



U.S. Fish & Wildlife Service

Fish Lines

Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems



June 2003
Vol. 1 No.4

La Crosse Fishery Resources Office; La Crosse, Wisconsin
(See the “*Station Spotlight*” on Page 5)



-Robert J. Hurt

Islands constructed in Polander Lake, near Winona, Minnesota, are part of a Habitat Rehabilitation and Enhancement Project on the upper Mississippi River. La Crosse FRO and Upper Mississippi Wildlife and Fish Refuge - Winona District have a project in place to study fish usage in Polander Lake's new island complex.

Click here for other issues of “Fish Lines”



Region 3 - Great Lakes/Big Rivers Region

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

Conserving America's Fisheries

Fisheries Program Vision for the Future



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

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

Strategic Plan Vision Focus Areas

1. Partnerships and Accountability

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

2. Aquatic Species Conservation and Management

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

3. Public Use

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

4. Cooperation with Native Americans

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

5. Leadership in Science and Technology

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

6. Aquatic Habitat Conservation and Management

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

7. Workforce Management

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

Inside this Issue

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



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

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



Station Spotlight
La Crosse Fishery
Resources Office
(Page 5)

Partnerships and Accountability (Page 6)



National Invasive Species
Advisory Committee
Goes Fishing
(Page 6)

Aquatic Species Conservation and Management (Page 9)



Pallid Sturgeon Recovery and the
Neosho National Fish Hatchery
(Page 9)

Public Use (Page 12)



Alpena Fishery Resources Office
Spreads the Word during Michigan's
Aquatic Nuisance Species Week
(Page 12)

Cooperation with Native Americans (Page 15)



Teamwork is Key for Lake
Sturgeon Recovery Effort
(Page 15)

A young sturgeon. ©1986 Wisconsin Sea Grant

Leadership in Science and Technology (Page 18)



The R/V CHUB makes Its Premiere
on Lake Superior
(Page 18)

Aquatic Habitat Conservation and Management (Page 21)



Thunder Bay River
Erosion Site Surveyed
(Page 21)

Workforce Management (Page 23)

Green Bay Fisheries Office Staff meet with
Dr. Stanley Szczytco, UW-Stevens Point
Internship Director
(Page 23)

Great Lakes - Big River Fisheries Field Offices (Page 25)



Office contacts for the sixteen U.S. Fish and Wildlife
Service Fisheries Field Offices for the States of
Illinois, Indiana, Iowa, Michigan, Minnesota,
Missouri, Ohio, and Wisconsin
(Page 25)

Click here to visit our Fisheries Web Site

Great Lakes - Big Rivers Region Fisheries Field Offices

National Fish Hatcheries

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

Sea Lamprey Control Stations

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

Fishery Resources Offices

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

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

Fish Health Center

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

Fishery Coordination Offices

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

Great Lakes - Big Rivers Region Fisheries Field Offices



Great Lakes - Big Rivers Regional Fisheries Program

Station Spotlight - La Crosse Fishery Resources Office

The La Crosse Fishery Resources Office (FRO) was established in 1981 and is responsible for fishery management assistance for four Tribal governments, Great Lakes Indian Fish and Wildlife Commission, St. Croix National Scenic Riverway, Fort McCoy military base, numerous federal and state agencies, and other Fish and Wildlife Service offices. The office is located in Onalaska, Wisconsin and serves in geographic areas of Illinois, Iowa, Minnesota, and Wisconsin.

Office Goals

- Restore native and interjurisdictional paddlefish and sturgeon, wetlands and aquatic habitats
- Fulfill federal trust responsibilities to Native American Tribes
- Prevent the extinction of federally endangered mussels
- Address the spread of nonindigenous aquatic invasive species
- Provide environmental education



-USFWS

La Crosse Fishery Resources Office Staff

Left to Right: Nancy Christopherson, Mark Steingraeber, Heidi Keuler, Dave Wedan, Ann Runstrom, Pam Thiel, Scott Yess



Higgins' eye pearl mussel - An endangered species

-USFWS

Mussel Restoration:

Ecological impacts stemming from zebra mussel infestations in the upper Mississippi River threaten the survival of native mussels including federal and state listed species. La Crosse FRO, in cooperation with the Genoa National Fish Hatchery, Twin Cities Field Office, U.S. Army Corps of Engineers, and the States of Illinois, Iowa, Minnesota, and Wisconsin combine efforts to recover the endangered Higgins' eye pearl mussel. Partners annually produce, "infect", and distribute thousands of host fish, bearing mussel larvae, to selected sites within the upper Mississippi River watershed. An essential part of this mussel's life cycle is for parasitic glochidia (mussel larvae) to attach to the gills of host fish for several weeks. Only a few species of fish have been determined to be a host fish for this mussel species. In the spring of 2003, the efforts from partners produced an estimated 875,000 juvenile mussels.

Round Goby/Asian Carp Roundup:

La Crosse FRO leads an annual multi-agency survey for aquatic nuisance species in a 100 mile stretch of the Illinois Waterway (Waterway). These surveys are used to determine the progress of invasive round goby and Asian carp range expansion, and the effectiveness of the Chicago Ship & Sanitary Canal Electrical Demonstration Barrier in preventing further range expansion of nuisance fish. The round goby, established in Lake Michigan, is past the electrical barrier site and may expand to the Mississippi Basin while Asian carp are a threat to move up the Waterway into the Great Lakes. During the 2003 survey, no Asian carp were observed any farther upstream than previously collected.



-USFWS

Round Goby

For detailed information about the La Crosse Fishery Resources Office, contact the office at: (608) 783-8434 or visit their website at: <http://midwest.fws.gov/lacrossefisheries/>

Partnerships and Accountability

National Invasive Species Advisory Committee Goes Fishing

Members of the National Invasive Species Advisory Committee (ISAC) went angling for round gobies in Calumet Harbor of Lake Michigan in Chicago as part of their post-meeting field trip. Pam Thiel, project leader at the La Crosse Fishery Resources Office (FRO), discussed the impact invasive species have on the Great Lakes and Mississippi River ecosystems, and then demonstrated goby angling techniques. The 25 participants varied from expert anglers to first-time fishermen. Everyone had an opportunity to catch gobies and then “pickle” their trophies as a remembrance of the event.

ISAC was established by Executive Order 13112 in 1999 to advise the National Invasive Species Council on invasive species issues and act as representatives of the many stakeholders. The Council is an inter-Departmental group that helps to coordinate and ensure complementary, cost-efficient, and effective Federal activities regarding invasive species. The Council co-chairs are the Secretaries of Interior, Agriculture, and Commerce.

In addition to angling, their field trip also included a stop at the electrical invasive species barrier site on the Chicago Sanitary and Ship Canal, and visits to areas where control and research are being conducted on Asian longhorn beetle, buckthorn, and purple loosestrife. However, Dr. Chris Dionigi, Assistant Director of the Council and organizer of the field trip, said, “Angling for gobies was by far the most fun and memorable

activity.” ISAC members were amazed at the high density of gobies and their aggressiveness. This angling activity and their take-home piscine memento will help them remember the impact of invasive species on our Region as they provide national policy guidance to the Council.

Pam Thiel, La Crosse FRO



-Chris Young, The State Journal Register

The National Invasive Species Advisory Committee met in Chicago to learn about the threat of the invasive round goby.

Wisconsin Department of Natural Resources and Service Meet to Coordinate Fisheries Programs

The Green Bay Fishery Resources Office (FRO) hosted an annual coordination meeting between the Fish and Wildlife Service and the Wisconsin Department of Natural Resources (DNR). Lead by Gerry Jackson, Region 3 fisheries assistant regional director and Mike Staggs, Wisconsin fish chief, the agenda included reviews of the Fish and Wildlife Service’s strategic planning process, organizational updates, sturgeon egg request for 2003, yellow perch management assistance, status of management plans for Wolf River sturgeon, Lake Superior brook trout, Lake Michigan sturgeon and lake trout, and a discussion of opportunities

where the Fish and Wildlife Service and Wisconsin DNR can work together for the benefit of the fishery resources of Wisconsin. Attending the meeting from the Fish and Wildlife Service were, Gerry Jackson, Bob Adair, Todd Turner and Mike Oetker from the Regional Office; Mark Holey, Chuck Bronte and Rob Elliott from Green Bay FRO; Mark Dryer – Ashland FRO; Dale Bast – Iron River National Fish Hatchery (NFH); Rick Nelson - LaCrosse Fish Health Center; Pam Thiel – LaCrosse FRO and Doug Aloisi – Genoa NFH. The Lake Michigan Fisheries Team for the DNR held a team meeting at the Green Bay FRO one week after the state coordination meeting. Mark Holey and Rob Elliott from the Green Bay FRO participated in the meeting. Discussions on yellow perch management assistance, sturgeon restoration in Lake Michigan and working together on the Lower Fox River/Green Bay Natural Resource Damage Assessment were two agenda items that Service staff contributed information on. The meeting also served as a surprise retirement party for Terry Lychwick, DNR fish biologist in Green Bay after 28 years of service. Terry has been a strong partner with the Fish and Wildlife Service to coordinate work on sturgeon and yellow perch.

