



U.S. Fish & Wildlife Service



# *Fisheries Accomplishments in the Great Lakes Basin*

(Fiscal Years 2003 & 2004)



**Partnerships and Accountability**



**Aquatic Habitat Conservation  
and Management**



**Workforce Management**



**Aquatic Species Conservation and Management**



**Cooperation with Native  
Americans**



**Public Use**



**Leadership in Science  
and Technology**



## Region 3 - Great Lakes/Big Rivers Region

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

# Conserving America's Fisheries

## Fisheries Program Vision for the Future



The vision of the Service's Fisheries Program is working with partners to restore and maintain fish and other aquatic resources at self-sustaining levels and to support Federal mitigation programs for the benefit of the American public.

Implementing this vision will help the Fisheries Program do more for aquatic resources and the people who value and depend on them through enhanced partnerships, scientific integrity, and a balanced approach to conservation.

### *Strategic Plan Vision Focus Areas*

#### **1. Partnerships and Accountability**

Partnerships are essential for effective fisheries conservation. Many agencies, organizations, and private individuals are involved in fisheries conservation and management, but no one can do it alone. Together, these stakeholders combine efforts and expertise to tackle challenges facing fisheries conservation. The success of these partnerships will depend on strong, two-way communications and accountability.

#### **2. Aquatic Species Conservation and Management**

The Fisheries Program maintains and implements a comprehensive set of tools and activities to conserve and manage self-sustaining populations of native fish and other aquatic resources. These tools and activities are linked to management and recovery plans that help achieve restoration and recovery goals, provide recreational benefits, and address Federal trust responsibilities. Sound science, effective partnerships, and careful planning and evaluation are integral to conservation and management efforts.

#### **3. Public Use**

As the population in the United States continues to grow, the potential for adverse impacts on aquatic resources, including habitat will increase. At the same time, demands for responsible, quality recreational fishing experiences will also increase. The Service has a long tradition of providing opportunities for public enjoyment of aquatic resources through recreational fishing, habitat restoration, and education programs and through mitigating impacts of Federal water projects. The Service also recognizes that some aquatic habitats have been irreversibly altered by human activity (i.e. - dam building). To compensate for these significant changes in habitat and lost fishing opportunities, managers often introduce non-native species when native species can no longer survive in the altered habitat.

#### **4. Cooperation with Native Americans**

Conserving this Nation's fish and other aquatic resources cannot be successful without the partnership of Tribes; they manage or influence some of the most important aquatic habitats both on and off reservations. In addition, the Federal government and the Service have distinct and unique obligations toward Tribes based on trust responsibility, treaty provisions, and statutory mandates. The Fisheries Program plays an important role in providing help and support to Tribes as they exercise their sovereignty in the management of their fish and wildlife resources on more than 55 million acres of Federal Indian trust land and in treaty reserved areas.

#### **5. Leadership in Science and Technology**

Science and technology form the foundation of successful fish and aquatic resource conservation and are used to structure and implement monitoring and evaluation programs that are critical to determine the success of management actions. The Service is committed to following established principles of sound science.

#### **6. Aquatic Habitat Conservation and Management**

Loss and alteration of aquatic habitats are principal factors in the decline of native fish and other aquatic resources and the loss of biodiversity. Seventy percent of the Nation's rivers have altered flows, and 50 percent of waterways fail to meet minimum biological criteria.

#### **7. Workforce Management**

The Fisheries Program relies on a broad range of professionals to accomplish its mission: biologists, managers, administrators, clerks, animal caretakers, and maintenance workers. Without their skills and dedication, the Fisheries Program cannot succeed. Employees must be trained, equipped and supported in order to perform their jobs safely, often under demanding environmental conditions, and to keep current with the constantly expanding science of fish and aquatic resource management and conservation.

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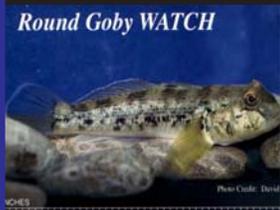
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*Click here to visit our Fisheries Web Site*

# Great Lakes - Big Rivers Region Fisheries Field Offices

## National Fish Hatcheries

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

## Sea Lamprey Control Stations

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

## Fishery Resources Offices

Fishery Resources Offices perform key monitoring and control activities related to invasive aquatic species; survey and evaluate native fish stocks and aquatic habitats to identify restoration opportunities; play a key role in targeting and

implementing native fish and habitat restoration programs; work with private land owners, states, local governments and watershed organizations to complete aquatic habitat restoration projects under the Service's Private Lands and the Great Lakes Coastal Programs; provide coordination and technical assistance toward the management of interjurisdictional fisheries; maintain and operate several key interagency databases; provide technical assistance to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and re-licensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments and treaty authorities.

## Fish Health Center

The Fish Health Center provides specialized fish health evaluation and diagnostic services to federal, state, tribal and private hatcheries in the region; conducts extensive monitoring and evaluation of wild fish health throughout the region; examines and certifies the health of captive hatchery stocks; and, performs a wide range of special services helping to coordinate fishery program offices and partner organizations.

Great Lakes - Big Rivers Region Fisheries Field Offices



# National Fish Passage Program Region 3 - Great Lakes Basin States *Accomplishments for 1999-2003*

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

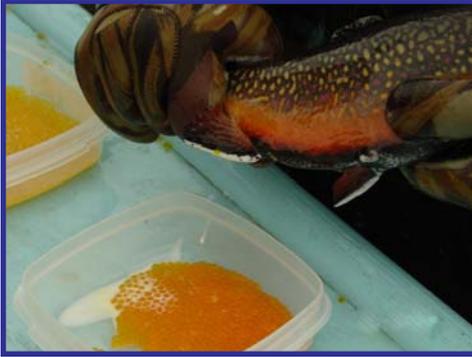
- 3 beaver dam removal projects
- 8 stream miles reconnected
- 1 training workshop conducted
- 1 study of fish movements and habitat use
- \$60,000 Program contribution
- \$71,000 partner contribution

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.

# Partnerships and Accountability

## *Partnerships*

### *FISCAL YEAR 2003*



-USFWS

Eggs are gently removed from a coaster brook trout at the Iron River NFH. Biologists at the hatchery will hatch the eggs for rehabilitation programs in Lake Superior.



-USFWS

Fish and Wildlife Service and Ontario Ministry of Natural Resources employees teamed up to conduct spawning lake sturgeon assessments in Canadian waters of Lake Superior. Funding was provided through a Great Lakes Fishery Trust grant to collect samples and describe the genetics of spawning lake sturgeon populations in the Great Lakes.

#### **Brook Trout Rehabilitation in Lake Superior**

*(Ashland FRO)*

“...assisted the Great Lakes Fishery Commission in publishing the Brook Trout Rehabilitation Plan for Lake Superior...”

#### **Great Lakes Lake Sturgeon Coordination**

*(Ashland FRO)*

“...assisted in coordinating and planning a lake sturgeon coordination meeting that brought together 110 biologists, fishery managers, researchers, and members of the public representing over 40 agencies, institutions, and groups to discuss lake sturgeon conservation...”

#### **Ontario Ministry of Natural Resources Lake Sturgeon Work**

*(Alpena FRO)*

“...assisted Ontario Ministry of Natural Resources capture and tag lake sturgeon; provided guidance on creating lake sturgeon spawning habitat...”

#### **Partnering with the State of Michigan to Benefit Lake Sturgeon**

*(Alpena FRO)*

“...assisted Michigan DNR with their work in Lake St. Clair...”

#### **Study of Historic Distribution and Abundance of Lake Sturgeon in the Lake Michigan Basin**

*(Green Bay FRO)*

“...Fish and Wildlife Service participated with Saint Mary’s University to investigate historical distribution and abundance of lake sturgeon in Lake Michigan...”

#### **Isle Royale National Park Fishery Management Plan**

*(Ashland FRO)*

“...assisted with development of a comprehensive fishery management plan for Isle Royale National Park to guide long-term management of fishery resources...”

#### **First Ever Great Lakes-wide Lake Sturgeon Coordination Meeting**

*(Green Bay FRO)*

“...discussed Great Lakes lake sturgeon rehabilitation issues on stocking, genetic objectives for remnant populations, and assessment techniques among 110 partner biologists, managers, researchers...”

