



U.S. Fish & Wildlife Service

Fish Lines



August 2004
Vol. 2 No.7

Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems



Series of photos depicting Fish Passage Program (before/after) accomplishments in the Great Lakes/Big Rivers Region: (Top Row, Lt. to Rt.) A stream grade control structure was removed to enable fish passage; This bridge replaced a culvert on the Manistee River in Michigan; (Middle Row) A permanent fish passage structure was added to this box culvert on Grand Portage Creek, Minnesota; Baskets to capture fish were redesigned in 2000 to more effectively sample fish entering Metzger Marsh in Ohio; (Bottom) Log jams were removed from Graveyard Creek in Wisconsin to enable fish passage. (see page 6 for specific information on each of these projects)

National Fish Passage Program
Region 3 Accomplishments for 1999-2003
(See the "Feature Article" on Page 5)

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



Region 3 - Great Lakes/Big Rivers Region

The Mission of the U.S. Fish & Wildlife Service: working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people

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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Missouri, Ohio, and Wisconsin
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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. The U.S. Department of State and Canadian Department of Fisheries and Oceans fund this program through the Great Lakes Fishery Commission.

Fishery Resources Offices

Fishery Resources Offices 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

Feature Article - National Fish Passage Program Accomplishments Region 3 Accomplishments for 1999-2003

The 'Great Lakes-Big Rivers Region' (Region) of the U.S. Fish and Wildlife Service (Service) is home to more than thirty million people. The Great Lakes Ecosystem is the largest system of surface freshwater on earth, and contains more than 90% of the surface freshwater in the United States. The 'Big Rivers' refer to the Mississippi, Missouri, and Ohio Rivers Ecosystems. Both ecosystems support a wealth of natural biological diversity. About 180 species of fishes are native to the Great Lakes, whereas about 140 are native to the upper Mississippi River. Abundance and distribution of many fishes have declined, in part, because of the separation of migratory species such as lake sturgeon and brook trout from important spawning, nursery, and feeding habitats. Thousands of dams, culverts, and other barriers restrict fish movements in rivers and streams of the Region.

The Fish and Wildlife Service initiated the National Fish Passage Program in 1999 to work with others to restore fish populations that declined as the result of habitat fragmentation from the construction of culverts, dikes, dams, and other barriers to fish movement. This feature article highlights the accomplishments of the Regional Program.



Before Fish Passage Improvement

Two undersized, failing culverts were replaced by a new bottomless culvert on Johnson's Crossing Road in Otsego County, Michigan. This project, on the headwaters of the Black River, enhances fish passage for native brook trout. Project funding was through the Fish Passage Program, Partners for Fish and Wildlife Program, Black River Restoration Committee, and numerous local non-profit organizations.



After Fish Passage Improvement

-USFWS photos

ACCOMPLISHMENTS

The Region and 46 partners initiated 31 projects to improve fish passage since 1999 and, thus far, have completed 20 of them (Table). The Service provided \$396,000 and partners contributed \$670,000 toward these projects. The 11 pending projects are planned for completion in 2004/2005. More than half of the completed projects renovated culverts that restricted fish movements. The completed projects provided uninhibited fish access to 203 miles of river and 900 acres of wetland habitat for spawning and feeding.



Hardwood Creek, Michigan fish passage project before (upper) and after (lower) completion.



-USFWS photos

National Fish Passage Program

Region 3 - Great Lakes/Big Rivers

Accomplishments for 1999-2003

A stream grade control structure was removed to enable fish passage.



Iowa

- 7 culvert and weir renovations
- 85 stream miles reconnected
- \$25,000 Program contribution
- \$40,000 partner contribution

This bridge replaced a culvert on the Manistee River in Michigan.



Michigan

- 6 culvert renovations
- 1 dam removal
- 1 watershed inventory
- 55 stream miles reconnected
- \$125,000 Program contribution
- \$436,000 partner contribution

A permanent fish passage structure was added to this box culvert on Grand Portage Creek, Minnesota.



Minnesota

- 3 culvert renovations
- 1 dam removal
- 1 rock ramp construction below dam
- 55 stream miles reconnected
- \$106,000 Program contribution
- \$90,000 partner contribution

Baskets to capture fish were redesigned in 2000 to more effectively sample fish entering Metzger Marsh in Ohio.



Ohio

- 1 wetland dike renovation
- 906 wetland acres reconnected
- \$80,000 Program contribution
- \$33,000 partner contribution

Log jams were removed from Graveyard Creek in Wisconsin to enable fish passage.



Wisconsin

- 3 beaver dam removal projects
- 8 stream miles reconnected
- 1 training workshop conducted
- 1 study of fish movements and habitat use
- \$60,000 Program contribution
- \$71,000 partner contribution

The goal of the National Fish Passage Program is to restore native fish and other aquatic species to self-sustaining levels by reconnecting habitat that has been fragmented by barriers.



-photo by Minnesota Department of Natural Resources

Removal of the Dutton Locks Dam and installation of step pools in the Pelican River, Minnesota reconnected 10 miles of stream for lake sturgeon, walleye, and other species.

PARTNERS

Forty-six partners and numerous private land owners provided 61% of the budgets for the completed projects. Every project required all partners to accomplish the objectives, so partner contributions are gratefully acknowledged.

Partners in Regional Fish Passage Program Projects Include:

U.S.D.A. Natural Resources Conservation Service
 U.S. Geological Survey
 National Park Service
 U.S. Army Corps of Engineers
 U.S.F.W.S.-Partners for Fish and Wildlife Program
 East Lansing Field Office
 Marquette Sea Lamprey Control
 National Fish and Wildlife Foundation
 Bad River Band of Lake Superior Chippewa, WI
 Grande Portage Band of Chippewa, MN
 Michigan Department of Natural Resources
 Michigan Department of Environmental Quality
 Minnesota Department of Natural Resources
 Minnesota Department of Transportation
 Ohio Department of Natural Resources
 White Earth Band of Chippewa, Department of
 Natural Resources
 Wisconsin Department of Natural Resources
 Kalkaska County Conservation District, MI
 Kalkaska County Road Commission, MI
 Cheboygan County Road Commission, MI
 Presque Isle County Road Commission, MI
 Otsego County Road Commission, MI
 Becker County, MN
 Vernon County Land Conservation Commission

City of Detroit Lakes, MN
 The Ohio State University
 Iowa State University
 Trout Unlimited
 Ducks Unlimited
 Tip Of The Mitt Watershed Council
 Petoskey Bay Country Club
 Upper Manistee River Restoration Committee, MI
 Maple Island Log Homes of Michigan
 Pelican River Watershed District, MN
 Upper Black River Watershed Restoration
 Committee, MI
 Michigan Flyfishing Club
 Montmorency County Conservation Club, MI
 The Hungry Canyons Alliance, IA
 Conservation Resources Alliance, MI
 Huron Pines Resource Conservation and
 Development Area Council, Inc., MI
 Shell Noreast, MI
 FishAmerica Foundation
 Otsego Wildlife Legacy Society, MI
 Lowshaw Brothers, MI
 Earthworks, MI
 Private Landowners

Table. A history and status of Fish Passage Program projects funded in Region 3, FY99-FY03.

State	Project Title	Project Type	Year Funded	Status
WI	Chippewa River Paddlefish Study	ASSESSMENT	1999	Completed
MI	Tin Shanty Bridge	Culvert Renovation	1999	Completed
MI	Hardwood Creek	Culvert Renovation	1999	Completed
IA	Western Iowa Streams	road crossing grade stabilization	2000	Completed
OH	Western Lake Erie Coastal Wetlands	wetland dike fish passage	2000	Completed
WI	Hornby Creek	Beaver Dam Removal	2000	Completed
MI	McMasters Creek	Culvert Renovation	2001	Completed
MI	Manistee River - Sharon Road	Culvert Renovation	2001	Completed
MI	Stony Creek	Culvert Renovation	2001	Completed
MI	Black River Watershed Inventory	Barrier Inventory	2001	Completed
MN	Grand Portage Creek	Culvert Renovations	2001	Completed
MN	Little Lake Creek	Culvert Renovations	2001	Completed
MN	Pelican River Dutton Locks (Red River)	dam removal	2001	Completed
WI	Graveyard Creek	Remove Beaver Dams	2001	Completed
WI	Building Fish Friendly Stream Crossings	Workshop	2001	Completed
MI	Thunder Bay River - Eichorn Bridge	Culvert Renovation	2002	Completed
MO	Osage River Basin	low water crossing	2002	Pending
WI	Cheyenne Creek	Beaver Dam Removal	2002	Completed
IA	Stream Stabilization MO River Watershed	grade control structures	2003	Pending
MI	Tannery Creek Dam Removal	dam removal	2003	Completed
MI	Saginaw River Watershed	watershed barrier removal planning	2003	Pending
MI	Johnson Crossing Culvert	culvert renovation	2003	Completed
MI	Tomahawk Creek Culvert	culvert renovation	2003	Pending
MI	N. Lower MI Watershed	culvert renovation	2003	Pending
MN	White Earth River Rock Ramp	rock ramp below dam	2003	Completed
MN	Ottertail Dam Removal	dam removal	2003	Pending
MO	Ditch 5 Water Control Structure	Refuge water control structure modification	2003	Pending
MO	Ditch 3 Water Control Structure	Refugewater control structure modification	2003	Pending
OH	Two Ohio Streams Culvert	culvert renovation	2003	Pending
WI	Bark River Culvert	culvert renovation	2003	Pending
WI	Bad River Watershed Fish Passage	culvert renovation	2003	Pending