Mark Holey, Green Bay FRO

Actions Minimize Risk to Rare Species during Spot Applications of Granular Bayluscide

The assessments of populations of larval sea lampreys are conducted in streams throughout the Great Lakes basin to rank streams for sea lamprey control actions. Most assessments are conducted with backpack electrofishing gear in shallow waters but limited assessments also are conducted with Bayluscide 3.2% Granular Sea Lamprey Larvicide (granular Bayluscide) in waters greater than 0.8 m in depth. Granular Bayluscide was developed as a tool to sample and control populations of larval sea lampreys.

The "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" was implemented to minimize the risk to rare species and to comply with state permit requirements and Section 7 of the Endangered Species Act. The protocol included a summary of streams proposed for spot applications of granular Bayluscide, details of the known locations of listed species in each stream, procedures to protect and avoid disturbance, and an appendix with fact sheets for each listed species that included an image and description of the species and preferred habitat.

Consensus was achieved with state agencies (MN, WI, MI, OH, PA, and NY) on the proposed applications of granular Bayluscide in 56 streams (Lakes Superior,

Michigan, Huron, and Erie). The protocol described procedures to protect and avoid disturbance to 17 state-listed species - 7 fishes, 6 clams, 2 snakes, and 2 turtles.

An Intra-Service Section 7 Biological Evaluation review with personnel at the East Lansing Ecological Services Office assured the protection of the northern riffleshell (*Epioblasma torulosa rangiana*), a federally-listed clam, during proposed sea lamprey assessments in the St. Clair and Detroit rivers (Lake Erie). The determination was that the proposed action was not likely to affect the species because of different habitat preferences - northern riffleshells prefer firm sand in gravel riffles and larval sea lampreys prefer softer sediments in depositional areas.

The consultations provided an excellent forum and assured that assessment strategies complied with State permits during 2003 and Section 7 of the Federal Endangered Species Act of 1973.

The Great Lakes Fishery Commission is responsible for the assessment and control of sea lampreys in the Great Lakes and contracts field operations to the Department of Fisheries and Oceans Canada and Fish and Wildlife Service.

John Weisser, Marquette Biological Station

Sturgeon Assessment Assistance Provided to Canadian Agencies

What do you get when a Fish and Wildlife Service vehicle tows a Fisheries and Oceans boat to an Ontario Ministry of Natural Resources office in northern Ontario? In addition to a lot of questions and odd looks, you get a truly cooperative effort to assess spawning lake sturgeon. In 2001, the Great Lakes Basin Ecosystem Team Lake Sturgeon Committee

received a Great Lakes Fishery Trust grant to collect samples and describe the genetic characteristics of spawning sturgeon populations in the Great Lakes. As part of that effort, Ashland Fishery Resources Office (FRO) contacted Canadian representatives on the Lake Superior Technical Committee to offer assistance with work in Canadian waters. In 2003, Ashland FRO provided a second year of technical assistance in the form of consultation, field personnel, and equipment to Fisheries and Oceans and the Ontario Ministry of Natural Resources to conduct sturgeon assessments. Additional partners included the Pukaskwa National Park, and Pic River First Nation. Crews set nets in the Pic, White, Batchawana, Michipicoten, Goulais, and Chippewa rivers. A total of 18 sturgeon were captured in the Pic River for a total of 33 over 2 years. A total of 8 sturgeon were captured in the Batchawana, 1 in the Chippewa, none in the White, 7 in the Goulais, and 1 in the Michipicoten. Biological information was collected and tissue samples were taken from most fish. Upon analysis the tissue samples will begin to provide an understanding of the genetic diversity and similarities of sturgeon populations in the rivers throughout the Great Lakes.

Henry Quinlan, Ashland FRO



Fish and Wildlife Service and Ontario Ministry of Natural Resources employees team up to conduct sturgeon assessments.

Sea Lamprey Control Represented at Aquatic Invasive Species Forum

Displays by the Fish and Wildlife Service's sea lamprey control program, the Michigan Sea Grant College Program, the University of Michigan School of Natural Resources and the Environment, the State of Michigan Office of the Great Lakes, the National Oceanic and Atmospheric Administration (NOAA)/Great Lakes Environmental Research Laboratory, and the U.S. Geological Survey Great Lakes Science Center were invited to participate in an invasive species forum held recently in Ann Arbor, Michigan.

The State of Michigan declared May 31 through June 7, 2003 "Aquatic Nuisance Species Awareness Week" to raise awareness about the prevention and control of aquatic nuisance species (ANS) in Michigan and the Great Lakes. In observance of Aquatic Nuisance Species Awareness Week, the University of Michigan's School of Natural Resources and the Environment hosted a Symposium on Aquatic Nuisance Species Research on June 2 in the Dana Building on the University of Michigan's central campus.

The keynote lecture "Predicting the Occurrence and Impact of Species Invasions in the Great Lakes," was delivered by Dr. Anthony Ricciardi (Assistant Professor at the School of Environment, McGill University, Montreal). Additional remarks and panel presentations were given by Thomas Johengen (Director, Cooperative Institute for Limnology and Ecosystems Research), David Allan (Interim Associate Dean, School of Natural

Resources and the Environment), Ken DeBeaussiaert (Director, State of Michigan Office of the Great Lakes), Doran Mason (Scientist, NOAA/Great Lakes Environmental Research Laboratory), and John Schwartz (Program Leader, Michigan Sea Grant College Program).
Dennis Lavis, Ludington Biological Station

Omni Max Documentary About Lake Sturgeon and the Great Lakes

Fishery Biologist James Boase, Alpena Fishery Resources Office (FRO) initiated a meeting with members from U.S. Geological Survey (USGS) Great Lakes Science Center, DTE Energy, North Star Films, and Purdy Fisheries on June 18, 2003. The purpose of the meeting was to bring interested members together to discuss an Omni Max production about the Great Lakes that would include segments about lake sturgeon and commercial fishing. Producer David Lickly from North Star Productions has been gathering information about the Great Lakes for almost two years with the hope of producing a documentary by 2006. He was particularly interested in the construction of an artificial spawning reef in the Detroit River and wanted "to see these magnificent fish." Boase arranged to have boats available in Point Edward, Ontario so that members of the party could see lake sturgeon up close. Members from DTE Energy were invited because of their involvement with funding of lake sturgeon research over the last six years and large corporate sponsors are needed for the production of the film. Two boats were used; one occupied by Boase,

biologists Bruce Manny from USGS Great Lakes Science Center, Ann Arbor, Michigan and Bob Ryder from DTE Energy. The other boat was provided by Purdy Fisheries and included Tim Purdy, producer David Lickly from North Star Productions, Toronto, Ontario, Roberta Urbani and a photographer from DTE Energy. Baited setlines were used to demonstrate the capture of lake sturgeon with four fish being captured. Production of this type of documentary film that includes a segment about lake sturgeon could result in a major increase in public awareness and is a vital component in our rehabilitation efforts. This event provided a unique opportunity to bring parties with diverse interest together to explain the Fish and Wildlife Service's mission and efforts to restore native fish in the Great Lakes, specifically the Service's efforts to rehabilitate lake sturgeon in the Great Lakes. Benefits of native species restoration was clearly defined and explained. The event provided an excellent opportunity to form new partnerships with DTE Energy, North Star Productions, and Purdy Fisheries.

James C. Boase, Alpena FRO



-USFWS

Baited setlines are used to capture lake sturgeon. Data is needed to develop plans to restore populations in the Great Lakes.

Aquatic Species Conservation and Management

Pallid Sturgeon Recovery and the Neosho National Fish Hatchery

One of the main components of the "Pallid Sturgeon Recovery Plan" is rearing endangered pallid sturgeon at hatcheries for eventual stocking in the Missouri River. The pallid sturgeon currently being reared at the Neosho National Fish Hatchery (NFH) are eating lots of blood worms and krill and are doing great! There are three family lots here at our facility. Members of all three families will be stocked at each of three stocking sights that we have been assigned. At present we have around 2600 fish on station. All the fish will be tagged with PIT tags and stocked at nine inches. Separate codes will be used for the different family lots to aid future stock assessments.