#### **Whirling Disease Survey for the Michigan DNR**

*(La Crosse FHC)*

“...processed 890 samples of trout from Michigan streams for whirling disease finding some positive samples...”

DNR = Department of Natural Resources

FHC = Fish Health Center

FRO = Fishery Resources Office

NFH = National Fish Hatchery

NWR = National Wildlife Refuge

**Green Bay FRO assists Wisconsin DNR with Yellow Perch Recruitment Problem in Green Bay**

*(Green Bay FRO)*

“...provided data analysis and population model to Wisconsin DNR to assist them with harvest management and recovery of yellow perch in Green Bay, Wisconsin...”



**Accord reached between Fish and Wildlife Service, Great Lakes Fishery Commission, and State of Michigan**

*(Marquette and Ludington Biological Stations)*

“...signed a memorandum of understanding between the Fish and Wildlife Service, the Great Lakes Fishery Commission, and Michigan DNR for cooperation in the construction, operation, and maintenance of sea lamprey barriers on Michigan streams...”

**Protocol Implemented for the Sea Lamprey Control Program**

*(Marquette and Ludington Biological Stations)*

“...implemented “Protocol to Protect and Avoid Disturbance to Federal and/or State-Listed Endangered, Threatened, Candidate, Proposed, or Special Concern Species and Critical or Proposed Critical Habitats in or near Great Lakes Streams Scheduled for Applications of Granular Bayluscide to Assess Populations of Larval Sea Lampreys during 2003...”

-USFWS

Green Bay FRO and Wisconsin DNR biologists work cooperatively to enhance yellow perch stock assessment capabilities.

**FISCAL YEAR 2004**

**Brook Trout Rehabilitation in Lake Superior**

*(Ashland FRO)*

“...contributed to lake wide initiative to rehabilitate the migratory form of brook trout in Lake Superior, participated in a scientific workshop to review the status of research in Lake Superior, contributed to the coaster brook trout symposium by presenting or contributing to eight presentations...”



-USFWS

Rob Elliott, Green Bay FRO, Tom Meronek, Wisconsin DNR, and Greg Bunker, Stockbridge-Munsee Indian Community Conservation Office examine an adult lake sturgeon

**Great Lakes Lake Sturgeon Coordination Meeting**

*(Ashland FRO, Green Bay FRO)*

“...assisted in the coordination and planning a second Lake Sturgeon Coordination Meeting that will bring together individuals from agencies, institutions, and the public that work on lake sturgeon conservation issues; completed a final report from the first Great Lakes Lake Sturgeon Coordination Meeting...”

**Historic Distribution and Abundance of Lake Sturgeon in the Lake Michigan Basin**

*(Green Bay FRO)*

“...participated with Saint Mary’s University in investigation of historical distribution and abundance of lake sturgeon in Lake Michigan...”

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### Lake Sturgeon Restoration in the Great Lakes

(Alpena FRO)

“...provided lead role in interagency group to restore lake sturgeon to Lake Huron, St. Clair River, Detroit River, and Lake Erie including telemetry work...”



-USFWS

Biologists from the Region's FRO's have helped to develop interagency management plans to restore native lake sturgeon populations throughout the Midwest.

### Isle Royale National Park Fishery Management Plan

(Ashland FRO)

“...provided assistance and expertise to develop a Fishery Management Plan (FMP) for Isle Royale National Park...”

### National Wild Fish Health Survey

(La Crosse FHC)

“...have collected fish tissue samples from cold, cool, and warm water fishes in the Great Lakes Basin for the Wild Fish Health Survey...”

### Green Bay FRO assists Wisconsin with Yellow Perch Recruitment Problem in Green Bay

(Green Bay FRO)

“...provided data analysis and population model to Wisconsin DNR to assist with harvest management and recovery of yellow perch in Green Bay, Wisconsin...”

### Lake Sturgeon Rehabilitation Plan for Lake Michigan

(Green Bay FRO)

“...provided lead for development of interagency comprehensive lake sturgeon rehabilitation plan for Lake Michigan intended to guide implementation of rehabilitation efforts throughout the basin...”



-USFWS

A lake sturgeon is released after a biologist records measurements and collects tissue samples. Tissue samples are used for genetic analysis. Tribal commercial fishers are providing excellent support by gathering biological information and tagging captured lake sturgeon.

### Green Bay FRO assists Wisconsin with Lake Whitefish Assessment Program

(Green Bay FRO)

“...compiled all Northern Moonlight Bay lake whitefish stock data into a modern database format and an assessment model was developed to estimate abundance and guide management...”

### Lakewide Assessment and Management of the Lake Michigan Fish Community

(Green Bay FRO)

“...contributed to the Interagency/interjurisdictional management and assessment of Lake Michigan fish community through the Lake Michigan Committee...”

### Fisheries Stock Assessments

(Green Bay FRO)

“...provided technical expertise to Wisconsin DNR biologists on technical aspects of stock assessment and fisheries data analysis...”

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## Accountability

### *FISCAL YEAR 2003*



-USFWS

The round goby is an invasive, nuisance fish species that negatively impacts native species through their aggressive nature, competition for food and habitat, egg predation, and rapid proliferation in waters where they become established in the Great lakes. They are being monitored in the Illinois Waterway which is a corridor to the Mississippi River Basin.

#### **Region 3 Invasive Species Coordinator**

*(Regional Office)*

“...supported 5 state/interstate plans and draft plans for Indiana and Wisconsin, and partnered with Great Lakes Basin Panel on Aquatic Nuisance Species, Great Lakes Commission, Chicago Sanitary and Ship Canal Barrier Advisory Panel, and City of Chicago...”

#### **Round Goby and Asian Carp Monitoring in the Illinois Waterway**

*(La Crosse FRO)*

“...led a multi-agency monitoring program which detected round gobies 7 miles further downstream (17% down the length of the Illinois Waterway on the way to the Mississippi River); collected no bighead or silver carp any further upstream than previously documented (21 miles below the electrical barrier and 50 miles from Lake Michigan)...”

#### **Sea Lamprey Populations reduced 90% from Historic Levels**

*(Marquette and Ludington Biological Stations)*

“...have achieved a 90% reduction of invasive sea lampreys from historic levels helping to support a \$4 billion industry in the Great Lakes...”

#### **Largemouth Bass Viral Work for Illinois, Michigan, and Wisconsin Natural Resource Agencies**

*(La Crosse FHC)*

“...inspected swim bladders and kidney tissue from 786 bass supplied by natural resource agencies in Illinois, Michigan, and Wisconsin for Largemouth Bass Virus finding some positive results...”

#### **Task Group formed to Develop Lake Sturgeon Rehabilitation Plan for Lake Michigan**

*(Green Bay FRO)*

“...development of comprehensive lake sturgeon rehabilitation plan for Lake Michigan initiated by a Lake Sturgeon Task Group...”

#### **Great Lakes Fish Stocking Database**

*(Green Bay FRO)*

“...basin-wide data imported from cooperating agencies and now available through the Great Lakes Fishery Commission web site...”

#### **Pictured Rocks Fishery Management**

*(Ashland FRO)*

“...provided the first systematic inventory of fish species inhabit the Pictured Rocks National Lakeshore in Lake Superior...”

#### **Lake Superior Committee Report**

*(Ashland FRO)*

“...drafted the lake sturgeon and aquatic nuisance species sections of the State of the Lake Superior Report...”



-NPS

Pictured Rocks National Lakeshore; Ashland FRO provided the first systematic inventory of fish species that inhabit the park.

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### **Fish Health Inspection Work for Illinois, Michigan, and Ohio Natural Resource Agencies**

*(La Crosse FHC)*

“... processed 4,165 salmonids screening for certifiable fish diseases for natural resource agencies in Illinois, Michigan, and Ohio...”



-USFWS

**Fish health experts perform inspections for agencies throughout the Great Lakes Basin. They screen for certifiable fish diseases that are listed in the National Fish Health Policy.**

## ***FISCAL YEAR 2004***

### **Region 3 Invasive Species Coordinator**

*(Regional Office)*

“...supported 5 state/interstate plans and draft plans for Indiana and Wisconsin, and partnered with Great Lakes Basin Panel on Aquatic Nuisance Species, Great Lakes Commission, Chicago Sanitary and Ship Canal Barrier Advisory Panel, and City of Chicago...”

