presented a problem with implementing phase three of the North Fish Creek Submerged Vane Stream Restoration Project. With no way to get heavy equipment to the site without building a road through a quarter mile of forest and negotiating steep banks, an innovative solution needed to be found. The answer: Jacob Obletz of Rocking O' Ranch Logging from Mason, Wisconsin. Jacob uses draft horses to skid logs out of sites that call for low impact methods. This time, in addition to some logs which needed to be moved on the site, he also pulled boulders, one of which was estimated at over a ton.

The Fish and Wildlife Service's Ashland Fishery Resources Office (FRO) hired Jacob and his team of horses to do the work through the Partners for Fish and Wildlife Program. The landowner, whose family has been farming and caretaking this piece of ground for decades, was excited to know that horses would once again be put to work on the landscape. With ever increasing modernization and mechanization we tend to dismiss or forget about the historic ways of getting things done.

Ted Koehler, Ashland FRO



-USFWS

Draft horses were used to move boulders as part of the North Fish Creek Submerged Vane Stream Restoration Project. This alternative provided for a low impact method to accomplish restoration objectives.

Lost Lake Woods Wetland Restorations

Partners for Fish and Wildlife program biologists Jim Hazelman from the East Lansing Private Lands Office and Heather Enterline from the Alpena Fishery Resources Office (FRO) coordinated a partnership between Ducks Unlimited, Lost Lake Woods, and the Fish and Wildlife Service to restore 313 acres of wetlands on two sites within the Lost Lake Woods property in Alcona County, Michigan. Lost Lake Woods was originally founded as a sportsmen's club, but now houses a golf course, lodge, and many year-round residents. The majority of the 10,000 acres owned by the club is designated for wildlife and managed by a private consultant. These two wetland restoration projects, funded in part by the Partners for Fish and Wildlife Program, are the third and fourth of such projects on the property.

The largest project was the restoration of a 283 acre wetland known as Beaver Lake. The water control structure on the lake was replaced in July with a 36 inch

Agri-Drain, and a spillway was constructed to ensure that the lake would have a water outlet in a high-water event. Beaver Lake was experiencing very low dissolved oxygen levels, and the structure once used as an overflow did not allow Lost Lake Woods to manipulate water levels. The new Agri-Drain structure allows for water level manipulation. The Club has agreed to manage this wetland in a manner that will allow for the lake to be drawn down once every 3-4 years. The maximum water depth in this wetland is six feet. Biologists are considering wild rice plantings at the inlet of this wetland to provide an additional food source for migratory birds and other wildlife.

The second project was a 30 acre wetland restoration downstream from the outlet of Deer Lake. This site formerly had a beaver dam impounding it. The beaver moved on and the dam deteriorated and breached, leaving a scrub wetland. A low-level dike was constructed behind the old dam, and the dam was removed. A small Agri-Drain was installed in the berm to allow for water level manipulation. The maximum depth of this restored wetland area is four feet. Both projects required and received a Michigan Department of Environmental Quality permit. These restorations will benefit migratory birds and are located within six miles of the Lake Huron shoreline.

Partnerships are critical to habitat restoration in the Great Lakes and are consistent with the Fish and Wildlife Service's Fisheries Program Vision for the Future to address Aquatic Habitat Conservation and Management and Partnerships and Accountability. *Heather Enterline, Alpena FRO*

Deer Creek Red Clay Slump Site Repair Work Underway

The Deer Creek red clay slump site is a 100+ foot high failing bank three miles south of Ashland, Wisconsin, near the confluence of Deer Creek and White River. Railroad and road construction moved Deer Creek from its historic channel and forced it into a canalized situation between a steep bank and the roadway. The power of the stream is now undercutting both the road embankment and the steep clay bank on the opposite side causing environmental and roadway damage. Fish and wildlife habitat was degraded or lost, and sedimentation affected downstream fish spawning habitat. The site was identified by a multi-partnership group of agencies, organizations, and citizens as a potential restoration/demonstration site. The location of the slump is very visible from State Highway 13 and has received considerable attention by passing motorists and local residents because of the erosion and related slumping into Deer Creek from the steep hillside.