Roderick May, Neosho NFH



-USFWS

Pallid sturgeon are reared in tanks at the Neosho NFH in support of the "Pallid Sturgeon Recovery Plan."

Preliminary Evaluation of Possible Sturgeon Spawning Sites Completed

A preliminary evaluation of suspected or potential lake sturgeon spawning sites on two Green Bay tributaries was recently completed by biologists from the Green Bay Fishery Resources Office (FRO) and the Wisconsin Department of Natural Resources. This work was part of a basin-wide effort, funded by the Great Lakes Fishery Trust and the Giovanni Auletta Armenise Harvard Foundation, to determine the status of this formerly abundant native species in Lake Michigan. Egg mats were deployed at three locations on the Oconto and Peshtigo rivers (ten mats per string, ten feet between mats, 30 mats per site) during late April-May, 2003. A limited number of egg mats were also placed at known spawning locations to evaluate the utility of the mats for collecting sturgeon eggs. Approximately 30 lake sturgeon eggs were collected on one mat placed on known spawning grounds below De Pere Dam (Fox River), suggesting that the mats are useful for documenting egg deposition. In addition, 120-150 eggs were collected on one of the 30 egg mats placed in a suspected sturgeon spawning site below Stiles Dam on the Oconto River. Genetic analysis should reveal the number of parents involved in the spawning.

No eggs were collected at Suzy's Rapids, a site several miles downstream of Stiles Dam where sturgeon occasionally have been observed in previous years. In addition, no egg deposition was detected at another potential spawning location approximately 4.5 km downstream of the known

spawning grounds below Peshtigo Dam (Peshtigo River). Failure to collect sturgeon eggs at these two locations is not conclusive evidence that spawning is not occurring at these sites. Additional studies will need to be conducted before we can dismiss these sites as possible lake sturgeon spawning locations.

Brian Gunderman, Green Bay FRO



-USFWS

Brian Gunderman (Green Bay FRO Fishery Biologist) sets egg mats at a possible lake sturgeon spawning site on the Peshtigo River.

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

During June 2003, the Fish and Wildlife Service's sea lamprey control program treated 4 Great Lakes streams (2 in Lake Huron and 2 in Lake Michigan) with lampricide to eliminate larval sea lamprey populations. These treatments destroyed an estimated 642,000 sea lampreys including about 85,000 that would have metamorphosed to the parasitic phase in 2003 and entered the Great Lakes. There, each parasitic phase sea lamprey would have been capable of killing upwards of 40 pounds of lake trout during its year long life in the lakes. The Fish and Wildlife Service's sea lamprey control program is conducted

under contract with the Great Lakes Fishery Commission. The successful control program continues to ensure sport fish rehabilitation in the Great Lakes and protects a fishery valued at over \$4.0 billion.

Dennis Lavis, Ludington Biological Station

Adult Lake Sturgeon Spawning Assessments in Three Green Bay Tributaries

As part of the Lake Michigan lake sturgeon assessment project funded by the Great Lakes Fishery Trust and the Giovanni Auletta Armenise Harvard Foundation, biologists from the Green Bay Fishery Resources Office (FRO) and the Wisconsin Department of Natural Resources recently completed the 2003 assessments of lake sturgeon spawning runs in three tributaries to Green Bay. This was the second field season of a study designed to determine the status of this formerly abundant native species. During April-May, 2003, lake sturgeon were captured in large-mesh gill nets deployed at various locations on the Oconto and Peshtigo rivers. Additional sturgeon were collected during electrofishing surveys below Stiles (Oconto River) and Peshtigo (Peshtigo River) dams. Captured sturgeon were measured for length, weight, and girth, sampled for genetics, and tagged for later identification before being released. A total of 13 lake sturgeon were collected on the Oconto River, and one individual was captured twice. Nine recaptures were included in the 71 sturgeon collected on the Peshtigo River. This number of recaptures may make it possible to estimate the size of the 2003 spawning run in this river. Regular visual observations below De Pere Dam

on the Fox River revealed congregations of up to 24 lake sturgeon during the relatively brief spawning period from April 29 to May 1.

Genetic analyses of tissue samples are being conducted by Dr. Kim Scribner and Pat DeHaan at Michigan State University. The samples collected during the 2003 spawning run assessments will be added to those collected during the 2002 field season, and should allow better characterization of the genetic structuring in these populations and more accurate identification of river of origin for lake sturgeon captured in the open waters of Green Bay.

Brian Gunderman, Green Bay FRO

Sights Set on Two Lake Superior Streams for Alternative Sea Lamprey Control

Biologists from the Marquette Biological Station met with U.S. Army Corps of Engineers representatives and Michigan Department of Natural Resources biologists to investigate potential sites for sea lamprey barriers in Harlow Creek (Marquette County, Michigan) and Sucker River (Alger County, Michigan). Sea lamprey barriers block access of adult sea lampreys to spawning grounds and are a proven alternative to lampricide control. The Fish and Wildlife Service, a contracted agent of the Great Lakes Fishery Commission (Commission), is pursuing construction of these barriers that would save about \$175,000 in lampricide treatment costs and move the program toward the Commission strategic vision milestone of achieving 50% of control of the exotic parasites through alternative methods by 2010.

Katherine Mullett, Marquette Biological Station

Isle Royale/Tobin Harbor Survey for Coaster Brook Trout Successful

Two nights of electrofishing and 2 overnight sets of fyke netting yielded 12 coaster brook trout from Tobin Harbor on Isle Royale National Park, Michigan, during assessments conducted in mid-June. The coasters ranged in size from 145 mm - 421 mm. This assessment work will provide critical information to develop strategies and actions for conservation and recovery of coaster brook trout within Isle Royale National Park.

Glenn Miller, Ashland FRO

Portable Sea Lamprey Traps installed on St. Marys River

Portable sea lamprey traps were deployed in the St. Marys River after the unexpected shut down of water flow at a permanent trap facility. Trapping and sterile male releases have reduced reproduction in the river by about ninety percent since 1997. The new trapping effort was necessitated by the unexpected shut down of the number 10 powerhouse. Permanent traps built into the powerhouse were effective because sea lampreys were attracted to the water discharge during their upstream spawning migration. Lampreys are now expected to accumulate at a downstream powerhouse which has been fitted with an array of 9 portable traps. Trapping will continue through July. The Fish and Wildlife Service delivers an integrated program of sea lamprey management in U.S. waters of the Great Lakes as contracted agent of the Great Lakes Fishery Commission.

Michael Twohey, Marquette Biological Station

Chequamegon Bay Sturgeon Assessments Completed

Jessica Krajniak, Ashland Fishery Resources Office (FRO) assisted Wisconsin Department of Natural Resources (DNR) biologists Steve Schram and fisheries technician Chris Zunker with their annual lake sturgeon population assessment in the Chequamegon Bay. The crew used gill nets of varying mesh sizes to ensure a diverse catch. The pulls were quite successful as they captured everything from juveniles to several large adults, the largest being 50 and 60 pounds. All fish caught were given an internal (PIT) tag, allowing each one to be specifically identified. The assessment also resulted in the recapture of two sturgeons previously marked by the Fish and Wildlife Service, allowing insight into the individual fish's status and movement.

Jessica Krajniak, Ashland FRO

Rainbow Trout Mitigation on Lake Taneycomo

Staff from the Neosho National Fish Hatchery (NFH) stocked a total of 21,582 (7,798 pounds) rainbow trout in Lake Taneycomo during the month of June. All fish stocked into Lake Taneycomo were at least 10 inches in length creating fantastic fishing opportunities in this large Missouri lake.

Production of trout for Lake Taneycomo helps mitigate the loss of fish caused by dam construction on the White River. This effort is mandated by Congress.

Roderick May, Neosho NFH



-USFWS

Rainbow trout are raised in outdoor cement raceways (tanks) at the Neosho National Fish Hatchery. This picture shows fish crowded together so they can be netted into a transport vehicle.