### **Round Goby and Asian Carp Monitoring in the Illinois Waterway**

*(La Crosse FRO)*

“...determined distribution of the exotic round goby and Asian carp species in the Illinois Waterway System, assisting managers with decisions to control their spread; round gobies were detected 55 miles farther downstream than in previous collections, but bighead or silver carp were not collected any further upstream than previously...”

### **Sea Lamprey Populations reduced 90% from Historic Levels**

*(Marquette and Ludington Biological Stations)*

“...have achieved a 90% reduction of sea lampreys from historic levels supporting a \$4 billion industry...”

### **Largemouth Bass Viral Work for Wisconsin, Michigan, and Illinois Natural Resource Agencies**

*(La Crosse FHC)*

“...conducted largemouth bass viral work for the Department of Natural Resource agencies in Michigan, Illinois, and Wisconsin on over 315 fish including largemouth, smallmouth, rock, and white bass with some fish positive for the virus. ...”



-USFWS

**Fish and Wildlife Service personnel apply lampricide on the St Mary's River to areas with high densities of invasive sea lampreys. Over 200 acres of river bottom were treated in 2004. The St Mary's River is the international boundary between the United States and Canada.**

### **Lake Trout Rehabilitation Plan drafted for Lake Michigan**

*(Green Bay FRO)*

“...provided lead on interagency effort to develop a lake trout rehabilitation plan for Lake Michigan that will increase the probability of sustained wild recruitment...”

### **Great Lakes Fish Stocking Database Updated**

*(Green Bay FRO)*

“...updated basin-wide stocking data and made it available to the public through the Great Lakes Fishery Commission website...”

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**Pictured Rocks Fishery Inventory**

*(Ashland FRO)*

“...inventoried 19 diverse aquatic habitats identifying a total of 40 separate populations of fish in previously un-surveyed or inadequately surveyed waters at Pictured Rocks National Lakeshore...”



-USFWS

Coaster brook trout ranging from 7 to 12 inches were stocked into a plunge pool below the Hurricane River Falls at the Pictured Rocks National Lakeshore. Hopes are high that the 7,500 yearlings will pave the way toward coaster brook trout rehabilitation there.

**Lake Superior Committee and Technical Committee**

*(Ashland FRO)*

“...identified partners, and contributed staff and funds for projects related to lake trout, brook trout, lake sturgeon, and walleye rehabilitation effort; coordinated genetics study of splake reproduction; developed brook trout brood stock and assessed stocking efforts to promote rehabilitation efforts...”

**Mitigation of Fish Losses by the Ludington Pumped Storage Hydroelectric Plant on Lake Michigan**

*(Green Bay FRO)*

“...provided over \$3 million in grants for fish research and restoration on Lake Michigan through the Great Lakes Fishery Trust, created to mitigate for fish losses at the Ludington Pumped Storage Hydroelectric Plant...”

**Lake Superior Bi-national Program**

*(Ashland FRO)*

“...provided support in development and implementation of the Lake Superior Lakewide Management Plan...”

**Lake Sturgeon Status, Trends, and Initiatives reported to Great Lakes Organizations**

*(Green Bay FRO)*

“...presented reports and information on lake sturgeon status, trends, and initiatives to decision-making bodies of the Great Lakes Fishery Commission, the Great Lakes Fishery Trust, and at American Fisheries Society meetings...”

**Postmortem Disease Diagnostic Cases at the La Crosse FHC**

*(La Crosse FHC)*

“...performed postmortem diagnostic cases on cold, cool, and warm water fishes isolating parasitic, viral, and bacterial fish pathogens...”

**Sport Fishery Catch and Effort in Lake Michigan, 1974 - 2003 Reported**

*(Green Bay FRO)*

“...provided management information which identified trends in Lake Michigan’s recreational fisheries...”



-USFWS

Corey Puzach from the La Crosse FHC is shown preparing virology samples to screen fish for presence of certifiable pathogens(fish diseases).

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# Aquatic Species Conservation and Management

*FISCAL YEAR 2003*



-USFWS

Staff from the Fish and Wildlife Service, Wisconsin DNR, and Trout Unlimited partnered to conduct a fish population estimate for Whittlesey Creek near Ashland, Wisconsin. Estimates are a critical component in the experiment to establish a self-sustaining native brook trout population there.



-USFWS

Biologist Crystal Anderson spawns a lake trout at the Sullivan Creek NFH. Lake trout eggs from Service hatcheries are used for rehabilitation programs in the Great Lakes.

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## Fish Health Inspections at Lake Trout and Coaster Brook Trout Isolation Facilities

*(La Crosse FHC)*

“...inspected approximately 10,000 fish for certifiable fish pathogens at isolation facilities located at Genoa NFH and Keweenaw Bay Tribal Fish Hatchery...”

## Coaster Brook Trout Restoration and Salmonid Isolation Facility

*(Genoa NFH)*

“...maintained two strains of coaster brook trout as emergency back-up and cleared for shipment one year class of coaster brook trout brood stock from the isolation facility at Genoa NFH...”

## Lake Trout restored in MN-3 Sector of Lake Superior

*(Ashland FRO)*

“...terminated stocking of lake trout in MN-3 management unit of Lake Superior because “all” criteria for lake trout rehabilitation were met...”

## Coaster Brook Trout Genetics enhanced in Hatchery Stocks

*(Iron River NFH)*

“...enhanced genetic diversity of 2 strains of coaster brook trout (producing 566,000 green eggs) by maintaining captive spawning populations and introducing wild gametes from wild...”

## Assessment of Coaster Brook Trout in Northern Lake Michigan

*(Green Bay FRO)*

“...performed fishery assessments, in cooperation with the U.S. Forest Service and Michigan DNR, on seven tributaries to northern Lake Michigan and took samples for genetic analysis...”

## Jordan River NFH produces 2,033,190 Native Lake Trout for the Great Lakes

*(Jordan River NFH)*

“...stocked 2,033,190 native lake trout into the Great Lakes as part of a multifaceted native fish restoration effort...”

## Lake Trout Restoration assessed in Lake Michigan

*(Green Bay FRO)*

“...assessed lake trout populations on 3 near-shore and 2 mid-lake reefs that have historically been stocked with lake trout...”

## Lake Sturgeon Restoration in Lake Huron, St. Clair River, Detroit River, and Lake Erie

*(Alpena FRO)*

“...sampled lake sturgeon in the Rifle River of Lake Huron; surveyed artificial spawning reef in the Detroit River; documented movements of radio transmitter implanted fish; geo-referenced Port Huron site; completed report for genetics project...”

**Lake Trout Rehabilitation Efforts at Iron River NFH**

*(Iron River NFH)*

“...reared, marked, and stocked 1,039,000 yearling and 175,000 fingerling lake trout in Lakes Michigan and Huron in support of rehabilitation efforts...”

**Lake Sturgeon Genetics Management Plan for Lake Superior**

*(Ashland FRO)*

“...collected 146 tissue samples from 10 Lake Superior tributaries for genetic analysis...”

**Coaster Brook Trout Restoration in Lake Superior**

*(Iron River NFH)*

“...reared, marked, and released 158,000 coaster brook trout fry and fingerlings into Lake Superior bays and tributaries to restore spawning populations as part of cooperative management plans...”

**Pendills Creek NFH produced and stocked 511,070 Lake Trout in Lakes Michigan and Huron**

*(Pendills Creek NFH)*

“...stocked 511,070 lake trout weighing 30,247 pounds of the Lewis Lake and Seneca Lake strains in Lakes Michigan and Huron...”

**Lake Sturgeon collected from Green Bay Commercial Fisher during Winter 2003**

*(Green Bay FRO)*

“...collected biological data and tissue samples from 23 lake sturgeon in Green Bay to provide distribution and abundance information ...”

**Lakewide Survival of Lake Trout Strains stocked in Lake Michigan**

*(Green Bay FRO)*

“...lead a multi-agency sampling and analysis effort to determine the relative survival of 5 strains of lake trout stocked into Lake Michigan...”