Planning is underway to designate the project as a demonstration site which will showcase state-of-the-art engineering and environmental restoration practices together in partnership with a broad based coalition. This site is just one strategy for a comprehensive approach to watershed health in the White River watershed. Ted Koehler from the Ashland Fishery Resources Office (FRO) has been involved in the project from its inception, providing technical assistance on fish and wildlife friendly construction and restoration practices.

Ted Koehler, Ashland FRO



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The Deer Creek red clay slump site is a 100+ foot high failing bank three miles south of Ashland, Wisconsin. The site has been identified as a potential restoration/demonstration project.

Fish Passage Collaboration with Huron Pines Resource Conservation & Development

Biologist Susan Wells from the Alpena Fishery Resources Office (FRO) met with Kris Bruestle from Huron Pines Resource Conservation & Development (RC&D) to identify road crossing projects that are preventing fish passage within northern Lower Michigan. Kris identified three sites with fish passage concerns. The sites are located within the Ocqueoc River Watershed, the Black River Watershed, and the Thunder Bay River Watershed. Each project will provide uninhibited fish passage to approximately five river miles of brook trout habitat for spawning and rearing. Huron Pines RC&D has some money to put towards these projects that will need to be spent within fiscal year 2005. These projects have been discussed with the county road commissions who are willing to donate a portion of their labor and equipment as a match for funding. Wells will be entering these projects into the Fish Passage Program for funding in FY 2005.

Susan Wells, Alpena FRO



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This is a road crossing site that hinders fish passage on a northern Lower Michigan watershed. Culvert replacement will provide uninhibited native brook trout access to an additional five river miles of spawning and rearing habitat.

Price County, Wisconsin Wetland Project Development

Technical assistance was given on six potential private land wetland restoration projects in Price County, Wisconsin. The projects are in cooperation with the Price County Land Conservation District and will be partially funded through the Fish and Wildlife Service's Partners for Fish and Wildlife Program. Projects ranged in size from the one acre "Deleasky Project" to the 23 acre "Winter Project." All projects incorporate upland waterfowl and songbird nesting cover in the agreements. The projects are in various stages of development and most should take place this field season. This will be the third year the Ashland Fishery Resources Office (FRO) has worked with the Price County Land Conservation District. Follow-up evaluations by Price County and FRO staff shows that the partnership wetland projects are now supporting many waterfowl broods and other migratory birds.

Ted Koehler, Ashland FRO

Workforce Management

Conservational Career Diversity Intern Program up to a Good Start

This year kicked off the inaugural year of the cooperative project between the Conservational Career Diversity Intern Program and the Fish and Wildlife Service. The Conservational Career Diversity Intern Program is made possible by The Environmental Careers Organization (ECO), stationed in Boston, Massachusetts, which is dedicated to encouraging young diverse students to seek careers in environmental conservation. This year in Region 3, four students were selected to intern at participating offices. The Genoa National Fish Hatchery (NFH), La Crosse Fish Health Center (FHC), La Crosse Fishery Resources Office (FRO), and the Neosho NFH each received one intern to work over a period of twelve weeks during the summer.

The ECO is a non-profit organization that has been providing college students, interested in the environmental conservation field, a summer internship experience since 1971. Since its creation, dozens of students have been interning for agencies such as the Environmental Protection Agency, the Bureau of Land Management, the U.S. Geological Survey, the National Oceanic and Atmospheric Administration, and now the Fish and Wildlife Service. Assistant Director of Fisheries Dr. Mamie Parker was instrumental in bringing the Conservational Career Diversity Intern Program to the Fish and Wildlife Service. Her initiative is that the program will help diversify the organization and help young students follow



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The Conservational Career Diversity Intern Program participants are: (left to right) Carlos Lozano, Anne Bolick, Ashley Umberger, and Melissa Cheung. The Genoa National Fish Hatchery (NFH), La Crosse Fish Health Center, La Crosse Fishery Resources Office, and Neosho NFH each received one of the interns to work over a 12 week period.

their career goals and work to improve the environment. The program, so far, has been much more successful than what is expected from a first year program.