-USFWS

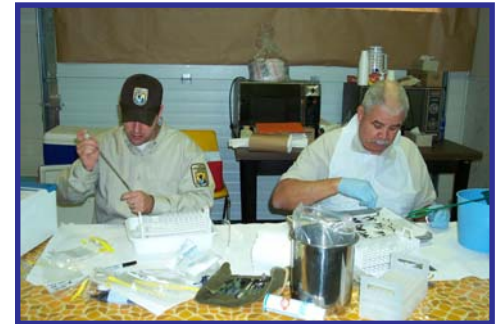
Mission Accomplished! After months of intensive culture, rainbow trout are ready to transport to Lake Taneycomo

Warm Water Fish now included in Fish Health Inspections

Warm water fish species were included in a hatchery inspection for the first time at the Genoa National Fish Hatchery (NFH) by La Crosse Fish Health Center (FHC) staff. Staff members included Rick Nelson, Cory Puzach and Jenny Walker. Ten lots of fish were examined for the presence or absence of selected fish pathogens as outlined in the Fish and Wildlife Service National Fish Health Policy and Implementation Guidelines. Species were examined at the isolation facility as well as the hatchery production areas. All equipment, materials and sampling

for the isolation facility were quarantined to maintain the integrity of the unit. Ten lots of fish were examined which included coaster brook trout, rainbow trout, black crappie, blue catfish, freshwater drum and yellow perch. Many of the fish were small and in the early growth stages making dissection difficult. Laboratory results are pending and should be completed in approximately thirty days.

Rick Nelson, La Crosse FHC



-USFWS

Fish health examinations alert fish culturists to any disease problems with their cultured fish.

Above - La Crosse Fish Health Center staff perform a routine fish health inspection

Below - Checking fish health at the Neosho National Fish Hatchery.



-USFWS

Public Use

Alpena Fishery Resources Office Spreads the Word during Michigan's Aquatic Nuisance Species Week

Fishery Biologist Anjanette Bowen of the Alpena Fishery Resources Office (FRO) participated in Michigan's Aquatic Nuisance Species (ANS) Week by educating anglers along Michigan waters of Lake Huron. Michigan Governor Granholm declared May 31 to June 7 ANS Week on May 29. There are over 170 aquatic nuisance species found in waters of the Great Lakes.

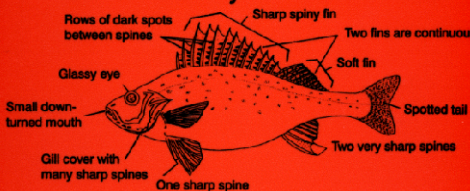
Bowen contacted over 60 bait and license dealers, parks, and city chamber of commerce along United States waters of Lake Huron from Cheboygan to Bay City, Michigan during the week. Over 11,000 aquatic nuisance species Watch tackle box cards, ANS pamphlets, and posters were distributed to educate the public about unwanted aquatic species and what they can do to prevent their introduction and spread. Some easy ways to help prevent the spread of nuisance species include 1) dumping unused bait in buckets on the land and not in the water, 2) inspecting and removing any plant material or mussels from your boat, canoe, or personal watercraft, and 3) not releasing aquarium fish or any wild fish from one body of water to another. The Fish and Wildlife Service is committed to aquatic nuisance species education and prevention in the Great Lakes. Educating anglers about the existence, identification, and problems associated with aquatic nuisance species will help curb their spread throughout the Great Lakes and to inland waters.

Anjanette Bowen, Alpena FRO

RUFFE IN LAKE HURON

The U.S. Fish and Wildlife Service is trying to identify the current range of ruffe in Lake Huron. Ruffe are an exotic fish from Europe that are thought to have entered the Great Lakes in the ballast water of ships. They were confined to Lake Superior until 1995 when they were caught in the Thunder Bay River in Alpena, Michigan. We need your help to locate these fish. Ruffe may be identified by characteristics listed below. Please inspect any perch-like fish you catch for these characteristics.

How to Identify Eurasian Ruffe



General Characteristics:

Very slimy when handled
Usually less than 6" (15.5cm) long
Perch-like body shape

Ruffe should be killed and placed in a bag with information on the date and location of your catch.
Freeze or refrigerate the contents of the bag and drop it off or call



The U.S. Fish and Wildlife Service
Alpena Fishery Resources Office
Federal Bldg. Rm. 204, 145 Water Street
Alpena, Michigan 49707
(517) 356-5102



Journalists learn about Sturgeon Rehabilitation and Sea Lamprey Control

A group of 15 journalists from throughout the Midwest and Canada recently visited Ashland, Wisconsin, to learn about lake sturgeon rehabilitation and sea lamprey control in the Great Lakes. The event was organized by the Institute for Journalism and Natural Resources (IJNR). IJNR is an organization that seeks to improve the quality of diverse media coverage by providing interaction and opportunities for conversation between journalists and their sources in an expedition-style approach. On the first stage of a 9-day field excursion, the journalists were able to observe and interact with Ashland Fishery Resources Office (FRO) biologists conducting lake sturgeon spawning assessment activities in the Bad River, Wisconsin. Biologists described the purpose and procedure of the assessment

activities, discussed lake sturgeon rehabilitation efforts in Lake Superior and the Great Lakes and answered questions related to the topic. A 60-pound female sturgeon captured has already been featured in several stories.

In addition to lake sturgeon, Ashland FRO, Bad River Band and Great Lakes Indian Fish and Wildlife biologists presented information on sea lamprey management and related lake trout restoration in the Great Lakes. The event provided a great opportunity to describe the diverse native and interjurisdictional fishery related activities being conducted by the Fish and Wildlife Service and the cooperation and coordination of tribal, state, and federal agencies. As a result of this activity journalists from The Star Tribune, The Associated Press - Chicago, Detroit Free Press, Milwaukee Journal Sentinel and others, and news reporters for radio and television stations got into the field and developed contacts with Ashland FRO biologists. These contacts will enhance reporter's awareness of Fish and Wildlife Service activities and stimulate opportunities for future stories.

Henry Quinlan, Ashland FRO

La Crosse Fishery Resources Office Assists Minnesota Valley National Wildlife Refuge with Fishing Day

As a massive carp was lifted out of the fish tank on the electrofishing boat, there was nothing but sounds of oo's and ah's from onlookers standing on the banks of one of the ponds at Minnesota Valley National Wildlife Refuge (NWR) during the 2003 Annual Fishing Day on June 7.

Inner-city youth were bussed out to the refuge to learn about angling, how to handle fish, fish identification, filleting fish, and how fishery biologists collect fish by electrofishing. An employee of the La Crosse Fishery Resources Office (FRO) and a volunteer gave an electrofishing demonstration to over 120 youth and their chaperones. People were amazed how fast fish could be collected by "shocking." Children were tested on their fish identification skills learned at a prior station by viewing shocked fish. Gizzard shad, common carp, bluegill, green sunfish, orange spotted sunfish, largemouth bass, bowfin, and yellow perch were some of the species netted in the pond. After a lunch of hotdogs and walleye fillets, children tested their skills by angling in the ponds. Although the children wanted to use the shocker, they were quite successful with just their rods and reels! Inner-city youth learned valuable lessons in the biological, cultural and sport aspects of angling.

Heidi Keuler, La Crosse FRO



-USFWS

A captivated audience watch the electrofishing demonstration at the Minnesota Valley NWR Fishing Day event.

Genoa National Fish Hatchery Featured on Local Outdoor Radio Show

The Genoa National Fish Hatchery (NFH) was featured on WKTY's "Talking Tribune Outdoors", a weekly hour long live radio call in program that focuses on outdoor issues on the Upper Mississippi River. Jerry Davis, and Bob Lamb, locally renowned outdoor columnists, were briefed on ongoing fishery programs and priorities at the station, the importance of local partnerships to achieve natural resource goals, and the efforts of the newly formed friends group that serves the three Upper Mississippi River fishery stations (LaCrosse Fisheries Resource Office, LaCrosse Fish Health Center, and Genoa NFH).

The radio audience also was informed on the importance of native mussels in the Upper Mississippi River ecosystem, and the contributions the hatchery makes to the fishery of the upper Mississippi River. The introduction of exotic species in the upper Mississippi river and the problems they cause were also discussed in length. Bob Lamb raised questions on the station's Fiscal Year 2004 funding outlook, as well as building plans for the future. Plans for a multi use/public use facility were relayed on the show as well.

Doug Aloisi, Genoa NFH

The Fourth Annual Kid's Fishing Day a Fun Time For All

Ashland Fishery Resources Office (FRO) assisted with the fourth annual Kid's Fishing Day that was held at the Northern Great Lakes Visitor Center on Saturday, June 7, 2003 in Ashland, Wisconsin. Over 125 children attended the free event, with children ranging in age from 3 to

17. The children learned about fish habitat, equipment safety, catch-and-release fishing, and various fishing skills. Also, a new fun activity was added this year, called gyotaku, a Far Eastern art form, which involves painting fish and making a paper cast. Finally, all the children got to fish for hatchery-stocked rainbow trout ranging up to 3 lbs! The event was a group effort, with several agencies, sponsors and volunteers participating, including the Fish and Wildlife Service, the U.S. Forest Service, Wisconsin Department of Natural Resources, U.S. Coast Guard, and Trout Unlimited.