**M/V Togue stocks Native Lake Trout**

*(Jordan River NFH)*

The M/V Togue traveled 2,619 miles in Lakes Michigan and Huron stocking approximately 3,074,000 lake trout yearlings on 35 reefs.

**Lake Huron Lake Trout Restoration**

*(Alpena FRO)*

“...processed 1,500 coded wire tags recovered from lake trout fisheries and used information to plot movement; presented hatchery quality-at-release study results; gave 2 presentations describing interagency efforts to rehabilitate lake trout...”

**Lake Trout Brood Stock Program at Iron River NFH**

*(Iron River NFH)*

“...maintained 16 captive, genetically diverse spawning populations of lake trout, consisting of 5 strains, producing 4.2 million green eggs to address rehabilitation objectives for the upper Great Lakes...”



-USFWS

Eggs are gently removed from a coaster brook trout at the Iron River NFH. The resultant eggs produced 158,000 fry and fingerlings for restoration programs in Lake Superior in FY2003.



-USFWS

The Fish and Wildlife Service lake trout stocking vessel, M/V Togue, traveled 2,619 miles in Lake Michigan and Lake Huron stocking approximately 3,074,000 lake trout yearlings on 35 offshore reefs in FY2003.

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### Process Coded Wire Tags to evaluate Lake Trout Restoration

*(Green Bay FRO)*

“...processed 2,372 sport and assessment caught lake trout coded wire tags and distribution information back to 8 participating agencies...”

### Sullivan Creek NFH ships Approximately 3,805,000 Eyed Eggs

*(Sullivan Creek NFH)*

“...produced and shipped over 3,805,000 eyed eggs of six strains of lake trout to four NFHs and one state agency for high priority native fish restoration programs...”

### Lake Sturgeon Reproductive Success evaluated in Green Bay Tributaries

*(Green Bay FRO)*

“...successful lake sturgeon reproduction discovered in four Green Bay tributaries...”

### Analysis of Incidental Lake Sturgeon Captures in Lake Michigan Commercial Fishery

*(Green Bay FRO)*

“...prepared report summarizing data on 119 lake sturgeon captured in Lake Michigan from 1996 – 2002 yielding information regarding movements, depth preferences, spatial distribution, and rate of encounter...”

## FISCAL YEAR 2004

### Maintain Coaster Brook Trout Restoration Efforts and Salmonid Isolation Facility

*(Genoa NFH)*

“...maintained two strains of brood stock of the coaster brook trout as emergency backup, and operated the Regional Salmonid Isolation Facility, housing wild fish awaiting disease clearance...”

### Coaster Brook Trout Restoration Efforts in Lake Superior Continue

*(Iron River NFH)*

“...produced, marked, and released 158,000 coaster brook trout fry and fingerlings into Lake Superior bays and tributaries to restore spawning populations...”

### Coaster Brook Trout Genetics enhanced in Hatchery Stocks

*(Iron River NFH)*

“...enhanced genetic diversity of two strains of coaster brook trout by maintaining captive spawning populations and introducing wild gametes from Isle Royale National Park...”

### Fish Marking Accomplished for Ongoing Studies and Monitoring

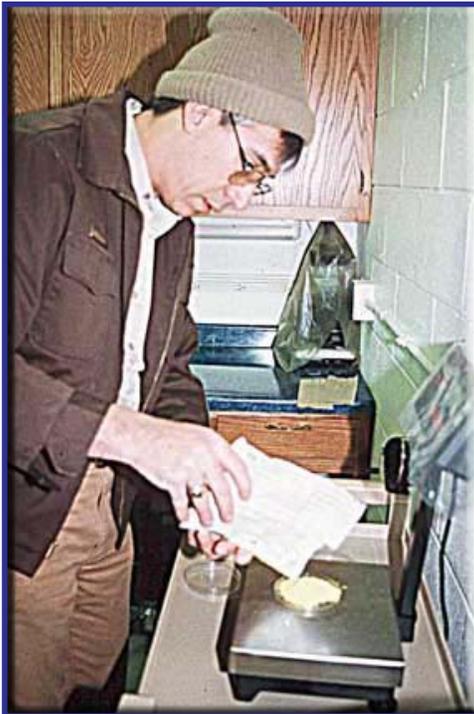
*(Iron River NFH)*

“...marked 158,000 coaster brook trout for release in the Great Lakes Basin by insertion of a coded wire tag, clipping a fin, or chemical marking of the otolith...”



-USFWS

Lake trout brood stock stations produce eggs for rehabilitation programs in the Great Lakes. Sullivan Creek NFH produced and shipped over 3,805,000 eyed eggs of six strains to four National Fish Hatcheries and one state agency in FY2003.



-USFWS

Frank Stone, Ashland FRO, measures out some oxytetracycline which will be used to mark the otoliths on coaster brook trout.

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**Status Assessment of Lake Michigan Lake Sturgeon Stocks**

*(Green Bay FRO)*

“...assessments conducted of remnant spawning and mixed stock populations in Green Bay, coordinated completion of year 3 of a status assessment in Lake Michigan involving nine partners...”

**Lake Sturgeon Rehabilitation in Lake Superior**

*(Ashland FRO)*

“...collected 190 tissue samples for genetic analysis from tributaries where sturgeon spawn and from the mixed stock in Lake Superior...”

**Analysis of Incidental Lake Sturgeon Captures in Lake Michigan Open Water Fisheries**

*(Green Bay FRO)*

“.. collected population data and statistics, summarized and reported on the status of lake sturgeon in Lake Michigan...”

**Habitat Use and Early Life History of Juvenile Lake Sturgeon in the Peshtigo River**

*(Green Bay FRO)*

“...completed final report describing the early life history of lake sturgeon in a representative tributary to Green Bay, Lake Michigan...”

**Commercial Fishermen play a Part in Lake Sturgeon Restoration**

*(Alpena FRO)*

“...recorded data from 20 volunteer fishers who incidentally captured 19 sturgeon...”

**Lake Trout Restoration in the Upper Great Lakes**

*(Jordan River NFH)*

“...reared, marked, and released 954,212 lake trout offshore in Lake Michigan and 820,889 offshore in Lake Huron...”

**Lake Trout Restoration assessed in Lake Michigan**

*(Green Bay FRO)*

“...measured the abundance of lake trout spawners in fall on three reefs that have historically been stocked with fish by the NFH system, and in spring at six sites in cooperation with U.S. Geological Survey...”

**Lake Huron Lake Trout Restoration**

*(Alpena FRO)*

“...conducted lake trout spawning surveys, performed lake trout stock assessment/modeling analyses, analyzed data to evaluate progress in meeting goals of lake trout rehabilitation efforts and the Service’s Hatchery Product Evaluation Program on Lake Huron, processed 1,000 coded-wire-tags (CWT) recovered from lake trout fisheries...”

**Lake Trout Stocking Goals Met, Rehabilitation Continues**

*(Iron River NFH)*

“...reared, marked, and stocked 1,039,000 yearling and 175,000 fingerling lake trout into lakes Michigan and Huron of which 366,000 were coded wire tagged and the remainder (848,000) fin clipped...”



-USFWS

Biologists with captured lake sturgeon. Information will be entered into a database and used to estimate the size, to describe biological characteristics of fish, and to analyze the genetic characteristics of spawning runs.



-USFWS

The Region’s lake trout hatcheries produce fry and fingerlings for stocking the Great Lakes under interagency rehabilitation programs.

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### Pendill's Creek NFH Lake Trout stocked in the Upper Great Lakes for Rehabilitation

*(Pendills Creek NFH)*

"...reared, marked, and stocked 473,472 lake trout (26,146 pounds) for Lake Michigan and 358,450 lake trout (14,681 pounds) for Lake Huron towards rehabilitation of lake trout..."

### M/V Togue Released 2,932,000 Native Lake Trout Yearlings Offshore in Lakes Michigan and Huron

*(Jordan River NFH)*

"...transported about 2,932,000 native lake trout yearlings offshore in lakes Michigan and Huron using the M/V Togue..."

### Process Coded Wire Tags to Evaluate Lake Trout Restoration

*(Green Bay FRO)*

"...processed 1,900 sport and assessment caught lake trout with coded wire tags and distributed information back to eight agencies..."