-USFWS

Before Fish Passage Improvement

A bridge replaced culverts on McMasters Creek in Cheboygan County, Michigan to accommodate flood events and enhance fish passage movement. Native brook trout now can move freely through an additional 12 river miles containing quality spawning habitat.



-USFWS

After Fish Passage Improvement

Visit the National Fisheries Program home page at:
<http://fisheries.fws.gov/>

Visit the National Fish Passage Program home page at:
<http://fisheries.fws.gov/FWSMA/fishpassage/>

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Partnerships and Accountability

Sturgeon Experts convene to develop Genetics, Propagation, and Stocking Guidelines for Lake Michigan

A group of 24 geneticists, propagation experts, and agency biologists convened in June at Menominee, Michigan to develop specific guidelines for the genetic conservation, propagation, and stocking of lake sturgeon in Lake Michigan. These topics have been at the heart of ongoing discussions among agency biologists and researchers of how to best proceed with rehabilitation efforts for this species. Results from this meeting have laid the groundwork for implementing cooperative rehabilitation efforts in Lake Michigan.

Meeting participants included lead sturgeon biologists, researchers, and propagation specialists from the numerous resource agencies involved in the interjurisdictional management of Lake Michigan's fisheries and others having an interest in lake sturgeon. In addition, six invited sturgeon geneticists participated including Bernie May from UC-Davis, Kim Scribner from Michigan State University, Brian Sloss from UW-Stevens Point, Leonardo Congui from Universita di Ferrara, Italy, Paul Anders from S.P. Cramer and Associates, Idaho, and Chuck Krueger from the Great Lakes Fisheries Commission (GLFC). The meeting was facilitated by Dale Burkett from the GLFC.

Accomplishments of the meeting included developing guiding genetic principles for lake sturgeon rehabilitation and establishing specific goals, objectives and strategies for: 1) conserving genetic diversity and

structure that currently exists in Lake Michigan; 2) for reintroducing sturgeon into waters where they have been extirpated; and, 3) for rehabilitating existing populations to levels of sustainability. Major topics discussed included the structuring and current genetic health of remnant sturgeon populations, potential source populations for reintroductions, gamete collection and mating techniques, numeric guidelines and timelines for reintroduction and rehabilitation initiatives, and priority rearing and release techniques.

A product from the meeting is being drafted by the Task Group Steering Committee with review by the meeting attendees. Once finalized, it will be incorporated into the draft of the Lake Michigan Lake Sturgeon Rehabilitation plan for submission to the Lake Michigan Committee. The Lake Michigan Committee is the primary interjurisdictional body that addresses the lake wide management of fish stocks of common concern and the progress toward achieving the goals and objectives for the Lake Michigan fish community.

In 2003, the Lake Michigan Committee of the Great Lakes Fishery Commission formed a special task group to develop and implement a rehabilitation plan for lake sturgeon in Lake Michigan. Rob Elliott, biologist from the Green Bay Fishery Resources Office (FRO) was asked to chair this group as part of a four person Steering Committee that includes Ed Baker from Michigan Department of Natural Resources (DNR), Brad Eggold from the Wisconsin DNR, and Marty Holtgren from the Little River Band of Ottawa Indians. An initial

meeting of the Task Group in September 2003 involved more than 50 participants and resulted in development of a first draft of the rehabilitation plan. That draft identified the need to include detailed guidelines for genetic conservation, propagation and stocking as part of the plan.

Robert Elliott, Green Bay FRO



-USFWS

Lake Sturgeon

A group of 24 geneticists, propagation experts, and agency biologists met to develop specific guidelines for the genetic conservation, propagation, and stocking of lake sturgeon in Lake Michigan.

Evaluation of Lake Michigan Lake Trout Stockings presented at Native Species Restoration Workshop

Results from a multi-agency reevaluation of the stocking strategies used to distribute lake trout from National Fish Hatcheries to restore lake trout in Lake Michigan were presented at a Native Species Restoration workshop sponsored by the Great Lakes Fishery Commission. Charles Bronte, lead Fish and Wildlife Service biologist on the project from the Green Bay Fishery Resources Office (FRO), attended the workshop in Ann Arbor, Michigan. The workshop focused on the biology and restoration potential of species native to the Great Lakes and also included presentations on lake

herring, deepwater sculpin, and deepwater ciscoes. There is a growing interest in restoring these ecologically important fishes to the Great Lakes. The results of the lake trout stocking study indicated that stocking fish over historically important spawning habitat results in increased densities of returning adults in later years. Fish that were stocked with coded wire tags were likely recaptured on the same reef stocked at or at a nearby reef, and 90 percent of the fish were recovered at sites within 60 miles of stocking. These results will be used to redraft the lake trout rehabilitation plan for Lake Michigan, which is being led by Bronte.

Charles Bronte, Green Bay FRO

Lake Sturgeon Movement Study presented at the American Fisheries Society Meeting

Biologist James Boase, Alpena Fishery Resources Office (FRO), attended the 134th Annual American Fisheries Society Meeting in Madison, Wisconsin. Boase was an invited speaker at the Sturgeon Population Rehabilitation and Management Symposium and gave a presentation titled "Movements of Lake Sturgeon in the Huron/Erie Corridor." The presentation was a compilation of interagency lake sturgeon mark-recapture and telemetry studies from 1995 through 2004 and was a comprehensive look at movement patterns of lake sturgeon stocks throughout lakes Huron, St. Clair, and Erie and their connecting waterways. Partner data from Ontario Ministry of Natural Resources, Michigan Department of Natural Resources, University of Michigan, Central Michigan University and U.S. Geological Survey were combined with

Alpena FRO data for the analysis. This comprehensive examination of movement patterns suggests that, because lake sturgeon routinely move across state and international management boundaries, more consistent management policies are needed for rehabilitation of this species.

Approximately 100 researchers and policy makers from the United States and Canada attended the meeting. The symposium provided an excellent opportunity to demonstrate how Alpena FRO is working with state and Federal biologists, recreational anglers, and commercial fishers from both Canada and the United States to better manage remaining lake sturgeon stocks.

James Boase, Alpena FRO

Dedication of New U.S. Geological Survey Great Lakes Research Vessel

Ceremonies to dedicate a new U.S. Geological Survey (USGS) research vessel were held in Cheboygan, Michigan in August. Alpena Fishery Resources Office (FRO) Project Leader Jerry McClain attended the celebration along with Rick Westerhof and Clarice Beckner of the Jordan River National Fish Hatchery. Ceremonies included comments from the mayor of Cheboygan, representatives from district offices of Senator Carl Levin, Senator Debbie Stabenow and Congressman Bart Stupak, as well as USGS personnel. Following the comments, participants traveled to the vessel base for the official christening of the R/V Sturgeon and a short maiden voyage of the vessel. Addition of the R/V Sturgeon to the Great Lakes will greatly enhance forage assessment efforts in lakes Michigan and Huron.

Interagency coordination is critical to fishery management in the Great Lakes and is 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. Our support for USGS programs and operations will enhance relations between these two Federal agencies and enhance our respective efforts to protect and restore Great Lakes fisheries.

Jerry McClain, Alpena FRO



-USFWS

The R/V Sturgeon is a new U.S. Geological Survey research vessel which will greatly enhance forage assessment efforts in lakes Huron and Michigan. Forage assessments are a critical component to native fish rehabilitation programs.