Paul Bergman, Ashland FRO

Alpena 4Th Annual Lafarge Riverfest

Alpena Fishery Resources Office (FRO) staff along with Michigan Department of Natural Resources Boat Captain Jeff Dymond participated in the 4th Annual LaFarge Riverfest on June 7. The festival is an annual family event held in the city of Alpena, Michigan. Staff collected samples of native (smallmouth bass, walleye and northern pike) and invasive fish species (round goby, ruffe and zebra mussels) from the Thunder Bay River for display. Personnel from the U.S. Geological Survey Hammond Bay Biological Station provided sea lamprey for the display. Approximately 2000 Riverfest participants received information about Lake Huron fisheries and fisheries management by visiting the booth. This citywide festival allowed the Alpena FRO the opportunity to fulfill one of the station goals of distributing information to the general public about fish and wildlife resources, ecosystems and programs of the Fish and Wildlife Service.

Tracy D. Hill, Alpena FRO

“Ready, Set, Fish! Genoa hosts First Annual Fishing Clinic”

Over 120 people attended the first annual Genoa National Fish Hatchery (NFH) Fishing Clinic/Derby this June, hosted by the Friends of the Upper Mississippi River Fishery Stations. 65 children from local schools, and civic organizations attended to learn more about fishing gear, boating and water safety, and cleaning and care of their catch.

The children also were given an opportunity to participate in a casting contest. After an hour and a half of moving through 4 different learning stations, the kids were turned loose to try their hand at catching rainbow trout, yellow perch, and bluegills in one of the hatchery ponds. Excess rainbow trout brood fish weighing over 2 pounds apiece were also stocked to add a little excitement to the day. After 2 hours of fishing and over 50 fish being caught, the Friends Group hosted a lunch, and prizes donated by local businesses were distributed. Each child received a grab bag full of information on fishing, and aquatic nuisance species prevention.

The Friends of the Upper Mississippi River Fisheries Stations is a support group for the LaCrosse Fisheries Resource Office, the LaCrosse Fish Health Center, and the Genoa NFH. This first derby was a cooperative effort between the 3 fisheries stations and the Friends Group, with staff from all 3 stations participating in the event. It was also the first project completed with our newly organized Friends Group. Several interested parents attending the event expressed interest in joining the Friends, and were steered to members for information on the club, and how to become involved. The success of

the event was measured by the smiles on the children’s faces. A very enjoyable summer morning was had by all!

Doug Aloisi, Genoa NFH



-USFWS

A fishing derby at the Genoa NFH provides an excellent opportunity to educate students about fish hatcheries.

The Neosho National Fish Hatchery sponsors Fishing Derbies and Tours

The Neosho National Fish Hatchery (NFH) sponsored its two annual Fishing Derbies during the month of June. Our regular Fishing Derby was held on June 6th. 1150 fish were stocked into Pond 7 the day before the Derby. Attendance was at an all time high. There were approximately 150 kids officially registered and several more that were unofficially there because they showed up at lunch, just before the fishing portion of the derby. Lunch was provided for all the kids by the hatchery and the Friends group. The Neosho Lions Club provided the food and did the cooking for the volunteers that helped with the Derby. Our Regional Director Robyn Thorson also attended and participated in this event. One week later, we hosted our annual Fishing Derby for the elderly and physically challenged. There were over 40 participants, including those from a local nursing home.

Most anglers caught their limit. Lunch was provided by the hatchery and the Friends group. The caretakers cleaned the fish for the participants and a wonderful fish dinner was prepared for them that evening. The fish that were left over after both Fishing Derbies were stocked into Hickory Creek in Morris Park at the request of the city of Neosho to provide fishing opportunities during the Fourth of July celebrations.

Outreach activities during June also included twenty-two tours. The groups ranged in size from just a few people to 130 in the largest. Presentations are often given off station, and assistant manager Roderick May gave a presentation to the lions Club of Monett Missouri at one of their evening meetings.

Roderick May, Neosho NFH



-USFWS

This fishing derby is sponsored at the Neosho NFH. A lunch was provided by the Friends group with help from the local Lions Club.

Cooperation with Native Americans

Teamwork is Key for Lake Sturgeon Recovery Effort

Lake Sturgeon once inhabited the Red River of the North and its tributaries. In 1926 a lake sturgeon weighing 176 pounds was caught in White Earth Lake. However, since the turn of the century, lake sturgeon populations have declined due to over harvest, pollution and water development projects. The last record of a lake sturgeon in this area came from Lake Lida in 1957. In 1997 the White Earth Natural Resources Department, assisted by the Fish and Wildlife Service and Rainy River First Nations, entered into an agreement to restore Lake Sturgeon in White Earth Lake and Round Lake on the White Earth Reservation. Lake sturgeon are primitive fish that historically inhabited many of Minnesota's large rivers and the lakes associated with those rivers. Native American cultures were partially dependent on the availability of lake sturgeon. Indian villages were often located near waters where sturgeon spawned. Early European settlement on Lake of the Woods was due to commercial fishing for lake sturgeon when their caviar and fine flesh were known worldwide.



A young sturgeon. ©1985 Wisconsin Sea Grant

It is a goal of the resource agencies to restore lake sturgeon to this part of its original range. The management plan calls for 8,000 fingerlings to be stocked in

White Earth Lake and another 5,000 fingerlings to be stocked in Round Lake. Prior to stocking fingerlings a significant team effort takes place. One huge hurdle is to test the sturgeon for viral infections prior to shipping the eggs. In a normal year this is completed in advance to the egg shipment, however, in 2003 this was not possible. It took a true team effort to accomplish this goal. First, Rick Nelson (La Crosse Fish Health Center) negotiated an agreement with the Wisconsin Health Lab to allow the Fish and Wildlife Service to ship the eggs prior to completion of the viral tests. This could only occur if Doug Aloisi (Genoa National Fish Hatchery) agreed to isolate the eggs until the viral clearance was given. This meant extra work for both offices but it was accomplished without hesitation. On May 18, Randy Zortman and Tom McCully (White Earth Natural Resources Dept.) along with Scott Yess (La Crosse Fishery Resources Office), assisted Joe Hunter and his staff (Rainy River First Nations) with spawning more than 30 adult lake sturgeon. At the same time, fin clips were being screened for virus infection by Terry Ott (La Crosse Fish Health Center). On May 21, the eggs were delivered to Doug Aloisi and Jeff Lockington (Genoa National Fish Hatchery). The staff at Genoa did a fantastic job to prepare an isolation facility to receive the eggs. Results of the viral tests proved negative and were completed on May 22. This will allow the staff at Genoa NFH to raise the sturgeon outside the isolation facility. In late summer the sturgeon will be tagged and then transported to the White Earth Reservation.
Scott Yess, La Crosse FRO

Alpena Fishery Resources Office Conducts Independent Lake Whitefish Survey in Lake Huron

From May 28 to June 25 staff from the Alpena Fisheries Resource Office (FRO) conducted a fishery independent lake whitefish survey in 1836 Treaty waters of northern Lake Huron. Staff involved included treaty unit coordinator Aaron Woldt, biologist Adam Kowalski, biologist Scott Koproski, assistant project leader Tracy Hill, and project leader Jerry McClain. The goal of this survey was to collect fishery independent abundance and biological data of lake whitefish stocks in treaty waters for use in statistical-catch-at-age (SCAA) population models that are updated annually to determine harvest regulation guidelines (HRG's) for tribal commercial fishers in 1836 Treaty waters. As dictated in the 2000 US vs. Michigan Consent Decree—a 20 year fishery allocation agreement for 1836 Treaty waters signed by the State of Michigan, United States, Bay Mills Indian Community, Sault Ste. Marie Tribe of Chippewa Indians, Grand Traverse Band of Ottawa and Chippewa Indians, Little River Band of Ottawa Indians, and Little Traverse Bay Bands of Odawa Indians—the Modeling Subcommittee (MSC) of the Technical Fisheries Committee (TFC) annually collects data and conducts model runs to determine lake whitefish HRG's for 5 management units in northern Lake Huron. This survey fulfills the data need identified by the MSC.