### A New Year Class arises as Lake and Brook Trout Spawning Completed

*(Iron River NFH)*

"...spawned 4.2 million green eggs from five strains of lake trout and 566,000 green eggs from two strains of Isle Royale coaster brook trout..."

### Lake Trout Transferred to Pendills Creek NFH

*(Jordan River NFH)*

"...produced and transferred 850,653 lake trout (3,389 lb.) to Pendills Creek NFH for the production program..."

### Production of Lake Trout Eggs at Sullivan Creek NFH

*(Sullivan Creek NFH)*

"...packaged and shipped approximately 3,343,000 eyed lake trout eggs to four National Fish Hatcheries and one state agency..."

### Fish Health Inspections at National Fish Hatcheries

*(La Crosse FHC)*

"...provided over 2.5 million healthy "disease-free" lake trout for rehabilitation programs in the Great Lakes through fish health inspections..."

### Fish Health Inspections at Lake Trout and Coaster Brook Trout Isolation Facilities

*(La Crosse FHC)*

"...completed fish health inspections at Genoa, Wisconsin and Keweenaw Bay, Michigan isolation hatcheries on wild strains of lake trout and coaster brook trout coming from Lake Superior..."

### Reestablish Great Lakes Musky into Green Bay Waters

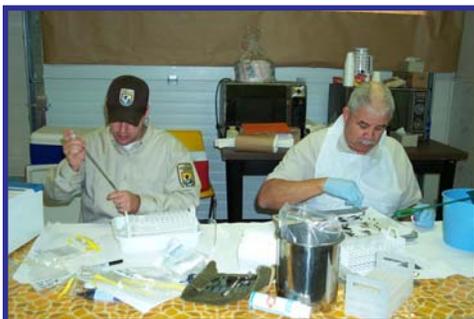
*(Green Bay FRO)*

"...made contacts with the Ontario Ministry of Natural Resources to obtain eggs from donor Great Lakes musky stocks in Northern Lake Huron for stocking in Green Bay waters of Lake Michigan..."



-USFWS

Magnification of a coded wire tag in the snout of a lake trout. Tags are later removed from sport and assessment caught fish and information distributed back to the participating agencies.



-USFWS

The La Crosse FHC conducts a fish health pathogen screening at one of the Region's Great Lakes fish hatcheries.

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## *Aquatic Invasive Species*

### *FISCAL YEAR 2003*

#### **Sea Lamprey Control in the Upper Great Lakes**

*(Marquette and Ludington Biological Stations)*

“...assessed adult invasive sea lamprey populations in 54 streams and larval populations in 162 streams; treated 35 streams to control sea lampreys..”

#### **Aquatic Nuisance Species Coordination Activities in the St. Marys River and Lake Huron**

*(Alpena FRO)*

“...monitored for presence and spread of aquatic nuisance species (ANS) at 9 Lake Huron and St. Marys River locations; controlled spring spawning populations of invasive ruffe in the Thunder Bay River; provided ANS educational programs to 12,000 resource users...”

#### **Invasive Eurasian Ruffe Surveillance and Control**

*(Ashland FRO, Green Bay FRO)*

“...completed surveillance in 15 sites from Keweenaw Peninsula to the St. Marys River in Lake Superior finding no new ruffe populations; investigated fish communities of 4 tributary estuaries of Lake Superior to identify trends that may be influenced by the presence of ruffe; conducted ruffe population reduction in the Ontonagon River; and surveyed for invasive ruffe along western and southern shores of Lake Michigan to determine the range in the lake...”



-GLFC

Parasitic sea lampreys are attached to this native lake trout. Each sea lamprey, an invasive species in the Great Lakes, is capable of killing upwards of 40 pounds of lake trout.



-USFWS

Biologists use gill nets to remove invasive Eurasian ruffe adults from Thunder Bay, Lake Huron in hopes of slowing their spread to new areas.

### *FISCAL YEAR 2004*

#### **Sea Lamprey Control in the Upper Great Lakes**

*(Marquette and Ludington Biological Stations)*

“...assessed adult invasive sea lamprey populations in 56 tributaries and larval populations in 125 streams; treated 47 streams with chemicals to control sea lampreys...”

#### **Aquatic Species Conservation and Management - Aquatic Nuisance Species (ANS) Coordination Activities**

*(Alpena FRO)*

“...monitored 12 Lake Huron and St. Mary’s River ports for the presence and ANS and increased the awareness of over 15,000 water users about ANS in an effort to prevent their spread...”

#### **Invasive Ruffe Surveillance in Lake Michigan**

*(Green Bay FRO)*

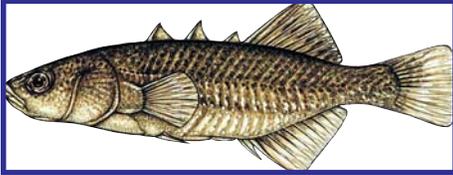
“...sampled for invasive ruffe in Green Bay and along the northern shore of Lake Michigan finding only three specimens in the northern portion of Little Bay De Noc near Gladstone, Michigan. ...”

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### Aquatic Invasive Species Coordination

(Ashland FRO)

“...monitored aquatic invasive species finding two new populations of threespine stickleback at the Pictured Rocks National Lakeshore, two new populations of Eurasian watermilfoil in the Marquette Harbor as well as two new populations of zebra mussels, two new ruffe populations in the Keweenaw Waterway...”



Threespine Stickleback

### Green Bay FRO Staff attends Lake Michigan Early Detection and Monitoring workshop

(Green Bay FRO)

“...assisted with development of early monitoring protocols for invasive species within the Lake Michigan Basin...”



-USFWS

Asian carp species: top - Silver carp; middle - grass carp; bottom - bighead carp. These three invasive species have established populations in the Mississippi River Basin. Biologists predict series economic impacts if they become established in the Great Lakes.

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# Public Use

## FISCAL YEAR 2003

### Public Education and Outreach Activities for Alpena FRO (Alpena FRO)

“...participated in 60 educational, professional, and outreach events reaching approximately 73,350 people; updated 4 web pages and had 6 media interviews...”

### Green Bay FRO assists Marinette County, Wisconsin with an Environmental Field Day (Green Bay FRO)

“...329 Marinette County, Wisconsin 4<sup>th</sup> graders were educated about fish biology and biological sampling techniques...”

### Lake Trout Brood Stock Retired (Sullivan Creek NFH)

“...415 (5134 pounds) of old lake trout brood stock were retired and stocked in Michigan -Ottawa Lake, Golden Lake, and Lake Michigamme providing a unique fishing opportunity...”

### Visitation/Outreach at Pendills Creek/Hiawatha Forest NFHs (Pendills Creek/Sullivan Creek NFH's)

“...21,400 visitors came to Pendills Creek/Hiawatha Forest NFHs including 8 organized tours; attended the Lighthouse Festival at Alpena, MI and National Fishing Day at Seney National Wildlife Refuge, MI...”

### An Estimated 15,000 Visitors tour Jordan River NFH (Jordan River NFH)

“...approximately 15,000 visitors tour Jordan River NFH; staff attended four major Michigan events...”

### Outreach at Iron River NFH (Iron River NFH)

“...hosted 8 school, college, and community groups reaching over 1,700 people explaining the mission of the Iron River NFH...”

### Ashland FRO Outreach (Ashland FRO)

“...participated in numerous outreach events including college career days, media journalist training/education on Lake Superior fisheries, set up booth at Trout Unlimited event, completed Centennial Safari and Great Lakes Coastal Program web page projects...”

### Pendills Creek NFH Public Access to Lake Superior Shoreline (Pendills Creek NFH)

“...beach access upgraded to enhance natural beauty of area and provide safe access...”



-USFWS

Spring-time tours by local Head Start youth are an annual event at the Pendills Creek NFH which is located in the Eastern Upper Peninsula of Michigan near Sault Ste. Marie. An estimated 21,400 visitors enjoy the hatchery each year.



-USFWS

Snowmobilers in Northern Michigan take a break at the Jordan River NFH and learn about lake trout rehabilitation in the Great Lakes.

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**FISCAL YEAR 2004****Public Education and Outreach for the Alpena FRO***(Alpena FRO)*

“...participated in 42 educational, professional, and outreach events including meetings, festivals, parades, and school activities; updated four web pages and conducted 8 media interviews...”