Green Bay Fishery Staff attend the Lake Michigan Early Detection and Monitoring of Invasive Species Workshop

Staff members from the Green Bay Fishery Resources Office (FRO) attended a Lake Michigan Early Detection and Monitoring workshop in Ludington, Michigan, hosted by the Great Lakes Commission. This workshop was used to help develop a set of guidelines and recommendations for a coordinated invasive species monitoring network for the Lake Michigan basin. Time was spent discussing a survey that was sent out to Lake Michigan monitoring programs last December, assessing

their respective interest, ability to contribute and applicability to invasive species detection and monitoring. Several agencies presented their monitoring activities, including the Green Bay FRO, Inland Seas Education Association, Wisconsin Department of Natural Resources-UW Extension, and the National Invasive Species Council. The meeting wrapped up with a round table discussion on sampling and reporting protocols and additional monitoring needs. Great Lakes Commission personnel will be incorporating ideas brought forth during the presentations and breakout sessions into a draft guidelines and recommendations document.

Stewart Cogswell, Green Bay FRO

Governor Doyle announces Intent to designate White River as Eligible for Stewardship Program

On August 25, Project Leader Mark Dryer attended a press conference held on the banks of the White River in the Bad River watershed. Wisconsin Governor Doyle, State Assembly Representative Gray Sherman, State Senator Robert Jauch, and Wisconsin Department of Natural Resources (DNR) announced and supported the intent to request, at the October Board meeting, that the DNR Board designate the White River as part of the Wisconsin Stewardship Program.

The Stewardship Program funds tools such as acquisition and easements to protect the river from development. The designation is supported by many landowners who attended the event and want to ensure the river is protected for future generations. Dryer spoke to officials about the focus of the Ashland Fishery Resources Office

(FRO) within the Bad River watershed, and how cost-share grants from the Fish Passage Program are improving fish passage within the watershed through projects and education.

Mark Dryer, Ashland FRO



-USFWS

Conservationist Martin Hanson talks with Governor Jim Doyle (in blue) on the banks of the White River. During this press conference, the DNR board announced the intent to designate the White River as part of the Wisconsin Stewardship Program.

Assistant Secretary Craig Manson announces Wilderness in Ashland, Wisconsin Area

Mark Dryer attended a ceremony in Bayfield, Wisconsin where Assistant Secretary for Fish, Wildlife and Parks Craig Manson announced the administration's recommendation to approve wilderness designation for the Apostle Islands National Lake Shore. Ashland Fishery Resources Office (FRO) works closely with the National Park Service in the Apostle Islands on coaster brook trout rehabilitation, and has provided funding for shoreline habitat restoration through the Great Lakes Coastal program. Prior to the ceremony, Dryer briefed the Assistant Secretary about these and other programs and issues of the Fish and Wildlife Service in the Ashland area.

Mark Dryer, Ashland FRO

Biologist presents Information on Stock Assessment Modeling to Green Bay Fisheries Forum

John Netto from the Green Bay Fishery Resources Office (FRO) presented a talk to the Green Bay Fisheries Forum in Cleveland, Wisconsin. John's talk described the current stock assessment methodologies that are used for generating estimates of population abundance from fisheries data. John is a member of the modeling subcommittee of the 2000 Consent Decree. This group uses statistical catch at age models to generate estimates of lake trout and whitefish abundance in 1836 treaty waters. The assessments are used to set the total allowable harvest and allocate harvest to the State of Michigan and tribal fishers according to the guidelines set in the 2000 Consent Decree. John's talk outlined the current methodologies used in the 1836 treaty waters and elsewhere, and he compared these methods to previous stock assessment methodologies.

John Netto, Green Bay FRO



-NPS

Assistant Secretary Craig Manson announces the recommendation to approve wilderness designation for the Apostle Islands National Lake Shore which is along the southern shore of Lake Superior.

Aquatic Species Conservation and Management

Invasive Round Goby discovered in Four Locations near Marseilles, Illinois

Personnel from the Ashland and La Crosse Fishery Resources Offices (FRO) collected five invasive round gobies over four locations near the Marseilles Dam (River Mile 245-253) in the Illinois River, Illinois. These discoveries were 80 miles inland from Lake Michigan and one fourth the distance to the Mississippi River. La Crosse FRO reported the furthest expansion of the goby to be near Peoria. Other fish collected in the Marseilles area included spottail shiner, young-of-the-year bluegill, channel cat, and common carp. Although presence has been reported by anglers, no Asian carp were collected in this area. All fish were collected in baited minnow traps, except common carp which were collected in a bottom trawl. The Marseilles survey was one of 13 sites monitored in the Goby Round-up/Asian Carp Corral, which tracks the range and monitors relative abundance of the invasive round gobies which are expanding their range toward the Mississippi River, and several species of Asian carp which are expanding their range toward Lake Michigan.

Gary Czypinski, Ashland FRO



-USFWS

Populations of invasive round gobies are established in the Great Lakes. They have now been discovered in four new locations about 80 miles inland from Lake Michigan and one fourth the distance to the Mississippi River.

Genoa National Fish Hatchery Mussel Team conducts Fish Creek Survey

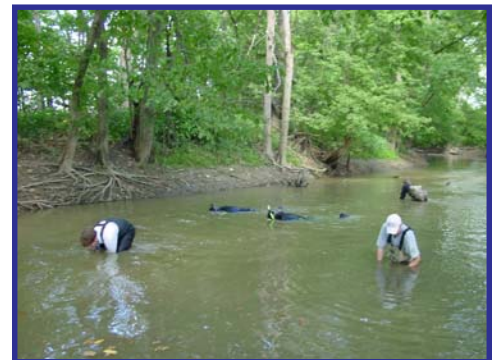
Biologists from Genoa National Fish Hatchery (NFH) conducted extensive qualitative surveys of over 24 miles of the Fish Creek watershed in northeastern Indiana and northwestern Ohio during July and August. Fish Creek has long been recognized as the most pristine of the Maumee River tributaries and perhaps the last place on earth that the Federally endangered white cat's paw pearl mussel may be found.

The stream also is home to the Federally endangered clubshell mussel and is representative of some of the most endangered stream habitats in the Midwest. Biologists, researchers, and environmentalists have been studying the Fish Creek watershed since 1993 when the stream experienced a large, (>30,000 gallons) diesel oil spill in a local carrier pipeline adjacent to the stream. Monies awarded in a subsequent Natural Resource Damage Assessment decision have funded these assessment projects which have shown large impacts to the mussel community as a result of the spill and other factors. Genoa NFH partnered with the

Bloomington Ecological Field Office and the Fish Creek Watershed Council to conduct this year's assessment to update the current status of mussels in the watershed and to identify sites for further quantitative surveys to be proposed during FY 2005.

Results of 64 survey areas yielded over 1,760 mussels including three Federally endangered clubshell mussels. Future projects for this critical system may include extensive propagation efforts for state and Federally listed species of mussels in Fish Creek to recover populations.

Roger Gordon, Genoa NFH



-USFWS

Fish and Wildlife Service biologists, and volunteers from the Nature Conservancy and Indiana Department of Environmental Management search for native mussels in Fish Creek, a pristine stream in the Maumee River watershed of northeast Indiana and northwest Ohio.

Large Predators surveyed in Lake Michigan

The Green Bay Fishery Resources Office (FRO) assessed lake trout and burbot populations in the near-shore areas of Lake Michigan near Sturgeon Bay and Sheboygan, Wisconsin. Additionally, staff teamed up with biologists from the Great Lakes Science Center to survey lake trout and burbot in the Northern

Refuge (an area which provides lake trout protection from fishery exploitation), Manistique, and Washington Island areas of Lake Michigan. The surveys were completed in May 2004 and were part of a larger multi-agency effort to obtain biological data on the status of top predators, including lake trout, burbot, and chinook salmon in Lake Michigan. The primary objective of the surveys was to determine the relative abundance of top predators and other species in the survey areas. Secondary objectives include determining age specific growth, mortality, and diet, in addition to recruitment and lamprey wounding rates for the three top predators. These data are summarized annually by regional biologists from participating agencies and reported through venues designated by the Lake Michigan Committee.