Using the Alpena FRO 30' research vessel and staff, 24 overnight, variable mesh gill net sets were conducted at randomly

selected sites in lake whitefish management unit 4 (Alpena to Presque Isle) and lake whitefish management unit 5 (Presque Isle to Hammond Bay). All lake whitefish collected were measured for length, weighed, checked for lamprey wounds, sexed, and assessed for maturity and visceral fat content. Non-target fish species were worked up in a similar manner as well. We took scale, fin ray, and otolith samples from each lake whitefish for age determination and removed stomachs whole. The stomach contents will be identified and counted by staff at the Great Lakes Environmental Research Lab in Muskegon, MI. This survey will continue annually and will be tailored to meet the needs identified by the MSC. 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. Good model output is essential to sound and sustainable management of the lake whitefish resource in northern Lake Huron, and lake whitefish is the central component to the Native American commercial fisheries in 1836 Treaty waters. Harvest limits allow lake whitefish fisheries to be executed while still protecting the biological integrity of lake whitefish stocks. This outcome is consistent with the Fish and Wildlife Service's goal of maintaining self-sustaining populations of native fish species while meeting the needs of tribal communities.

Aaron P. Woldt, Alpena FRO



-USFWS

Lake whitefish are surveyed in 1836 Treaty waters of northern Lake Huron to determine harvest regulation guidelines.

Green Bay Fisheries Office Assesses Lake Whitefish Populations in Northeast Lake Michigan

The Fish and Wildlife Service Green Bay Fishery Resources Office (FRO) assessed lake whitefish (*Coregonus clupeaformis*) populations in northeastern Lake Michigan, near the ports of Frankfort and Traverse City, Mich., between June 3 and June 8. The data collected in these surveys will allow the Lake Michigan Modeling Subcommittee (MSC) to develop more accurate lake whitefish stock assessments. More than 14,000 feet of graded mesh gill-nets were used to sample lake whitefish and other species from eight sampling points at each port. Biologists recorded length, sex, maturity stage, fin clip type and lamprey wounds and obtained scale samples for age determinations of lake whitefish and lake trout. All other species were enumerated and measured for length. These assessment data are independent of samples collected from commercial fishery catches. These data are supplemental input into models used by the Lake Michigan modeling subcommittee to

determine safe harvest limits in the 1836 Treaty waters of the US vs. Michigan Consent Decree of 2000.

Dale Hanson, Green Bay FRO

Sturgeon Spawning Assessment Marks 15th Year

Ashtand Fishery Resources Office (FRO) biologists completed another year of assessment of the sturgeon spawning run in the Bad River, Wisconsin. The assessment is conducted in cooperation with the Bad River Band of Lake Superior Chippewa and the Great Lakes Indian Fish and Wildlife Commission (GLIFWC). In addition to the work in the Bad River, the cooperating agencies also surveyed the spawning run in



-USFWS

A lake sturgeon is released after biologists record measurements and collect tissue samples. Tissue samples are used for genetic analysis.

the White River, Wisconsin, a tributary to the Bad River.

In 2003, 83 lake sturgeon were captured, measured, and tagged prior to release. Sections of the fin ray were taken from most fish and will allow the age of fish in the spawning run to be determined. A thumbnail sized section of fin tissue was collected for genetic analysis. Amy Welsh, a geneticist from University of California-Davis, assisted with field work and tissue collections. This assessment effort

was initiated in 1988 by the Bad River Band and GLIFWC. The Bad River has no man-made barriers to migratory fish from Lake Superior, or impoundments to alter flow or thermal regime, and therefore provides an ideal situation for assessment of a natural sturgeon spawning run.

Henry Quinlan, Ashland FRO

Fish Transfer for the Keweenaw Bay Indian Community "All American Fishing Derby"

After a fishery survey showed that the previous transfer of largemouth bass and bluegill into Lighthouse Pond had failed, one more attempt was recently completed to enhance this fishery for the upcoming "All American Fishing Derby." With the help of



-USFWS

Fish are stocked in Lighthouse Pond for the "All American Fishing Derby."

the Keweenaw Bay Indian Community (KBIC) and the Michigan Department of Natural Resources (MIDNR), Frank Stone, Ashland Fishery Resources Office (FRO) collected 20 Largemouth bass (12-18 inches) and 150 Bluegill (4-7 inches). These fish were placed in a fiberglass transport tank and transferred to Lighthouse Pond.

The KBIC is interested in developing Lighthouse Pond into a family oriented largemouth bass

fishery. Currently the surrounding area is used for picnicking and numerous tribal activities, including a yearly Pow-Wow. Because of the lakes convenient proximity to this tribal recreation area, the KBIC has initiated management plans with the Fish and Wildlife Service and the MIDNR to enhance this fishery. However, because this system is subjected to winterkill conditions, the options for enhancing the angling potential are limited. A fountain type aeration system will be placed in the pond early this year in hopes of providing a more stable oxygen regime that should greatly enhance over winter survival.

Frank Stone, Ashland FRO

Service Continues Assistance With Mille Lacs Walleye Marking Study

On Mille Lacs Lake, Minnesota, the Fish and Wildlife Service continued assistance with a multi-year cooperative walleye marking study between the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) and the Minnesota Department of Natural Resources (MNDNR). Five electrofishing boats participated in the study, two from GLIFWC, one from the Fond du Lac tribe, one from LaCrosse Fishery Resources Office (FRO), and one from Ashland FRO. Aided by excellent weather, the quota of tagging 20,000 adult walleye was accomplished in 12 nights during walleye spawning. The Ashland boat captured and tagged a total of 5,572 adult walleye (28% of the quota), and processed an additional 861 recaptured walleye. The objectives of the study are: 1) obtain an independent estimate of the adult walleye population and

mortality to supplement state and tribal population modeling; 2) determine angling and netting size selectivity; 3) determine if walleye return to the same spawning site each year, and if so, to what extent; 4) identify harvest impacts on spawning sites; 5) determine seasonal movements and spatial distribution of adult walleyes; and 6) identify walleye mortality by area. This study is expected to continue in 2004.

Gary Czypinski, Ashland FRO

Lake Trout Assessment Being Conducted

A cooperative effort among the Red Cliff Fishery Department, Ashland Fishery Resources Office (FRO) and Great Lakes Indian Fishery Commission to assess siscowet "fat" lake trout took place the week of June 23-28, 2003, out of Black River Harbor, Michigan. The information obtained from this survey will help fishery managers gain a broader understanding of the siscowet lake trout's ecological role and abundance in the lake. Biological data to be collected included species caught, length, weight, sex and maturity, sea lamprey marks, age structures, and stomach contents (diet). This survey is done throughout Lake Superior by fishery agencies every 3 years. Fishery agencies participating on the Lake Superior Technical Committee of the Lake Superior Fishery Commission are coordinating this effort.

Glenn Miller, Ashland FRO

Leadership in Science and Technology

The R/V CHUB makes Its Premiere on Lake Superior

The Ashland Fishery Resources Office (FRO) has its new research and assessment vessel, the R/V CHUB. Built by American MetalCraft Marine in Clayton, New York, the CHUB is 29.5' long, has a 10' beam and is powered by twin 150 horsepower Mercury Optimax outboards. She will be busy on Lake Superior waters for many years serving as the platform for fishery work in three national parks, in 1836 and 1842 Treaty waters, and other regions of Lake Superior.



-USFWS

The R/V CHUB is a new research and assessment vessel based out of Ashland, Wisconsin.

A gill net lifter and work up table have been installed on the vessel. Both the lifter and table are removable for other types of work. The cab fits six people and has a full array of electronic gear to aid in navigation, communication, and assessment work. The CHUB is also outfitted with various safety features including high gunwales, Emergency Position Indicating Radiobeacon, six person life raft and a loading winch. A 140 gallon fuel tank allows a wide travel range. The vessel sits on a tri-axle Classic trailer, which allows easy travel to worksites throughout the Lake Superior basin.

Glenn Miller, Ashland FRO

Genoa National Fish Hatchery Discovers New Host Fish for the Endangered Higgins' Eye Pearlymussel and Hickorynut Mussel

As the dog days of summer set in the upper Midwest, the staff at the Genoa National Fish Hatchery set out to determine additional host fish for the endangered Higgins' eye pearlymussel (*Lampsilis higgini*) and Hickorynut mussel (*Obovaria olivaria*) in June 2003. We were interested in knowing if white bass (*Morone chrysops*) would transform Higgins' eye glochidia (larval mussels) into free living mussels, and if lake sturgeon (*Acipenser fulvescens*) would do the same for Hickorynut glochidia. By knowing if these fish would work as host for the respected mussels, we would be able to better utilize wild fish population in streamside "infestation" of Higgins' eye in Iowa, and to combine the hatchery's expertise in sturgeon culture into producing host fish for disappearing mussel species in the Mississippi and upper Ohio rivers. First we attempted to determine if white bass would be a suitable host for the Higgins' eye pearlymussel. Two individuals were infested with Higgins-eye glochidia. A total of 628 juveniles were produced. This new information will reduce the time spent collecting wild host fish for our fall Higgins' eye streamside infestations. The second host study was on the Hickorynut mussel described as "disappearing in the Mississippi and upper Ohio rivers" (Cummings and Mayer 1992). This mussel species is also a state listed endangered species in Ohio (Cummings and Mayer 1992). The only reported host fish for this

mussel species is the shovelnose sturgeon (*Scaphirhynchus platyrhynchus*). Because Genoa National Fish Hatchery cultures thousands of lake sturgeon each year, it would be convenient if the lake sturgeon could be used as a successful host fish.