**Lake Sturgeon Education and Outreach - Native Fish Display***(Green Bay FRO)*

“...developed a native fish display for Lake Michigan...”

**Lake Trout Brood Stock Retired and Stocked into Chicagon Lake, Michigan***(Sullivan Creek NFH)*

“...provided a recreational fishery in Chicagon Lake, Michigan by stocking 1,000 excess lake trout brood stock...”

**Visitors, Attendance by Staff at Outreach Events, and Dedication Highlight Public Service***(Pendills Creek/Sullivan Creek NFH's)*

“...about 21,000 visitors came to the Pendills Creek/Sullivan Creek National Fish Hatchery Complex, one open house ceremony and 12 tours were conducted, two volunteers contributed 2,625 hours, and two public outreach events were attended...”

**Jordan River NFH Outreach***(Jordan River NFH)*

“...about 15,000 visitors and attendance by staff at five events highlight Fiscal Year 2004...”

**Hatchery Outreach and Training: Educating the Public, Cooperators, and Ourselves***(Iron River NFH)*

“...hosted eight school, college, and community groups and attended 11 meetings and seven training sessions...”

**Outreach Activities of the Ashland FRO***(Ashland FRO)*

“...distributed information to about 1,280 visitors at 22 events; utilized the help of 6 volunteers for a total of 96 hours...”

**Sea Lamprey Program Outreach***(Marquette and Ludington Biological Stations)*

“...conducted 59 outreach educational activities emphasizing invasive sea lamprey control and other invasive species...”



-USFWS

Fishery biologists Heather Enterline and James Boase answer questions for the public at the Traverse City Hunting and Fishing Expo.



-USFWS

Steve Redman (center left) and Dale Bast (center right) from the Iron River NFH show off coaster brook trout brood fish at the Fishing Expo sponsored by Trout Unlimited held at the Bayfield County Civic Center in Ashland, Wisconsin.

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# Cooperation with Native Americans

## FISCAL YEAR 2003



-USFWS

A lake sturgeon is released after a biologist records measurements and collects tissue samples. Tissue samples are used for genetic analysis. Tribal commercial fishers are providing excellent support by gathering biological information and tagging incidentally captured lake sturgeon.



-USFWS

These lake whitefish were captured during a survey in Lake Huron. This native fish is important to the Native American commercial fishery. Alpena FRO assisted the Chippewa Ottawa Resources Authority (CORA) and Bay Mills Indian Community with lake whitefish assessments in lakes Huron and Michigan.

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### U.S. v Michigan 2000 Consent Decree Responsibilities in 1836 Treaty Waters

(Ashland FRO)

“...contributed to Consent Decree with state and tribal partners through committee participation and fishery assessments specifically by setting two 3600’ gill nets along 8 transects, collecting biological data on commercially desirable species, and aging 800 lake trout and 800 lake whitefish samples...”

### Commercial Fishers assist with Lake Sturgeon Assessment and Monitoring

(Ashland FRO)

“...established a cooperative project with Lake Superior Tribal Natural Resources Departments to work with commercial fishers to gather biological information and tag incidentally captured lake sturgeon...”

### Egg Isolation Agreement with Keweenaw Bay Tribal Government

(Iron River NFH)

“...stocked 90,000 lake trout yearlings into Keweenaw Bay, Lake Superior, as part of a Memorandum of Understanding with the Tribe for use of their hatchery facility to isolate wild gametes...”

### Fishery Assistance to the Oneida Tribe of Indians of Wisconsin

(Green Bay FRO)

“...provided management assistance for 4 lakes and 7 streams; organized creel survey for Duck Creek; performed stream quality surveys on 11 sights on 7 streams...”

### Tribal Assistance for Fishery Assessments

(Alpena FRO)

“...assisted the Chippewa Ottawa Resource Authority (CORA) and Bay Mills Indian Community with lake whitefish assessments in Lakes Huron and Michigan; assisted CORA with assessments of annual juvenile walleye abundance in Treaty waters...”

### Fish Health Inspections at Tribal Fish Hatcheries

(La Crosse FHC)

“...collected and analyzed 395 samples for certifiable diseases from rainbow and brook trout being raised at Lac du Flambeau, Red Cliff, and Keweenaw Bay Tribal fish hatcheries...”

### Fishery Assistance to Forest County Potawatomi

(Green Bay FRO)

“...performed population estimates on Bug Lake using gill and fyke nets and electro shocked 5 streams within the reservation...”

### **Technical Assistance provided to Little Traverse Bay Band of Odawa Indians**

*(Jordan River NFH)*

“...provided technical assistance to Little Traverse Bay Band of Odawa Indians on development of a lake trout hatchery...”



### **Fourth Annual Oneida Nation Youth and Elders Fishing Day**

*(Green Bay FRO)*

“...organized and held a Youth and Elders Fishing Day on Osnu'sha Lake, Oneida Nation, for 225 parents, children, and elders...”

### **Implement 2000 Consent Decree**

*(Alpena FRO)*

“...chaired the Technical Fisheries Committee and co-chaired Modeling Subcommittee for the 2000 Consent Decree; conducted fishery independent lake whitefish surveys at 24 sites in Lake Huron ...”

### **Stock Assessments and Harvest Limits developed by Modeling Subcommittee of the 2000 Consent Decree**

*(Green Bay FRO)*

“...generated safe harvest limits for 17 lake whitefish and 9 lake trout management units, improved assessment process, provided additional analysis...”

### **Lake Whitefish Scales aged by Green Bay FRO Biologists**

*(Green Bay FRO)*

“...aged 2,500 lake whitefish scales to assess year-class abundance and size at age for fish harvested by Tribal commercial fisherman...”

### **Lake Superior Technical Committee Projects**

*(Ashland FRO)*

“...cooperated with Red Cliff Band and Great Lakes Indian Fish and Wildlife Commission to survey siscowet (fat) lake trout in Michigan waters west of Keweenaw Peninsula...”

### **Assist Tribal Resource Managers with Fishery Resource and Fish Hatchery Needs**

*(Ashland FRO)*

“...responsible for assistance to Native American Tribes and organizations with FY 2003 activities including assistance with spring and fall walleye population surveys, construction of a fish passage structure, planning for a tribal fish hatchery, maintaining a tribal newsletter...”

*-USFWS photo by Aaron Woldt*

**Gerry Jackson, Region 3 Fisheries Assistant Regional Director, holds a lake trout captured during Alpena FRO's independent lake whitefish survey in Northern Lake Huron.**



*-USFWS*

**Keweenaw Bay staff takes a photo break from their stream survey work. Data will be used to develop baseline information to manage their fisheries. Ashland FRO staff assisted the Keweenaw Bay Natural Resources Department.**

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**FISCAL YEAR 2004**

**U.S. vs. Michigan 2000 Consent Decree Responsibilities in 1836 Treaty Territory**

*(Ashland FRO)*

“...contributed to the court mandated 2000 Consent Decree through participation on committees, conducted independent fishery assessments, and aged approximately 800 whitefish and 800 lake trout in partnership with state and tribal agencies...”

**Implement 2000 Consent Decree**

*(Alpena FRO)*

“...served as Chair of the Technical Fisheries Committee and Co-chair of the Modeling Subcommittee for the 2000 Consent Decree, conducted annual fishery independent whitefish surveys at 24 sites in Lake Huron, conducted 18 sets with jugged and legged nets to determine if these gears fish more efficiently, conducted 12 fall trap net sets to evaluate the use of small trap nets for a lake wide whitefish tagging study in FY 2005...”

**Implement 2000 Consent Decree in Lake Michigan**

*(Green Bay FRO)*

“...conducted fish stock assessment surveys, scale sample analysis of harvested fish, fine-tuned population models, software tool development of population model outputs and diagnostics; provided analytical and scientific support to fisheries management agencies...”

**Stock Assessments and Harvest Limits developed by Modeling Subcommittee of the 2000 Consent Decree**

*(Green Bay FRO)*

“...generated safe harvest limits for 17 lake whitefish management units and nine lake trout management units, improved assessment process, and provided additional analyses...”

**Egg Isolation Agreement to benefit the U.S. Fish and Wildlife Service Fish Hatchery System**

*(Iron River NFH)*

“...stocked 90,000 lake trout yearlings into Keweenaw Bay in return for use of their isolation facility...”