Dale Hanson, Green Bay FRO

Summer Aquatic Invasive Species Monitoring completed in Lake Superior

Four different invasive species were again captured by bottom trawls along the south shore of Lake Superior in the summer monitoring conducted by the Ashland Fishery Resources Office (FRO). They were Eurasian ruffe, threespine stickleback, zebra mussel, and Eurasian watermilfoil; the same four species collected during a similar spring survey. Ruffe continued to be captured from four locations where they were previously discovered, except the Keweenaw Waterway where they were initially detected in 2002. No ruffe were detected in new locations. The total ruffe catch (75) from the Iron River in Wisconsin was higher than recent years, although the water level

there remains relatively low, which enhances their capture.

During spring invasive species monitoring, Eurasian watermilfoil was discovered in lower Marquette harbor, and one juvenile zebra mussel was also collected in the upper harbor. The zebra mussel was collected near an operating ore dock, but a local angler reported that a nearby boat launch is used frequently by anglers who also fish in Lake Michigan where zebra mussels are very abundant. A total of three threespine stickleback, including two young-of-the-year, were captured from Munising Bay, which is within the waters of the Pictured Rocks National Lakeshore. This invader was originally discovered there last spring.

Gary Czypinski, Ashland FRO



-USFWS

Eurasian watermilfoil is a feathery submerged invasive aquatic plant that can quickly form thick mats in shallow water areas. It has been found in lower Marquette, Michigan harbor during a summer invasive species monitoring program.

Lake Trout recaptured from Lake Michigan provide Critical Data

The Green Bay Fishery Resources Office (FRO) processed nearly 1,900 coded wire tags (CWT) from lake trout captured in 2003 by sport-anglers and Federal, state, and tribal fisheries assessment surveys. The Fish and Wildlife Service implants CWTs, small wires containing binary code, in the snouts of some juvenile lake trout prior to

stocking. Later, when these fish that are identified by a special fin clip, are recaptured in Lake Michigan they are sent to the Green Bay FRO where the CWTs are removed, decoded, and checked against the on-line Great Lakes Stocking Database. The codes on these tags provide biologists a way to track the year-class, stocking location, and strain of the stocked fish. Also, biologists can determine movement patterns by comparing the stocking and capture locations and they can estimate survival rates for different groups of stocked fish. CWTs are used as a management tool to identify both the lake trout strains and stocking locations that result in the highest survival among hatchery fish in the lake environment.

Dale Hanson, Green Bay FRO

Pallid Sturgeon Coordination Meeting

Fisheries staff from Regions 3 (Great Lakes – Big Rivers) and 6 (Mountain – Prairie) met in Yankton, South Dakota for a Pallid Sturgeon Coordination Meeting. Experts in fish health, research, management assistance, and the directorate from both Regions met to provide an opportunity: 1) to develop a common understanding of the challenges and opportunities facing our program; 2) to develop a common commitment to achieve mutual goals; 3) to develop specific recommendations for future Fish and Wildlife Service and/or combined activities. It was also recognized that it was very important to maintain momentum and that an annual meeting would be a great benefit to review changes, gauge progress, and to generate action items for the program.

Rick Nelson, La Crosse FHC

Spawning Season begins Early at Sullivan Creek National Fish Hatchery

One particular strain of lake trout is adding at least three weeks on the beginning of spawning season this fall. The Superior Klondike Reef strain's first females were ready to spawn during the week of August 23rd. Before this strain was acquired, fish were not ready to spawn naturally until mid-September. These fish are named for the place the original parents were captured from, a reef between Grand Marais and Whitefish Point in the Upper Peninsula of Michigan. The eggs will be sent to Allegheny National Fish Hatchery (NFH) in Pennsylvania, and the resultant fish stocked into Lake Erie.
Tracy Roessner, Pendills Creek NFH

Preparations Made for the Fall Aquatic Invasive Species Surveys in Lake Huron

Alpena Fishery Resources Office (FRO) readied sampling gear and their new vessel, R/V Sentinel, for fall aquatic invasive species surveys in Lake Huron and the St. Marys River. Biologist Anjanette Bowen repaired trawls and prepared trawling bridles and otter boards needed for bottom trawling surveys. Scott Koproski outfitted necessary equipment and gear on the vessel for trawling activities. Approximately 250' of new cable was put on the trawling winch, and the cable was marked at 20' intervals. In addition, biologists Koproski, Adam Kowalski, and Bowen conducted test trawls in Thunder Bay and ensured that the vessel adequately deployed and fished trawls. Trawling surveys are conducted to detect new populations of invasive

Eurasian ruffe and round goby at shipping ports and waterways, and will begin in early September in the St. Marys River and continue throughout the month in Lake Huron.

Preparations were also made for a survey to detect the presence of round goby on northern Lake Huron reefs historically used for spawning by lake trout. The reefs were three of the most productive lake trout reefs in Lake Huron according to commercial harvest records and areas nearby are currently used for lake trout rehabilitation (stocking). The goby's feeding on eggs is considered a threat to lake trout production and their presence may impact rehabilitation efforts.

Anjanette Bowen, Alpena FRO



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Alpena Fishery Resources Office's new vessel, R/V Sentinel, is ready for fall assessments. The vessel was specifically designed to pull bottom trawls during invasive species monitoring and control surveys for Eurasian ruffe and round goby.

Topeka Shiner Propagation Planning

Project Leader Dave Hendrix and Assistant Rod May from the Neosho National Fish Hatchery (NFH) attended a planning meeting on propagation of Topeka shiner at Lost Valley State Fish Hatchery in Missouri. The Topeka shiner is a Federally endangered species. They were asked to attend the meeting in

order to provide insight into what type of documentations and record keeping is required to hold and propagate an endangered species and to become familiar with this particular species in the event that Neosho NFH is requested to become a backup propagation facility.

David Hendrix, Neosho NFH

Endangered Pallid Sturgeon Recovery

The 2003 year class of pallid sturgeon raised at the Neosho National Fish Hatchery (NFH) has been stocked into the Missouri River according to the recovery plan. A total of 2,276 pallids went to three different sites. The stocking sites were Bellevue, Nebraska; Leavenworth, Kansas; and Booneville, Missouri. The trips went great and all fish arrived at the stocking sites healthy and active.

David Hendrix, Neosho NFH



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The water temperature is carefully monitored which transporting the precious cargo of endangered pallid sturgeon to their new home in the Missouri River. The fish were raised at the Neosho National Fish Hatchery as part of the Pallid Sturgeon Recovery Plan.

Public Use

Sullivan Creek National Fish Hatchery Dedication

On August 7, personnel from the Regional office, other Federal and state agencies, and the community came together to celebrate the dedication of the new building for lake trout brood stock at Sullivan Creek National Fish Hatchery (NFH). Approximately 150 people came out to view the new building and the 12,500 resident lake trout. Visitors were treated to ongoing tours and explanations about the lake trout program. Also on-hand were many displays and booths set up by the Jordan River and Iron River NFHs, Seney National Wildlife Refuge, Sea Lamprey Control from the Marquette Biological Station, and the U.S. Forest Service. The Michigan Department of Natural Resources brought Smokey the Bear, who provided many great photo opportunities. Many kids competed in the lake trout coloring contest and the fish bowl challenge. The Friends of the Pendills Creek Fish Hatchery provided refreshments, held a silent auction to help raise money for their future projects, and recruited some new members.

The major construction of the building was completed in 2003; however, some minor work and the fall spawning season forced the dedication to be held off until this summer. The 27,216 square foot steel building replaced four separate weatherport covers that had been in place over the sixteen raceways. After a year of use, the staff is pleased by the easier access to the fish, the lack of predator problems, and the happier and healthier fish.

Tracy Roessner, Pendills Creek NFH



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Regional Director Robyn Thorson spoke at the dedication of the new lake trout brood stock building at the Sullivan Creek National Fish Hatchery.



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Hatchery Volunteer Rachel D'Amico helped with the kids coloring contest at the Sullivan Creek National Fish Hatchery lake trout brood stock building dedication.



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Michigan Department of Natural Resource's "Smokey the Bear" joined the dedication ceremonies at the Sullivan Creek National Fish Hatchery (NFH). Rick Westerhoff and Tim Smigielski, from the Jordan River NFH, pose with Smokey.

Genoa National Fish Hatchery Staff presents at Teacher Workshops

With thoughts of a new school year fast approaching, teachers from Wisconsin, Minnesota, and Iowa gathered on the shores of the Mississippi River for workshops on environmental education practices. The workshops were put on by Living Lands and Waters, a non profit group that spends time doing river clean up activities and teacher workshops throughout the Midwest. Organizers from Living Lands and Waters contacted Genoa National Fish Hatchery's (NFH) mussel biologist to present information at workshops in La Crosse and Prairie du Chien, Wisconsin. Approximately one hour of information on mussel history in the Upper Mississippi River, mussel life history, mussel identification, and ongoing mussel activities at Genoa NFH was presented at each workshop. A copy of Wisconsin Department of Natural Resource's Freshwater Mussels of the Upper Mississippi River was given to each of the 25 science teachers participating in each workshop.