We tested nine individuals by infesting them with Hickorynut glochidia. Eight individuals survived to transform a total of 2200 juveniles. The majority of the juveniles were stocked into Iowa state waters, while a sample were retained at the hatchery for culture on station.

Tony Brady, Genoa NFH



-USFWS

Genoa NFH staff have determined that lake sturgeon is a host fish for the hickorynut mussel.

Sea Lamprey Status in Great Lakes presented at International Association of Great Lakes Research Annual Conference

Jeff Slade (Ludington Biological Station) delivered a platform presentation at the International Association of Great Lakes Research 46th Annual Conference & International Lake Environment Committee 10th World Lakes Conference. Jeff's presentation entitled, "Status of Sea Lamprey

Populations in the Great Lakes – SOLEC Indicator #18” was part of a special session Using Indicators to Assess Great Lakes Ecosystem Health. The conference was held at DePaul University, Chicago, Illinois.

Dennis Lavis, Ludington Biological Station

Fishery Crews Experiment with Mid-water Trawl to Corral Asian Carp during the Annual Goby Roundup

During the period of June 9 – 13, a survey for aquatic nuisance species was conducted along a 100 mile length of the Illinois Waterway (Waterway). These surveys are used to determine the progress of nuisance round goby/Asian carp expansion, and the effectiveness of the Chicago Ship & Sanitary Canal Electrical Demonstration Barrier in preventing further range expansion of nuisance fish. The round goby is in the Waterway and may expand into the Mississippi watershed while Asian carp are a threat to move up the Waterway into the Great Lakes. The annual survey, coordinated by the La Crosse Fishery Resources Office (FRO), involves many state, federal, and community agencies. Goby were captured 7 miles further downstream than last year's survey. No Asian carp were observed. Samples were taken from some of the captured fish for an analysis of the health of the fish communities surveyed.

During the survey period, the Ashland and La Crosse FROs experimented with a mid-water trawl to capture Asian carp in the Illinois River. The mid-water trawl was one of several gear types used in the eighth annual Goby Roundup/Carp Corral. An Ashland FRO trawler, crewed by Burr Fisher-East Lansing Ecological Services

and Gary Czypinski-Ashland FRO, towed the custom-designed mid-water trawl for approximately 4.5 hours where Asian carp were known to be present, near the confluence of the Illinois and Vermillion Rivers. The mid-water trawl collected one goldeneye and one freshwater drum, but no Asian carp were captured. Having determined that the mid-water trawl had been given a sufficient test, the Ashland trawler moved up the Illinois River to the Dresden Dam and Locks near Morris to bottom trawl for the round goby. Freshwater drum, goldeneye, catfish, smelt, spottail shiner, and juvenile walleye were collected, but no round goby were captured in bottom trawls near Morris, approximately 55 miles west of Lake Michigan.

The annual Goby Roundup and Asian Carp Corral surveys attract a great deal of media attention. The crew for the mid-water trawl experiment were interviewed by reporter Jo Ann Hustis of the Morris Daily Herald. A cameraman from the “Nightly News with Tom Brokaw” joined a crew to gather footage for a future segment. Numerous other local media provided excellent coverage of the event.

Gary Czypinski, La Crosse FRO; Jessica Kuester, La Crosse FHC; Anjanette K. Bowen, Alpena FRO



-USFWS

A minnow trap is a traditional device used to catch round gobies.

Sturgeon Research occurring at Purdy Fisheries Highlighted in the Times Herald

Fishery Biologist James Boase traveled to Purdy Fisheries located in Point Edward, Ontario on June 16, 2003 to assist with lake sturgeon research. The natural deep-water reef located in the St Clair River between Port Huron, Michigan and Point Edward attracts spawning lake sturgeon each spring. During spring spawning runs lake sturgeon are captured by Purdy's commercial trap-nets as well as setlines deployed by the Fish and Wildlife Service. Fish that are captured are brought back to the Purdy facility where they can be housed in two large raceways for up to two weeks. The Purdy facility, along with the abundance of lake sturgeon in the spring makes that facility unique for lake sturgeon research throughout the Great Lakes. On June 16 biologists from Poland, Ohio State University, U.S. Geological Survey (USGS) Great Lakes Science Center, Ontario Ministry of Natural Resources (OMNR), and Fish and Wildlife Service met at the Purdy facility to collect biological information from 122 lake sturgeon. Boase and biologist Ray Argyle from USGS Great Lake Science Center implanted 20 adult lake sturgeon with temperature/depth recorders. The temperature/depth research is a joint project with the Ashland Fishery Resources Office (FRO) that was initiated last year when 20 lake sturgeon were implanted. Four lake sturgeon implanted in 2002 have been recaptured by the Purdy fishery. Temperature/depth recorders were successfully removed from all 4 fish. Professors Andrzej Ciereszko from the Polish Academy of Sciences, Olsztyn, Poland, and Konrad Dabrowski from The Ohio



-USFWS

A temperature/depth recorder is surgically implanted in a lake sturgeon. The information collected from the recorder will be used by researchers interested in restoring populations in the Great Lakes.

State University, and Graduate Research Assistant Julia Froschauer successfully collected eggs and sperm from 4 female and 4 male lake sturgeon. The focus of their research includes cryopreservation of eggs and sperm, and viability of lake sturgeon following delayed egg fertilization. Biologist Lloyd Mohr from OMNR collected biological information from the lake sturgeon as part of a project initiated in 1995. To date over four-thousand lake sturgeon have been sampled at the Purdy facility by OMNR researchers. Throughout the day reporter Deanna Weniger from the Port Huron Times Herald was interviewing researchers and photographing lake sturgeon, the article was published on June 17, 2003.

Boase invited the reporters to help get the word out about the importance of the spawning site located in the St. Clair River in

Port Huron and the role the connecting waterways have in lake sturgeon rehabilitation. This event also provided an excellent opportunity for Boase to explain how the Alpena FRO is working with government agencies and private industries from both Canada and the United States in efforts to rehabilitate lake sturgeon populations throughout the Great lakes. This event provided an excellent opportunity to explain to the public the Fish and Wildlife Service's mission and efforts to restore native fish. Specifically, the interview focused on efforts to rehabilitate lake sturgeon populations in the Great Lakes and the role that the Fishery Resources Offices have in this endeavor. The benefits of native species restoration were clearly defined and explained. The interview was also an excellent outreach opportunity.

James C. Boase, Alpena FRO

Journalists Observe Survey Technique for Aquatic Invasive Species

A small craft trawler from Ashland Fishery Resources Office (FRO) demonstrated bottom trawling to a group of journalists as a technique for monitoring the presence and relative abundance of zebra mussels and the invasive fish, Eurasian ruffe and round goby. The journalists were participating in an educational program sponsored by the Great Waters Institute for Journalism & Natural Resources, Madison, Wisconsin. Two 5-minute tows were executed in a deep dredged channel and on the shallow sand flats within the Duluth-Superior harbor, Minnesota. The dredged channel tow yielded a catch of approximately 100 ruffe and numerous zebra mussels, while the tow over the shallow sand flats captured only zebra mussels. The journalists were also informed about how monitoring contributes toward control of aquatic nuisance species. Peter Annin, associate director for the Institute, was pleased with the success of the demonstration and stated that "getting the journalists out on the water for a trawling demonstration was an integral part of our programming on invasive species."