**Fish Health Inspections at Tribal Fish Hatcheries**

*(La Crosse FHC)*

“...conducted fish health inspections at two Tribal hatcheries - Red Cliff, Wisconsin and Keweenaw Bay, Michigan...”

**Fishery Assistance to the Oneida Nation**

*(Green Bay FRO)*

“...provided technical assistance to the Oneida Nation on the management of four lakes...”



-USFWS photo by Aaron Woltdt

**Alpena FRO Project Leader Jerry McClain holds a lake whitefish. Fishery Biologist Aaron Woltdt co-chaired the modeling sub-committee meeting in September during which 2005 whitefish harvest levels were discussed for 1836 treaty waters.**



-USFWS

**John Johnston, Iron River NFH, and two Keewenaw Bay Tribal Hatchery workers load lake trout and brook trout that have passed through a two year isolation period. They will be moved to brood stock stations and support rehabilitation programs.**

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### **Fifth Annual Oneida Nation Youth and Elders Fishing Day**

*(Green Bay FRO)*

“...assisted with Youth and Elders Fishing Day on Osnu’sha Lake, Oneida Nation, Wisconsin...”

### **Restore Trout Creek on Oneida Reservation**

*(Green Bay FRO)*

“...restored 600 meters of Trout Creek on the Oneida Nation...”

### **Assist Tribal Resource Managers with Fishery/Wildlife Resource and Fish Hatchery Needs**

*(Ashland FRO)*

“...helped fulfill Federal trust responsibilities to 14 Native American Tribes and two Tribal organizations...”

### **Lake Whitefish Populations Sampled in Lake Michigan**

*(Green Bay FRO)*

“...set 24 gangs of gill-net to survey lake whitefish populations in Northern Lake Michigan; aged over 2,000 lake whitefish scales to assess age composition and size at age for lake whitefish harvested by tribal commercial fishermen...”

### **Fishery Assistance to the Forest County Potawatomi**

*(Green Bay FRO)*

“...performed population estimates using gill and fyke nets on Bug Lake and used electroshocking equipment to sample five streams within the Reservation...”



-USFWS

**Keweenaw Bay staff takes a photo break from their stream survey work. Data will be used to develop baseline information to manage their fisheries. Ashland FRO staff assisted the Keweenaw Bay Natural Resources Department.**



-USFWS

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

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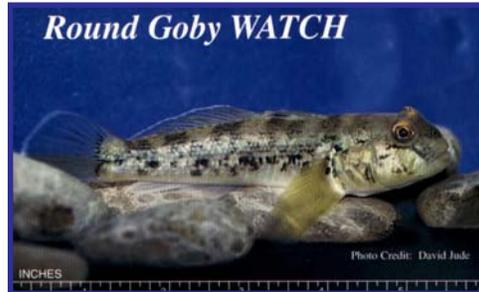
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# Leadership in Science and Technology

## FISCAL YEAR 2003



### Completed Invasive Round Goby Predation Study

(Alpena FRO)

“...completed 3 research projects to examine invasive round goby predation and abundance on Lake Huron lake trout spawning reefs and federal lands...”

### Contaminant Analysis and Early Mortality Syndrome in Lake Trout

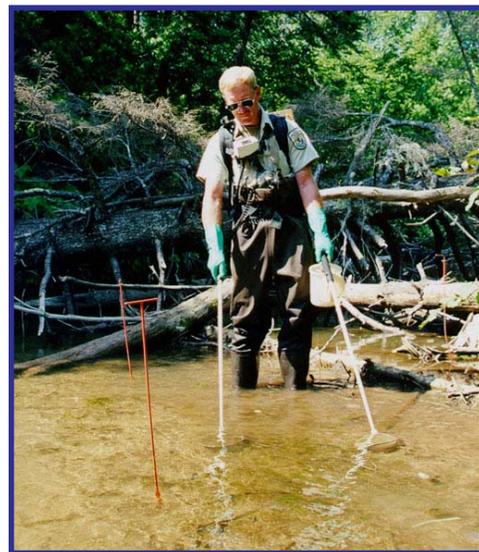
(Alpena FRO)

“...participate in research by collecting lake trout tissue and egg samples for the U.S Geological Survey and National Oceanic and Atmospheric Administration for contaminant analysis and early mortality syndrome research...”

### Sea Lamprey Assessment implements Recommendations to Advance Procedures

(Marquette Biological Station)

“...completed field portion of a project that begins implementing recommendations on ways to improve the quality of science currently being employed to determine lampricide treatments...”



### Sullivan Creek NFH produces 228,000 Lake Trout Fry for Experimental Study

(Sullivan Creek NFH)

“...228,000 lake trout fry planted on reefs in Lake Michigan as part of a predation study in cooperation with the Ontario Ministry of Natural Resources and Michigan Department of Natural Resources...”

### National Wild Fish Health Survey

(La Crosse FHC)

“...collected tissue samples from cold, cool, and warm water fish species this year in support of the National Wild Fish Health Survey...”

### Great Lakes Lake Sturgeon Information available on Web-based GIS Database

(Green Bay FRO)

“...a web-based geographic information system (GIS) database developed by partners to inventory all information on current and historic status and distribution of lake sturgeon throughout the Great Lakes...”

-GLFC

A sea lamprey control employee assesses a stream for invasive sea lampreys by electrofishing larvae.

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### Sullivan Creek NFH provides Eggs for Cold Water Fish Culture Course

*(Sullivan Creek NFH)*

“...provided approximately 68,000 green lake trout eggs for students attending the Cold Water Fish Culture Course...”



-USFWS

Steve Redman monitors water quality for an experimental hydrogen peroxide egg treatment at the Iron River NFH. Staff are looking at hydrogen peroxide as a replacement for formalin to treat fungus on lake trout eggs.

### Fewer Sea Lampreys produced in the St. Marys River

*(Marquette Biological Station)*

“...reproduction of invasive sea lampreys reduced by about 80% during 2003 in the St. Marys River due to a combination of trapping and sterile male releases...”

## FISCAL YEAR 2004

### Sterile Male Sea Lamprey Program

*(Marquette and Ludington Biological Stations)*

“...released sterile male sea lampreys in the St. Marys River...”

### Low-head Sea Lamprey Barriers

*(Marquette and Ludington Biological Stations)*

“...to date have installed low-head barriers on 19 streams in Wisconsin and Michigan to block spawning runs of adult, invasive sea lampreys...”

### Sea Lamprey Electrical Barriers

*(Marquette and Ludington Biological Stations)*

“...two electrical barriers to block spawning runs of adult, invasive sea lampreys are now in place on two Michigan streams...”



-GLFC

This is a low-head invasive sea lamprey barrier on the west branch of the Whitefish River in Delta County, Michigan. Barriers are designed and constructed to stop upstream migration of sea lampreys while providing passage of native fish.

### Great Lakes Lake Sturgeon Web-based GIS Database

*(Green Bay FRO)*

“...developing, in conjunction with the Great Lakes Basin Ecosystem Team Lake Sturgeon Committee, a web-based geographic information system (GIS) database to inventory all information on current and historic status and distribution of lake sturgeon throughout the Great Lakes...”

### Enhancing Genetic Diversity of Hatchery Lake Trout

*(Iron River NFH)*

“...enhanced genetic diversity of lake trout by maintaining five strains of lake trout in 16 captive spawning populations and collecting wild gametes...”

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# Aquatic Habitat Conservation and Management

## Aquatic Habitat

### *FISCAL YEAR 2003*



-USFWS

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

#### **Great Lakes Coastal Program**

(Ashland FRO)

“...enhanced, restored, and protected 800 acres of coastal fish and wildlife habitat in 10 separate projects...”

#### **Private Lands/Partners for Fish and Wildlife Program**

(Ashland FRO)

“...restored 139 acres on 8 wetlands, opened fish passage on 1,350 feet of stream, and restored 47 acres to native grasses...”

#### **Green Bay FRO assists with Trout Stream Improvement Project**

(Green Bay FRO)

“...worked with Marinette Land and Water Conservation Department, Green Bay Ecological Services Office, and Wisconsin Department of Natural Resources to protect ¼ mile of trout stream and prevent grazing and erosion in 6 acres of wetlands...”