Tony Brady, Genoa NFH

Regional Director and Assistant Regional Director attend Hatchery Dedication and participate in Lamprey Shocking on the St. Marys River

On August 7th, personnel from the Marquette and Ludington Biological Stations attended the Sullivan Creek National Fish Hatchery dedication and staffed a sea lamprey display. The interactive kiosk on the display was enjoyed by many. Regional

Director Robyn Thorson and Assistant Regional Director Gerry Jackson (Fisheries), were on hand for the dedication and also to view and participate in sea lamprey assessment activities via pontoon boat on the St. Marys River. During the pontoon transporting, Robyn did collect one larval lamprey (although, it was suspect), while the pontoon carrying Gerry was skunked on their first attempt. On the second try, Gerry successfully captured a 30 mm larval lamprey. The Regional Office personnel were then transported to Marquette, Michigan to begin the next leg of their Great Lakes field trip.
Jessica Richards, Marquette Biological Station



-GLFC

This pontoon boat is operated by Sea Lamprey Control staff to conduct invasive sea lamprey assessments on the St. Marys River in the Upper Peninsula of Michigan.

Sea Lamprey Display on August Tour

The much traveled high-tech sea lamprey display went on a whirlwind tour of three locations during August. The first stop for the highly touted display was at the dedication of the new facilities at Sullivan Creek National Fish Hatchery on August 7. Among the many notable visitors to the display were the Region 3 Regional Director and Assistant Regional Director for Fisheries.

The next stop for the traveling display was Escanaba, Michigan for the Upper Peninsula State Fair during August 15-22. The attendance for the fair over this period exceeded 100,000 people and once again the display was a big attraction for many of these folks. After leaving the fair, the display traveled to Madison, Wisconsin for the 134th American Fisheries Society Annual Meeting where it was well attended by many "fish-folks" at the meeting.
Terry Morse, Marquette Biological Station



-GLFC

A curious visitor gets an invasive sea lamprey question answered at the Upper Peninsula State Fair in Escanaba, Michigan.

Mitigation Stocking for Lake Taneycomo

Neosho National Fish Hatchery (NFH) stocked 14,422 (6,425 pounds) rainbow trout into Lake Taneycomo during August bringing the annual total up to 207,221. The management plan commitment is 225,000 annually.

David Hendrix, Neosho NFH

Pendills Creek National Fish Hatchery provides Support for Local Kids Fishing Day

The Soo Area Sportsmen's Club held their third annual Connor Gorsuch Kids Fishing Day and staff and friends from the Pendills Creek National Fish Hatchery (NFH) were there to help. Approximately 150 kids showed up at Rotary Park in Sault Ste. Marie, Michigan from 9 am until noon in the rain to try to out-angle each other. Prizes were awarded in several age groups and in boys and girls classes. Hamburgers, hotdogs, chips, and drinks were provided for all who participated. Pendills Creek's Debbie Jones and Curt Friez, along with Friends Group President Paula Badder, gave out sunglasses and key chains and promoted the Sullivan Creek Open House. The staff also provided an educational display regarding the internal and external anatomy of fish.

Tracy Roessner, Pendills Creek NFH



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Project Leader Curt Friez helped children understand fish anatomy. Pendills Creek National Fish Hatchery staff and their Friends Group participated in the Connor Gorsuch Kids Fishing Day sponsored by the Soo Area Sportsmen's Club.

Cooperation with Native Americans

Lake Sturgeon Assessment on the St. Louis River

The restoration of lake sturgeon to historic areas is a high priority to the people of the Fond du Lac Band of Lake Superior Chippewa. Using set lines, gill nets, and Windemere trap nets, the Ashland Fishery Resources Office (FRO) concluded a five week project assisting the Fond du Lac Band in assessing the recruitment of these fish. Several river sections within a 20 mile section of the Upper St. Louis River, upstream of Cloquet, Minnesota, were sampled for sturgeon. This study was first conducted in 2001, but it needs to be repeated periodically to determine the survival and recruitment from four years of stocking (1998, 1999, 2000, and 2003).

The primary objective of this study was to determine if lake sturgeon stocked as eyed eggs have recruited into this fishery. The secondary objective was to gather length and growth data for channel catfish in the Upper St. Louis River. Although no sturgeon were collected, length and age data for channel catfish were obtained as a result of this survey. Our study has indicated that considerably more sturgeon eggs will need to be stocked before a detectable population of fish will be found.

Frank Stone, Ashland FRO



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Ashland Fishery Resources Office and Fond du Lac Band of Lake Superior Chippewa staff are ready for a lake sturgeon assessment on the St. Louis River.

Lake Whitefish Surveys in Eastern Lake Michigan

Green Bay Fishery Resources Office (FRO) conducted gill-net assessments of lake whitefish populations within the 1836 ceded territory waters of Lake Michigan. These surveys were conducted in June near the port towns of Frankfort and Elk Rapids, Michigan. The work was part of a larger multi-agency effort to obtain biological data on lake whitefish populations. Over 12,000 feet of gill-net was set within both general survey locations to collect data on relative abundance by age-class, length at age, juvenile recruitment, and sea lamprey wounding rates of lake whitefish and other species in the survey area. These data are used in stock assessment models from which harvest limits in all shared lake whitefish management units are derived.

Dale Hanson, Green Bay FRO

2004 Fishery Lake Whitefish Survey on Lake Huron

From August 2 to August 30, staff from the Alpena Fishery Resources Office (FRO) completed a fishery lake whitefish survey in 1836 Treaty waters of northern Lake Huron. Staff included Treaty Unit Coordinator Aaron Woldt; biologists Adam Kowalski, Scott Koproski, Anjie Bowen, and Susan Wells; and Project Leader Jerry McClain. The goal of this survey was to collect fishery abundance and biological data for lake whitefish stocks in treaty waters. The data is used in statistical-catch-at-age population models that are updated annually to determine harvest regulation guidelines for tribal commercial fishers in 1836 Treaty waters. The Modeling Subcommittee of the Technical Fisheries Committee annually collects data and conducts model runs to determine lake whitefish harvest guidelines for 5 management units in Northern Lake Huron.

In August, using the Alpena FRO's 30' research vessel and staff, 18 overnight, variable mesh gill net sets were conducted at randomly selected sites between Alpena and Hammond Bay. Standard bottom set survey nets as well as legged nets were set. All lake whitefish and non-target fish collected were measured for length, weighed, checked for lamprey wounds, sexed, assessed for maturity and visceral fat content, and sampled for ageing.

In 2004 the Alpena FRO evaluated; 1) whether legged nets increased lake whitefish catch rates and decreased lake trout by catch, and; 2) whether executing the survey in July and August affected lake whitefish and lake

trout catch rates. In previous years, this survey was conducted in mid-May to mid-June. Preliminary analyses show that lake whitefish catch rates were similar between bottom-set and legged nets; however, lake trout catch rates were significantly lower in legged nets than in bottom sets. Average lake whitefish and lake trout catch rates showed no significant differences between June (N=6 sets), July (N=8), and August (N=14). This survey will continue annually and be tailored to meet needs identified by the Modeling sub-committee. All data from this survey will be compiled, maintained, and analyzed at the Alpena FRO.

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.

Aaron Woldt, Alpena FRO

Red Lake Forage Fish Numbers continue to Decline

In cooperation with the Red Lake Band of Chippewa and the Minnesota Department of Natural Resources (DNR), Ashland Fishery Resources Office (FRO) continued bottom trawling to monitor abundance of juvenile walleye and forage fish in the Upper and Lower Red Lakes, Minnesota. In accordance with the Red Lake Walleye Restoration Plan, this monitoring is used by the tribe and Minnesota DNR to aid in the assessment of walleye recruitment, the success of walleye stocking, and the status of forage fish stocks for supporting walleye (walleye carrying capacity).

A total of 60 tows of 5-minute duration were completed along index transects on August 16-17.