The four interns, Anne Bolick, Ashley Umberger, Melissa Cheung, and myself (Carlos Lozano), have been involved in many great experiences throughout the summer participating in various projects and activities. Some of Anne's activities as an intern for the La Crosse FHC in Onalaska, Wisconsin included making copies of various types of fish genes through the process of Polymerase Chain Reaction, in order to search for selected viruses and bacterial infections that may be found in hatchery fish. Anne is a senior at New Mexico State University where she is working towards a bachelor's degree in wildlife biology. She hopes to have a career in fisheries after she has finished her education.



-USFWS photo by Carlos Lozano

Anne Bolick assists in tissue sampling during a wild fish survey on the upper Mississippi River.

Ashley Umberger, a rising sophomore at the University of Wisconsin at Green Bay, has enjoyed her experience at the Genoa NFH near Genoa, Wisconsin. Even though she does not plan to have a career in fisheries, she has had no regrets about working at the hatchery. Some of her activities included quantifying plankton samples from the stock ponds, taking water quality samples from ponds and aquaria, and entering data on a database for analysis. Ashley appreciates the opportunity she received to better understand the work of a fish hatchery in her home town.



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Ashley Umberger dispenses a scoop of plankton into a raceway.

Melissa Cheung is a graduate from the University of California at San Diego. She hopes to begin graduate school soon and plans to study fisheries. Melissa has really enjoyed her work at the Neosho NFH in Neosho, Missouri where she has been working on maintaining rainbow trout stocks. Melissa got a chance to assist in fish culture, stocking and tagging sturgeon, and water quality analysis. She is also responsible for making sure pond and aquarium fish do not show signs of bacterial or parasitic infections. This experience has inspired her to seek a career with the Fish and Wildlife Service.



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Melissa Cheung loads rainbow trout into a transport vehicle.

I am a senior at the University of Texas at San Antonio where I am studying marine and aquatic biology. Some of my tasks have been to assist in maintenance, fish and mussel surveys, writing reports, and creating displays for public outreach. I have worked on several different projects; from releasing endangered winged mapleleaf mussels into the St. Croix River to netting fish on the Illinois River for a monitoring project. I could not have asked more from the experience I have received at the La Crosse FRO based in La Crosse, Wisconsin.



-USFWS by Scott Yess

Carlos Lozano holds a flathead catfish that was captured in a trammel net in the Illinois River during an invasive speceis monitoring project.

The advisors, Becky Lasee (La Crosse FHC), Dave Hendrix (Neosho NFH), Doug Aloisi (Genoa NFH), and Pam Thiel (La Crosse FRO), have nothing but good things to say things about their interns. Likewise the interns have expressed their good comments on their advisors. After talking to the other interns I was happy to hear that they have created close bonds with their advisors as I have. Even program coordinator, Josephine Xiong from ECO is surprised and impressed how well the interns and their advisors have been getting along. This program hopes to extend its participation with the Fish and Wildlife Service in the upcoming years. The success of this year's program has been encouraging and the upcoming year sounds promising as ECO hopes to improve on what seems to be a perfect start.

Carlos Lozano, La Crosse FRO

Ashland Motorboat Operator Certification Course

The Fish and Wildlife Service's Motorboat Operator Certification Course (MOCC) instructors Stewart Cogswell, Dave Wedan, and Adam Kowalski from Region 3 Fishery Resources Offices (FRO) and John Decker from Law Enforcement put on a

three day MOCC course in Ashland, Wisconsin in July. The MOCC course is designed to give operational and safety training to Department of the Interior (DOI) employees that pilot DOI watercraft. The following is a list of topics covered during the course: surviving in the water, using floatation devices correctly, anchoring, required and recommended equipment for DOI vessels, changing a propeller, properly connecting a boat trailer to a vehicle, towing a trailer with a vehicle, U.S. Coast Guard rules of the road, use of navigational aides, and proper boat handling. Overall this course was a success, and all 12 students successfully completed the training.

Adam Kowalski, Alpena FRO



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The Motorboat Operator Certification Course provides hands-on operational and safety training to employees.

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Windows in time

A Glimpse into our Proud Past

In the past, the Fish and Wildlife Service has used various methods for transporting lake trout to historic spawning reefs in the upper Great Lakes. These included automobile ferries (left), barge and tugboats (middle), and Coast Guard vessels (right).

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