### *FISCAL YEAR 2004*



-USFWS photo by Heather Enterline

View of a restored site at Lost Lake Woods Club located in Alcona County, Michigan funded in part by the Partners for Fish and Wildlife Program at Alpena FRO, Ducks Unlimited, and Lost Lake Woods.

#### **Great Lakes Coastal Program**

(Ashland FRO)

“...administering eight projects which will result in approximately 205 acres of coastal fish and wildlife habitat and seven miles of stream being enhanced, restored or protected; one fish passage barrier will be removed opening 25 miles on the Pike River in southeast Wisconsin...”

#### **Private Lands - Partners for Fish and Wildlife Program**

(Ashland FRO)

“...completed 18 wetland restoration projects on private lands totaling 91 acres and one fish passage project with 1,350 feet of stream reopened to fish migration; restored native forest and native grass on 203 acres...”

#### **Habitat Restoration- Partners for Fish and Wildlife**

(Alpena FRO)

“...restored 380 acres of wetland at 14 sites throughout Northern Michigan, completed two fish passage projects that included Partners funds, improved five miles of fish habitat, restored four erosion sites, removed 20 beaver dams...”

#### **Lake Sturgeon Habitat Evaluation in Lake Michigan Tributaries**

(Green Bay FRO)

“...collected habitat data for evaluation of habitat availability for lake sturgeon in Lake Michigan tributaries...”

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**Fishery Management Assistance on Ottawa NWR***(Alpena FRO)*

“...stabilized 160 feet of stream bank in Crane Creek on the Ottawa NWR during National Public Lands Day using volunteers and Service staff...”



-USFWS photo by Susan Wells

Ottawa NWR Manager Doug Brewer (in water) and Ottawa NWR Association volunteers lay filter fabric on a degraded bank along Crane Creek on the Ottawa NWR during National Public Lands Day in September 2004.

**Beaver Creek, Wisconsin Stream Improvement Project***(Green Bay FRO)*

“...monitored post construction effects of a fence and cattle crossing to protect 1/4 mile of trout stream and prevent grazing and erosion in 6 acres of wetlands...”

**Large Woody Debris Project on Manistee River, Michigan***(Green Bay FRO)*

“...improved fish and wildlife habitat, buffered eroded banks along the Manistee River, developed partnerships with several local organizations...”

**Fish Passage*****FISCAL YEAR 2003*****Habitat Restoration through the “Partners for Fish and Wildlife Program”***(Alpena FRO)*

“...43 acres of wetlands on 11 sites and eight stream bank erosion sites restored; three fish passage projects completed opening 42 miles of river; four miles of river habitat was improved by structure placement...”

**Fishery Management Assistance at Ottawa NWR***(Alpena FRO)*

“...conducted surveys at Metzger Marsh to assess interjurisdictional fish passage into the 906 acre wetland at Ottawa NWR...”

**Replacement of Perched Culvert on Bull Alley Run, Ashland County, Ohio***(Alpena FRO)*

“...replaced culvert which opened one mile of stream to passage of darters and several species of cyprinids and catostomids...”

**Little Lake Creek Fish Passage***(Ashland FRO)*

“...restored fish passage to about 0.4 miles of habitat on Little Lake Creek at the Grand Portage Reservation...”

**Small Dam Removal on Tannery Creek***(Alpena FRO)*

“...dam removal opened fish passage to three river miles of spawning habitat for native brook trout; a seasonal sea lamprey barrier was built to keep out invasive sea lampreys...”



-USFWS

Bottomless culverts are designed to allow uninhibited passage of native fish such as brook trout.

DNR = Department of Natural Resources  
 FHC = Fish Health Center  
 FRO = Fishery Resources Office  
 NFH = National Fish Hatchery  
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**Opening Fish Passage at Johnson Crossing Road at Headwaters of the Black River**

*(Alpena FRO)*

“...replaced perched culverts to allow fish passage of native brook trout to two miles of spawning habitat including several riffle areas...”



-USFWS

Two undersized, perched culverts were replaced by a new bottomless culvert on Johnson's Crossing Road located in Otsego County, Michigan. This project, on the headwaters of the Black River, enhances fish passage for native brook trout.

***FISCAL YEAR 2004***

**Fish Passage Restoration in Northern Lower Michigan Watersheds**

*(Alpena FRO)*

“...entered into cooperative agreements with Alcona, Cheboygan, and Otsego County Road Commissions for 3 road stream crossing projects which will open up 10 miles of habitat to brook trout...”

**Green Bay FRO replaces Culvert with Timber Bridge on Sucker Creek, Wisconsin**

*(Green Bay FRO)*

“...replaced failing culvert with a timber bridge to restore fish passage to four miles of northern pike spawning habitat...”

**Fish Passage on Tomahawk Creek**

*(Alpena FRO)*

“...finalized plans and permits with the Presque Isle Road Commission for a road stream crossing which will provide uninhibited access to an additional 5 miles to native brook trout on Tomahawk Creek on the Black Lake Watershed in Presque Isle County, Michigan...”

**Culvert Replacements on Brehmer Creek, Wisconsin**

*(Green Bay FRO)*

“...restored two culverts on Brehmer Creek in Wisconsin, which decreased sediment loading at the site, and enabled fish passage along the entire five miles of the creek...”

**Fish Passage and Habitat Access associated with Barriers on Lake Michigan Tributaries**

*(Green Bay FRO)*

“...provided input on fishery concerns relating to hydropower operation, dam removal, and barrier installation resulting in improved access to critical habitat for lake sturgeon and other native fish species...”

**Fish Passage Projects and Training**

*(Ashland FRO)*

“...developed a course in the design and construction of fish friendly road crossings...”



-USFWS

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.

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# Workforce Management

## *FISCAL YEAR 2003*



-USFWS photo by Anjanette Bowen

Alpena FRO, Green Bay FRO, La Crosse FRO and law enforcement co-instructed a three day Motorboat Operators Certification Course in Ashland, Wisconsin that provided operational and safety training to DOI employees that pilot DOI watercraft.

### **Fish Friendly Road Crossings Training Course**

*(Ashland FRO)*

“...worked with Regional and National Conservation Training Center staff to develop a course in the design and construction of fish friendly road crossings...”

### **National Conservation Training Center Course “Introduction of Fish Health”**

*(La Crosse FHC)*

“...instructed the course “Introduction to Fish Health” to 16 students...”

### **Educating our Work Force at Iron River NFH**

*(Iron River NFH)*

“...participated in training sessions on hazardous materials, bulk liquid oxygen, and administrative functions; and networked at technical and lake committee meetings and coordination meetings...”

### **Open Water Motorboat Safety Course taught in Region 3**

*(Green Bay FRO)*

“...coordinated the Open Water Module motorboat training in Alpena, Michigan teaching students to navigate using charts, operate distress signals, GPS, and perform man-overboard drills...”



-USFWS

Training is an important component for Workforce Management. These students are attending a Fish and Wildlife Service sponsored short course titled “Introduction to Fish Health.” Several employees from the La Crosse FHC serve as trainers for this very popular course which also attracts attendees from many of our partner agencies.

## *FISCAL YEAR 2004*

### **Introduction to Fish Health/La Crosse FHC and State-of -the art Laboratory Facilities**

*(La Crosse FHC)*

“...instructed the course “Introduction to Fish Health”, sponsored by the National Conservation Training Center...”

### **Workforce Management - Workforce Planning**

*(Alpena FRO)*

“...represented Region 3 for a national initiative on workforce planning for the Fish and Wildlife Management Assistance program...”

### **Volunteers assist with Fish Culture and Maintenance Projects**

*(Jordan River NFH)*

“...received assistance from 11 volunteers, providing 2,688 hours, with fish culture and maintenance projects...”

### **Safety, First Aid, and Cardiopulmonary Resuscitation Training**

*(Jordan River NFH)*

“...provided a staff member to teach six sessions of safety, first aid, and cardiopulmonary resuscitation training...”

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**Fisheries Accomplishments in the  
Great Lakes Basin  
FY2003 & FY2004**

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

**Phone: 612/713-5111**



-USFWS

**Aerial photo of Isle Royale National Park**

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