Young-of-the year catches of spottail shiner, freshwater drum, bluegill, and black crappie were observed to have declined significantly from a previous assessment. Catches of adult spottail and emerald shiners, trout-perch, and juvenile freshwater drum were also observed to have declined significantly. Species diversity included a few juvenile whitefish, and these were observed to be rare in catches. Year class strength of yellow perch continues to be good as indicated by abundant catches, possibly enhanced from the stocking of 10 million walleye fry last spring. Results of tribal seine hauls indicated a good natural recruitment from the 1999 walleye stocking. Since 1999, approximately 129 million walleye fry have been stocked in the Red Lakes. The Red Lake walleye fishery is scheduled to reopen in spring, 2006.

Gary Czypinski, Ashland FRO



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Bottom trawling in Red Lake indicated a decline in forage fish abundance. In accordance with the Red Lake Walleye Restoration Plan, monitoring is used to aid in the assessment of walleye recruitment, the success of walleye stocking, and the status of forage fish stocks for supporting walleye.

Stock Assessment of Lake Trout in 1842 Treaty Waters of Lake Superior

Biologists from the Great Lakes Indian Fish and Wildlife Commission, Red Cliff Tribal Fisheries Department, Keweenaw Bay Indian Community, and Michigan Department of Natural Resources have been developing stock assessment models to estimate the abundance of wild lake trout in the 1842 treaty waters of Lake Superior. The Green Bay Fishery Resources Office (FRO) assisted with this process and recently estimated the sea lamprey mortality estimates for modeled areas from data collected by these agencies. The results of the modeling effort will be used to assess the health of the native aquatic populations and assist with managing the lake trout fisheries in these waters.

John Netto, Green Bay FRO

Keweenaw Bay Brook Trout get Oxytetracycline Markings

Frank Stone from the Ashland Fishery Resources Office (FRO) recently completed a brook trout marking project at the Keweenaw Bay Indian Community Fish Hatchery. A means of evaluating stocked hatchery reared fish (regardless of life stages) is an important facet of fishery management. However, the actual contributions that stocked fish make to a fishery are often unknown. The information gained from this project will give fishery managers a better means of estimating the survival of stocked brook trout fingerlings.

The treatment procedure with oxytetracycline (OTC) involves keeping the fish in a small holding tank containing 700 parts per million (ppm) of OTC for several

hours. During the treatment period, the OTC is incorporated into the bony structures of the fish. When these structures (otolith) are viewed using a microscope and ultraviolet light, the presence of an OTC mark will be noted as a yellow-gold band within the otolith. The use of OTC will hopefully serve as an inexpensive fish marking tool that will allow future assessment efforts to verify the recruitment levels of brook trout that originated from hatchery programs.

Frank Stone, Ashland FRO

Green Bay Fishery Resources Office assists with Forest County Potawatomi Stream Surveys

The Green Bay Fishery Resources Office (FRO) worked cooperatively with the Forest County Potawatomi to perform stream electroshocking surveys on Tribal land in Forest County, Wisconsin. Surveys were conducted during the summer of 2003 and 2004. The North Branch of the Oconto, Colburn Creek, Otter Creek, Newman Creek, and the Rat River were all sampled using a backpack electroshocking unit. In addition to collecting biological data that will be used by Tribal biologists to monitor streams, the surveys were intended to provide training for Tribal biologists. In the near future, Tribal biologists will perform the surveys independently.

Stewart Cogswell, Green Bay FRO



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The Green Bay Fishery Resources Office staff worked cooperatively with the Forest County Potawatomi to perform stream electroshocking surveys on Tribal land.

Planning continues for a Tribal Fish Hatchery at the Grand Portage Reservation

The Fish and Wildlife Service has chosen a grant proposal from the Grand Portage Lake Superior Band of Chippewa for funding under the Tribal Wildlife Grants program. Part of the activities under this grant will be to construct a 20' by 40' fish hatchery facility that will be utilized as an egg incubation and fry rearing facility for walleye, coaster brook trout, and perhaps lake sturgeon. The hatchery will be located on an existing parking area near the shores of Lake Superior.

Frank Stone, Ashland Fishery Resources Office (FRO), traveled to the Grand Portage Reservation to discuss the Tribe's plans to construct this facility and to begin designing the floor plan for the hatchery. The design will include several egg hatching jars, circular rearing tanks, and a pumping system that will provide 200 gallons of water per minute. The facility will only be used during the spring and summer months. The intent of this project is to provide walleye and brook trout fingerlings for stocking in local waters.

Frank Stone, Ashland FRO

New Office for the Bureau of Indian Affairs - Great Lakes Agency in Ashland, Wisconsin

Mark Dryer from the Ashland Fishery Resources Office (FRO) attended the dedication of the new Bureau of Indian Affairs (BIA) office building for the Great Lakes Agency (Agency) in Ashland, Wisconsin. The Agency supports tribes and tribal organizations in Minnesota, Wisconsin, and Michigan. The new office will be staffed by nearly 100 BIA employees. Assistant Secretary for Indian Affairs, Dave Anderson, spoke at the dedication.

Mark Dryer, Ashland FRO



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The new Bureau of Indian Affairs office building for the Great Lakes Agency in Ashland, Wisconsin

Leadership in Science and Technology

National Mississippi River Museum and Aquarium becomes a New Partner in developing Higgins' Eye Pearlymussel Technology

Genoa National Fish Hatchery (NFH) welcomes the National Mississippi River Museum and Aquarium in Dubuque, Iowa to the growing list of partners in the Higgins' eye pearlymussel program. In the spring of 2004, Genoa staff modified two mussel culture cages to float suspended in the water column hoping to prevent excessive siltation. Mussels are filter feeders that collect food particles suspended in the water column; however, heavy silt loads can clog the mussel's gills preventing them from feeding, or the silt will bury the mussels, cutting them off from oxygen and food. The two cages were placed in the Port of Dubuque Harbor anchored to the museum's dock. Thirty fish infested with Higgins' eye larva (glochidia) were placed in each cage where the glochidia were allowed to transform into baby mussels and drop off the fish and settle into the cages. Four months after the fish were put in the cages, staff from Genoa and the Museum examined the cages for juvenile mussels and found 106 individuals up to 15 mm in length. We estimate that survival of the juveniles was 3.3% which exceeds natural survival expectations by at least one hundred fold.

Tony Brady, Genoa NFH



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Mussel Propagation Biologist Tony Brady counts juvenile Higgins' eye pearlymussels produced in modified culture cages. This project was completed in cooperation with the National Mississippi River Museum and Aquarium located in Dubuque, Iowa.

Green Bay Office hosts Wisconsin Stock Assessment Modeling Workshop

The Wisconsin Department of Natural Resources (DNR) and Green Bay Fishery Resources Office (FRO) formed a working group in 2003 to further the development of fisheries stock assessment methods for fisheries in the Wisconsin waters of the Great Lakes. The main discussion topic for this meeting was the stock assessment of the Northern Moonlight Bay lake whitefish population. John Netto of the Green Bay FRO has been working with Paul Peeters from the Wisconsin DNR to develop a statistical catch at age model for this fishery. Netto gave a presentation that detailed the methodology used in this model and presented preliminary results to the group. He also presented the results of some diagnostic procedures run on the model and explained how the results led to questioning some assumptions built into the model. The group then discussed these assumptions and alternative approaches that might

improve the model's ability to characterize the fishery and fit to the observed data. The statistical catch at age model developed by John and Paul will be used to determine safe harvest levels for whitefish in the Wisconsin waters of Lake Michigan. The methodology employed in this model incorporates all of the fishery and survey data available for this stock.

John Netto, Green Bay FRO

Adult Lake Sturgeon Telemetry Research continues on the St. Clair River

Alpena Fishery Resources Office (FRO) Biologist James Boase is working with Bruce Manny (U.S. Geological Survey Great Lakes Science Center) and Mike Thomas (Michigan Department of Natural Resources Lake St. Clair Research) on a project which follows the movement patterns of adult lake sturgeon captured in the Upper St. Clair River near Port Huron, Michigan. The primary focus of the research is to identify habitats used by lake sturgeon during spawning and movement of the fish after spawning.

In the spring of 2002, eight adult lake sturgeon were captured with baited setlines and implanted with ultrasonic transmitters and tracked with underwater listening gear. Six fish moved out into Lake Huron following spawning while the remaining two fish were tracked moving down river into the North Channel of the St. Clair River. The transmitters used for the research have a battery life of 36 months and as a result allowed information to be collected throughout 2003 and 2004. During this period, the two fish that

moved down river were tracked between the North Channel and Lake St. Clair.