Gary Czypinski, Ashland FRO

Aquatic Habitat Conservation and Management

Thunder Bay River Erosion Site Surveyed

Fish and Wildlife Service Biologists Heather Enterline and Susan Wells, and Thunder Bay Power Manager Brad MacNeill surveyed a large erosion site on the Thunder Bay River June 6 and 9. Over 1500 feet long, this erosion site has high, steep, clay banks. This erosion site is considered to be the worst on the river, washing away several feet of riparian property from landowners each year. The survey consisted of a stream bank profile at the erosion site and a cross-sectional survey of the river every 100 feet. MacNeill D R & Associates mapped the curvature of the river and took precise GPS Coordinates. The Fish and Wildlife Service's Partners for Fish and Wildlife Program has funded the partial repair of the site. Thunder Bay Power is engineering the site, MacNeill D R & Associates donated survey information, LaFarge Corporation (Alpena) is donating stone, and private landowners are donating labor and funding. Construction is scheduled for late August/early September 2003. Elimination of this erosion site on the Thunder Bay River will enhance a cool water fishery consisting of smallmouth bass, yellow perch, northern pike and a number of minnows and shiners. Protection of this erosion site will remove the potential for tons of clay to smother spawning beds, fill pools, and add to the amounts of suspended solids in the water column. In addition to the natural resource benefits, riparian landowners will be educated as to how to be better stewards of their property.

Heather L. Enterline, Alpena FRO



-USFWS

Numerous partners are combining resources to repair this erosion site on the Thunder Bay River.

Whittlesey Creek National Wildlife Refuge Forest Restoration

Ashland Fishery Resources Office (FRO) assisted Whittlesey Creek National Wildlife Refuge personnel with restoration and enhancement of approximately 22 acres of forest adjacent to Terwilliger Creek on the Refuge. After settlement, the original forest was cleared for agriculture. But now, with hard work and support from the refuge staff, local agencies and school groups, Boy Scouts of America, Northland College and the Fish and Wildlife Service's Great Lakes Coastal Program through Ashland FRO, this area will be like it once was.

Native trees and shrubs were used in the restoration and planted in a manner that will increase the landscapes value to fish and wildlife. The species planted included white pine, white spruce, paper birch, white cedar, and eastern hemlock. Some plantings were enclosed in temporary fencing to prevent deer browsing. The restored area will benefit conservation priority migratory bird species such as the wood thrush, northern flicker and American woodcock. It will also

improve water quality and watershed features for coaster brook trout and other fish that spend all or part of their life in refuge streams. The Great Lakes Coastal Program is proud to have supported this project, and along with the other partners, looks forward to seeing the forest grow.
Ted Koehler, Ashland FRO

Projects Identified and Underway by Northern Wisconsin Wetland Team

The Northern Wisconsin Wetland Team represented by Ashland, Bayfield, Douglas and Iron County Land Conservation Districts, Wisconsin Department of Natural Resources, Natural Resources Conservation Service, Fish and Wildlife Service, and Ducks Unlimited has identified 21 priority wetland restoration projects for the 2003 field season which are now in various stages of development. Many of the projects involve an upland component, as well, in the form of buffers, grazing agreements, nesting cover development and northern forest restoration. The Ashland Fishery Resources Office's (FRO) Private Lands Program has taken the lead on 8 projects as well as providing financial and technical assistance on other team restorations.
Ted Koehler, Ashland FRO

Pine River Watershed Fish Passage Tour

On June 17, Biologists Susan Wells and Heather Enterline were given a tour of the Pine River and Van Etten Lake Watershed. The watershed extends into Iosco and Alcona counties in northeast Lower Michigan. Rick Myrick from Huron Pines RC&D conducted the tour using a recently compiled road crossing inventory. The purpose of the day long event was to identify potential fish passage projects. A total of 17 road crossing sites were visited. Upon completion of the tour, discussion was held to determine what sites were best suited for the fish passage program. It was determined that five of the sites would constitute a fish passage obstacle for brook trout and northern pike. If the five projects were to be completed by the fish passage program, approximately 20 miles of inland streams would be opened to fish. This is an example of collaboration



-USFWS

A culvert on the Pine River Watershed is examined to determine if fish passage improvements will benefit native brook trout at this site.

between government and local watershed groups to enhance aquatic habitat which will benefit fish and wildlife resources. This project provides assistance for enhancing fish passage for brook trout and northern pike into reaches of the Pine River and Van Etten Lake Watershed.

Susan E. Wells, Alpena FRO

Tannery Creek Fish Passage Project

On June 18 Project Leader Jerry McClain and Biologist Susan Wells met with Wil Cwikeil of the Tip of the Mitt Watershed Council and Greg Klingler from the Marquette Biological Station for an inspection of a Fish Passage project site on Tannery Creek. The project calls for the removal of a small dam on Tannery Creek which will allow free movement of resident brook trout on this Lake Michigan tributary. Due to the proximity of the site to the mouth of the creek, there was a need to determine what, if any, measures were needed to prevent sea lamprey from migrating up the system. Although there are other impediments to fish passage below the proposed dam removal site and no record of sea lamprey in the system, it was determined that the conservative approach would be to incorporate a lamprey barrier into one of the downstream structures. Design and installation of a sea lamprey barrier will be completed before the dam is removed. Biologist Wells, with assistance from Tip of the Mitt Watershed Council staff, conducted elevation surveys at the site in late June to assist with the design of the sea lamprey barrier. Funds from the Fish and Wildlife Service's Fish Passage and Coastal Grant Program are being pooled with matching funds to complete both

phases of the project. Removal of the barrier will benefit native brook trout, listed by the Fish and Wildlife Service as a Fish and Wildlife Resource Conservation Priority, by allowing free access to most of the spawning, feeding and resting habitat provided by this small Lake Michigan tributary.

Jerry R. McClain and Susan Wells, Alpena FRO

National Fish Passage Program
(<http://fisheries.fws.gov/FWSMA/FishPassage/>)

PROGRAM GOAL

To restore native fish and other aquatic species to self-sustaining levels by reconnecting habitat that has been fragmented by barriers, where such re-connection would not result in a net negative ecological effect such as providing increased habitat to exotic species.

To learn more about the Fish Passage Program for the Great Lakes/Big Rivers Region, you can view the website at:

(<http://fisheries.fws.gov/FWSMA/FishPassage/fpprgs/R3/Region3.htm>)



Workforce Management

Green Bay Fisheries Office Staff meet with Dr. Stanley Szczytco, UW-Stevens Point Internship Director

The Green Bay Fishery Resources Office (FRO) staff met with Dr. Stanley Szczytco, UW-Stevens Point, to discuss the university internship program. Students have the ability to sign up for an internship to receive credits for work performed during summer employment.

Employers will usually choose a project for the student that is related to a particular job assignment during the work period. Students will then work up the data collected and produce a report during the next semester. The Green Bay FRO hired a new Student Temporary Employment Program (STEP) employee in 2003 who signed up for an internship with Dr. Szczytco. Dr. Szczytco usually has between 25-30 internship students per year and makes a site visit to each workplace during the summer. He has been the internship coordinator at UW-Stevens Point for over 20 years.

Stewart Cogswell, Green Bay FRO

Alpena Fishery Resources Office Provides Career Training Opportunity for Local High School Students

The Alpena Fishery Resources Office (FRO) is assisting the local high school with a career development program for local youth. On June 25 Project Leader Jerry McClain met with Joe Klemens who coordinates the Upward Bound Program for Alpena High School. The Upward Bound Program provides students with the opportunity to work with area professionals in a field they are interested in pursuing as a career. Two students, Jason Black and Brandon Smith, have been assigned to the Alpena FRO. Biologists Scott Koproski and Adam Kowalski have been working with the students since they started the program. The students are provided 10 hours a week and Biologists Koproski and Kowalski have been exposing them to some of the daily operations. Both students have expressed an interest in pursuing a career in the natural resources profession. Hopefully the work experience they gain will serve as a foundation for their career in the natural resources profession. Staff at the Alpena FRO are exposing the Upward Bound students to a profession dealing with Great Lakes fish species and fishery research. The opportunities provided to the students will hopefully prepare them for future employment in the fishery or aquatic resource profession.

Scott R. Koproski, Alpena FRO

For information about student employment programs, please visit:

<http://jobs.fws.gov/STEP.htm>

<http://jobs.fws.gov/SCEP.htm>

Volunteers made a difference at Regional Fisheries stations in FY2002:

-519 volunteers

-Contributed 28,775 hours

-10 stations conducted volunteer programs

Outreach Activities during June in the Great Lakes/Big Rivers Region:



Great Lakes - Big Rivers Regional Fisheries Offices

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

Illinois

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

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

Michigan

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

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

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

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

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

Missouri

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

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

Wisconsin

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

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

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

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

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

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



Fish Lines
Region 3, Great Lakes/Big Rivers
June 2003 Vol. 1 No.4

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

Phone: 612/713-5111

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



Windows in time

A Glimpse into our Proud Past

Tour of the National Fish Hatchery at Guttenburg, Iowa (circa 1960)

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

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

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