Six more adult lake sturgeon were implanted with transmitters at the spawning reef near Port Huron this spring. Consistent with the findings in 2002, four of the six fish moved out into Lake Huron after spawning while two fish moved down river into the North Channel. One of these two fish had been captured by the Michigan DNR in 2001. The fish was captured on a spawning reef in the North Channel near the town of Algonac, Michigan. It was marked with an external Monel tag, then released back into the river. In August 2004 the same fish was captured for a third time on a baited set line. Capturing the fish a third time allowed us to examine the surgery location where the ultrasonic transmitter had been implanted three months earlier and also collect information about changes in weight and length. The overall health of the fish was very good and the surgery location was healing nicely.

James Boase, Alpena FRO



-USFWS photo by James Boase

A Monel tag is evident on the dorsal fin of this lake sturgeon which has been implanted with an ultrasonic transmitter allowing their movements to be detected.



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The surgery location where the ultrasonic transmitter had been implanted three months earlier is healing nicely on this recaptured lake sturgeon.

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

Biologist Scott Koproski from the Alpena Fishery Resources Office (FRO) was contacted by Chuck Madenjian of the U. S. Geological Survey's (USGS) Great Lakes Science Center to assist with aging burbot otoliths from lakes Michigan and Huron. Madenjian has been collecting burbot otoliths for four years to identify growth characteristics of Great Lakes populations. Koproski has extensive experience ageing otoliths, and Madenjian provided samples to Koproski for analysis. Koproski used the crack and burn technique to identify annuli formation within 40 pairs of otoliths.

This marks the fourth consecutive year that Koproski has been assisting USGS with burbot otolith analysis. Written results of this work will be available in the winter upon completion of data analysis. Burbot are a native Great Lakes species. This work is an example of Alpena FRO staff developing partnerships with other Federal agencies to enhance native fish species and is consistent with the Partnership and Accountability and Aquatic Species Conservation and Management elements of the Fishery Program's Vision for the Future.

Scott Koproski, Alpena FRO

Aquatic Habitat Conservation and Management

Ten Acres of Wetlands restored in Ogemaw County, Michigan

Biologists Susan Wells and Heather Enterline inspected the construction of two wetland restorations in Ogemaw County, Michigan. The restorations were completed on August 27 and restored approximately 10 acres of aquatic habitat on private land. The projects were funded by the Partners for Fish and Wildlife Program and in-kind services provided by the landowner, Bob Walt. The inspection was conducted while showcasing the Alpena Fishery Resources Office's (FRO) Partners for Fish and Wildlife Program to Fish and Wildlife Service personnel from the Washington D.C. and East Lansing offices. This project restored wetland habitat for migratory birds, amphibians, and enhanced water quality for adjacent watersheds by reducing sediment loads. Many partners were involved with this project including the Michigan Department of Environmental Quality, Natural Resources Conservation Service, and the local property owners. *Susan Wells, Alpena FRO*



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This is one of two wetland restorations completed in Ogemaw County, Michigan. The projects restored 10 acres of aquatic habitat on private land. Funding was obtained through the Partners for Fish and Wildlife program.

Sucker Brook Fish Passage Project

The Green Bay Fishery Resources Office (FRO) worked with the Marinette County Land and Water Conservation Department and the Marinette County Department of Transportation to install a timber bridge across Sucker Brook, located off County Highway E in Marinette County, Wisconsin. The project replaced an old boiler pipe that was being used as a culvert. Removal of the old culvert structure opened up an additional four miles of unrestricted access to class I northern pike spawning habitat. The bridge was completed on Aug. 19, and was designed to accommodate vehicle traffic accessing a parking lot used for county nature trails in the Harmony Hardwoods natural area. Funding for the project was provided by the Partners for Fish and Wildlife Program. *Stewart Cogswell, Green Bay FRO*



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Stewart Cogswell puts the finishing touches on a new bridge over Sucker Brook in Marinette County, Wisconsin. The bridge replaces a makeshift culvert and will provide uninhibited fish passage to an additional four miles of habitat.

More Wetland Restorations completed in Northern Wisconsin

Construction has finished on the Bailen and Heart Northern Wisconsin Wetland Team projects. Benefits consist of two wetland restoration sites with a total of nearly five wetland acres. In addition to benefiting aquatic wildlife, these wetlands will also enhance terrestrial wildlife on the adjacent upland. Construction of the earthen embankments with grassed spillways was completed in June and July. A Partners for Fish and Wildlife Program Wetland Development Agreement was developed with the private landowners to protect the wetlands for a period of 10 years. *Ted Koehler, Ashland FRO*



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Construction is finished on the Bailen and Heart Northern Wisconsin Wetland Team projects which consisted of two wetland restoration sites totaling nearly five acres.

Beaver Creek Stream Restoration Project

The Green Bay Fishery Resources Office (FRO) worked with the Marinette County Land and Water Conservation Department and the Wisconsin Department of Natural Resources to restore a section of the South Branch of Beaver Creek in Marinette County, Wisconsin that

had been degraded by cattle grazing. In 2002, a fence was built around the creek and a cattle crossing structure was constructed so the landowner could utilize both sides of the fenced pasture. Stream electro-shocking surveys were conducted one-month prior to construction on July 23, 2002, and again on Aug. 7, 2003 and Aug. 19, 2004. Temperature monitoring was conducted throughout the summer months and preliminary data suggests the project had a positive thermal effect on the stream. Current data and observations demonstrate an increase in stream health, riparian habitats, and relative abundance of trout. Partial funding for the project was provided by the Partners for Fish and Wildlife Program.

Stewart Cogswell, Green Bay FRO

Boyne River Fish Habitat Restoration

A 355 foot stretch of the Boyne River in Charlevoix County, Michigan was improved for fisheries habitat in August. The Fish and Wildlife Service, in conjunction with the Conservation Resource Alliance (a Resource, Conservation and Development Office out of Traverse City, Michigan) and Boyne USA (a large resort owner), teamed up to improve the Boyne River on Boyne USA property with the addition of large woody debris. Trees were secured with cables into the river substrate to form floating mats in the pool areas of the river. The woody mats provide cover and habitat for local populations of salmon, steelhead, and northern pike.

Due to historic logging in Northern Michigan, very few of the rivers and streams have adequate amounts of large woody debris in the stream channel. Addition of

this woody substrate creates a healthier aquatic ecosystem for the Boyne River. Fish and Wildlife Service funding was provided by Fish Habitat Restoration funds, administered by the Partners for Fish and Wildlife (Partners) program. Alpena Fishery Resources Office (FRO) biologist and Partners coordinator Heather Enterline supervised the project in conjunction with Conservation Resource Alliance staff. Large woody debris provides channel diversity, a food source for macroinvertebrates, cover for fisheries populations, and shades river water from the warming effects of the sun. This project is consistent with the "Aquatic Habitat Conservation and Management" element of the Fish and Wildlife Service's Fisheries Program Vision for the Future.

Heather Enterline, Alpena FRO



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A 355 foot stretch of the Boyne River in Charlevoix County, Michigan was improved for fisheries habitat by the addition of large woody debris.

Knife River Bank Restoration Project completed and Successful!

The Knife River, along the North Shore of Lake Superior in Northeast Minnesota, has long been recognized for its importance in providing spawning habitat for trout. It is located about 20 miles northeast of Duluth, Minnesota. Because of the stream's importance for anadromous rainbow trout (steelhead), many Federal, state, and local agencies and groups are interested in maintaining the health of this stream. Many beaver dams and ponds now block migrating trout. The Environmental Protection Agency has listed the Knife River on their 303d list of impaired waters due to thermal and sediment pollution. The Ashland Fishery Resources Office (FRO) provided a Challenge Cost Share grant to the Lake Superior Steelhead Association in the amount of \$10,000 to implement a proposal to remove barriers in the river.

Lee Newman, Ashland FRO

Erosion Site at the Sullivan Creek National Fish Hatchery is a Priority for the Alpena Fishery Resources Office

Biologist Heather Enterline and student trainee Andrea Gray from the Alpena Fishery Resources Office (FRO) traveled to Sullivan Creek and Pendills Creek National Fish Hatcheries at the request of Project Leader Curt Friez. Enterline and Gray toured the facilities and then were asked to offer suggestions on how to restore a section of Sullivan Creek that was impacted by recent construction and run-off. Additionally, they offered to assist with planning and grant-writing for

a Lake Superior beach access site with a boardwalk and viewing platform located on Pendills Creek property. Enterline offered solutions to the erosion problem and has sent hatchery staff contact information for Michigan suppliers of native grasses and bushes.

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*

Fish and Wildlife Service will accomplish Stream Improvements in Vernon County, Wisconsin

Since 1996, the La Crosse Fishery Resources Office (FRO) has been working with the Vernon County Land Conservation Office, Trout Unlimited, and private landowners to restore fish habitat in the streams of Vernon County, Wisconsin. This year's project has secured \$375,000 from partners to match \$25,000 funded through the Department of the Interior's Cooperative Conservation Initiative Program. Private landowners are providing \$68,000 to help restore 8.3 miles of stream in the watershed. Instream habitat will be improved by installing rock weirs, LUNKERS (little underwater neighborhood keepers encompassing rheotactic salmonids) and weir/pools. Eroding banks will be stabilized by resloping, rip-rap, and seeding with native grasses and forbs. Native trout production and recreational fishing opportunities will improve due to improved trout habitat and water quality that includes: decreased water temperature, increased overhead cover and pool

habitat, and reduced sedimentation. Reduced erosion will improve water quality in the Wisconsin and Mississippi rivers and the Upper Mississippi River National Wildlife and Fish Refuge. *Ann Runstrom, La Crosse FRO*



-USFWS

The La Crosse Fishery Resources Office worked with the Vernon County Land Conservation Office, Trout Unlimited, and private landowners to restore fish habitat in 8.3 miles of stream in Vernon County, Wisconsin. Partners contributed \$375,000 to match \$25,000 funded through the Department of the Interior's Cooperative Conservation Initiative Program.

Fish and Wildlife Service supports the National Fish Habitat Initiative

Aquatic resources in the United States are in decline, and loss and alteration of habitat is the principal culprit. Habitat alteration is the cause of 75 percent of all fish extinctions over the past 75 years, and the cause of 91 percent of fish listings under the Endangered Species Act.

A National Fish Habitat Initiative will seek to make the Service and the Fisheries Program catalysts among states, tribes, and other stakeholders to lead development of a Fish Habitat Initiative, which will be similar to the highly successful North American Waterfowl Management Plan.

The Initiative will foster geographically-focused, locally driven and scientifically based

partnerships to protect, restore and enhance aquatic habitats and to reverse declines in aquatic species.

The concept for the National Fish Habitat Initiative was set forward in specific recommendations in a report from the Sport Fishing and Boating Partnership Council, an organization chartered to advise the Interior Secretary through the Director of the Fish and Wildlife Service.

The Initiative will collaborate with partners to increase the quantity and improve the quality of aquatic and riparian habitat on Service lands as well as to evaluate efforts to determine what fish are actually using. In Fiscal 2003, the Service performed 337 such assessments covering 38,000 miles of instream and riparian habitat.

This Initiative will be closely aligned with the Secretary's 4 C's – Communication, Consultation and Cooperation, all in the service of Conservation, a philosophy strongly in support of working with regional and local coalitions to develop conservation plans with strong public support.

The goal; an effort to insure Healthy Fish, Healthy Habitat, Healthy Economies – and Healthy People.

See the National Fish Habitat initiative website at:

<http://www.fishhabitat.org/>

Workforce Management

Lake Superior Pathfinders

The Lake Superior Pathfinders is a first of its kind leadership development program which offers participants the opportunity to discover their personal leadership style and abilities. At the same time they learn about Lake Superior's critical natural resource issues and how they can take leadership roles working on them. Fifteen adults participated in the first weekend of the project and will return for a second weekend in September. The University of Wisconsin Extension led the program with many partners involved including Northland College, Wisconsin Department of Natural Resources, U.S. Forest Service, Fish and Wildlife Service, Bad River Tribe, Red Cliff Tribe, ABDI Land Conservation District, Binational Program Forum, and the Lake Superior Binational Program.

The Ashland Fishery Resources Office (FRO) is involved in the Lake Superior Pathfinders program through their role in the Binational Programs Lake Superior Work Group, which is a partner in the Pathfinders program. Ted Koehler presented information and met with participants to discuss integrating natural resource and wildlife values into the program. Henry Quinlan shared information on fish populations, habitat, and fish passage. The program provides education by experience and participants assist in many hands on activities in field locations such as the Bad River/Kakogon Sloughs. *Ted Koehler, Ashland FRO*



-USFWS

The Lake Superior Pathfinders is a leadership development program which offers participants the opportunity to discover their personal leadership style and abilities.

Mississippi Motorboat Operator Instructor Certification Course

From August 16-20, Adam Kowalski helped teach a Motorboat Operator Instructor Certification Course (MOICC) held at Gulf Islands National Seashore (NS) in Biloxi, Mississippi. Other instructors for the course were Todd Clark and Jill Kinney (Gulf Islands NS park rangers), Bruce Hasson (Federal Law Enforcement Training Center instructor), and Bonnie Foist (Everglades National Park ranger). This course is designed to teach students to be a Motorboat Operator Certification Course (MOCC) instructor. During the course, students gave classroom and field presentations, taught portions of an MOCC, learned how to set up the on-the-water courses, learned DOI boating policy, and were shown how to teach all portions of an MOCC. There was also an on-the-water portion of the course where students instructed other students to operate and

maneuver a vessel with an MOICC instructor on board. Students were given a practical exam comprised of knot tying, boating maneuvers, trailering a vessel, and emergency rescue procedures. Students were graded on their ability to perform the task as well as their ability to instruct another student with the task. There were 17 students in the class including two students from Region 3—Tom Charles (Cypress Creek National Wildlife Refuge) and Brian Pember (Upper Mississippi River National Wildlife Refuge).

Adam Kowalski, Alpena FRO



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Biologist Adam Kowalski helped teach a Motorboat Operator Instructor Certification Course held at Gulf Islands National Seashore in Biloxi, Mississippi. There were 17 students in the class including two from Region 3 Refuges.

Fish and Wildlife Management Assistance Workforce Planning Team Meets

Alpena Fishery Resources Office (FRO) Project Leader Jerry McClain participated in a Workforce Planning Team meeting in Denver, Colorado in August. The team, consisting of representatives from Regions 1-9, is working with a private consulting firm, Federal Management Partners (FMP) to help develop a strategy to align the Fish and Wildlife Service's Fish and Wildlife Management Assistance Program (FWMA) to better meet current and future workloads. The August meeting reviewed results of a national survey of FWMA staff developed by FMP and developed a series of draft recommendations that will be provided to the directorate in September. Workforce planning has been identified by the Office of Management and Budget as an essential task for all federal agencies to improve efficiency and provide for improved fiscal accountability. McClain represents Region 3 on the team.

Development and retention of an effective and efficient workforce is critical to the current and future operations of the FWMA program. Planning efforts such as this are consistent with the Workforce Management priority of the Fish and Wildlife Service's Fisheries Vision for the Future and are critical for the agency to address the increasing concerns for the nation's aquatic resources.

Jerry McClain, Alpena FRO

Environmental Careers Organization

Melissa Cheung finished a three month Environmental Careers Organization diversity intern program at the Neosho National Fish Hatchery (NFH). Melissa is a recent graduate of the University of California - San Diego. Melissa did a wonderful job while she was here and we would love to participate in this program again. Melissa went directly from Neosho, Missouri to London, England to start a graduate studies program there.

David Hendrix, Neosho NFH



-USFWS

Melissa Cheung finished a three month intern program at the Neosho NFH. Now it is off to London, England for graduate studies.

The Fisheries Training Committee is Back

Project Leader Rick Nelson traveled to the National Conservation Training Center (NCTC) during the week of August 2nd to participate in the re-establishment of the National Fisheries Training Committee. The Committee was established to advise the Assistant Director-Fisheries of training needs, curriculum changes, and technical and professional development for Fish and Wildlife Service employees. The committee membership includes NCTC and Washington office representatives and a member from each Region covering all fishery disciplines. Based on the identified needs of the Regions, along with consultations from NCTC fisheries training staff and expertise and experience of the committee, an outline of training subject matter and scheduling will be provided to the Assistant Director- Fisheries by the committee chairman each year. The committee will meet twice yearly to assess and evaluate training progress, training programs, identify needed changes, and determine courses for next fiscal year.

Rick Nelson, La Crosse FHC

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Fish Lines
Region 3, Great Lakes/Big Rivers
2004 Vol. 2 No. 7

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Windows in time

A Glimpse into our Proud Past

Placing (putting up) northern pike eggs in a hatching jar at Garrison Dam NFH, North Dakota (04/1967)

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