



U.S. Fish & Wildlife Service

Fish Lines



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Region 3 - Great Lakes/Big Rivers

*Leadership in Conserving, Enhancing, and Restoring
Aquatic Ecosystems*



Smallmouth Bass

Creek Creates Lasting Memories

(See the "Feature Article" on Page 5)

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



Region 3 - Great Lakes/Big Rivers Region

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

Conserving America's Fisheries

Fisheries Program Vision for the Future



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

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

Strategic Plan Vision Focus Areas

1. Partnerships and Accountability

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

2. Aquatic Species Conservation and Management

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

3. Public Use

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

4. Cooperation with Native Americans

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

5. Leadership in Science and Technology

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

6. Aquatic Habitat Conservation and Management

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

7. Workforce Management

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

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Great Lakes - Big Rivers Region Fisheries Field Offices

National Fish Hatcheries

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

Sea Lamprey Control Stations

Sea Lamprey Control Stations assess and control sea lamprey populations throughout the Great Lakes. The U.S. Department of State and Canadian Department of Fisheries and Oceans fund this program through the Great Lakes Fishery Commission.

Fishery Resources Offices

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

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

Fish Health Center

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

Great Lakes - Big Rivers Region Fisheries Field Offices



Great Lakes - Big Rivers Regional Fisheries Program

Feature Article - Creek Creates Lasting Memories

"We are what we cross paths with, not what we seek out but what takes hold of us. These accidental associations create our core; they become the essence of our being."

by Craig Springer/ U.S. Fish and Wildlife Service

A little stream took a hold on me and became a meandering baseline, an anchor point from where I would take all bearings for things to come. Creek chubs, smallmouth bass, and green sunfish: they caught me. And it was angling for them that brought me to take in the essence of land; it was angling that immersed me in a narrative with the stream and lands that drained into it.

Four Mile Creek heads among the uplands near the Ohio-Indiana line in hills left behind by retreating glaciers. Springs well up into the light of day into tiny rivulets formed in the folds of the land, mostly cleared for corn and beans. One rivulet begets two and so on, forming Four Mile; the creek gathers more waters as it glides downhill cutting over ancient glacial till carried far from the north.

In these quiet waters, damselflies dimple their metallic-blue tails on the smooth glides as their eggs drop into the creek. They waft erratically on the wing as if they have no purpose nor care. Save for coming into the maw of a kingbird, they probably don't. Four Mile's erosive forces elbow into the foot of a hill, undercutting the banks that stay stitched together by sycamore roots. The shade of the undercut, the tree roots, the shards of turquoise - - little green sunfish, they lie there waiting for the groceries to come to them. It's a good strategy for making a living in a creek. Find a place to hide from herons and kingfishers, stay in shade so unsuspecting minnows can't see you, and sit there and wait for food to come drifting.

The strategy must work. Green sunfish live naturally all over the Midwest. And that speaks to their durability of extremes, not to mention their capacity to procreate. Their fecund nature lends to their reputation as being a child's fish. They look to me like a mix between smallmouth bass, bluegill, and rock bass - - like an animal confused, not knowing which evolutionary trajectory to take. A big gape allows the

green sunfish to eat most anything that it wants; bats and shrews have shown up in their gullet, but bugs are the favored fare.

Among Midwestern upland streams, the smallmouth bass is king, and the green sunfish is only a mere commoner. But literature professor, Marcus Selden Goldman, who 90 years ago fished Four Mile while at Miami University, strikes a chord in his book *In Praise of Little Fishes*: "The crowd in its ignorance deems it manly and impressive to catch crappies and bluegill, but scorns anything called 'sunfish.' The result of this attitude is that only seasoned and thoughtful anglers know or care to know how to identify the different species of sunfishes."

I don't disagree, but I know of no one that would plan a fishing trip around green sunfish. And I have to admit, I probably wouldn't either. But I would like to see Four Mile again. It's a yen in part for yesterday; a yearning to reacquaint myself with that baseline, the habitat were I came of age. Neil Young said it perfectly in song: "In my mind I still need a place to go. All my changes were there."

Too many summers have slipped downstream. But still in my mind's eye a diving beetle lumbers to the surface for air, a blue damselfly on a water willow lightly and gracefully moves its wings. The sodden smell of sticky mud fills my head. I can feel in my forearm the sudden tear of a smallmouth bass taking off with a spinner. And I wouldn't mind the light plodding of one of those little cyan sunfish with a mouth big enough to take whatever it can.

A creek is more than a place for bass and bream, warblers and wood ducks. It's habitat for people. Habitat conservation benefits people. Creeks course through people. A tall, fat gray-green sycamore on a shady undercut bend grows naked with age. Slow-moving dark water spattered with yellow sunlight pours over fossil-littered limestone slabs. In the shelter of a pool in a tangle of roots, little fish wait there, the wild consequences of time preserved in living turquoise shards.

Partnerships and Accountability

Iowa Mussel Survey and Relocation Project

Just off the new boat landing in Harper's Ferry, Iowa, Genoa National Fish Hatchery's (NFH) mussel biologist dons a dry suit for a brisk dive in the Mississippi River. This dive is to assist the Iowa Department of Natural Resources and the Allamakee Conservation Board in searching for native mussels at the proposed site for the Harper's Ferry fire department's new dry hydrant. Approximately 20 square feet of river bottom was searched for native mussels. Twenty mussels of four species were recovered from the site and relocated several hundred yards upstream of the boat landing. The mussel survey was the last step in the permitting process for the dry hydrant project. With this new dry hydrant, the citizens of Harper's Ferry will be better served by the local fire department, and the relocated mussels can live their lives in a happy new home.

Tony Brady, Genoa NFH



-USFWS

Genoa National Fish Hatchery dive team members prepare to enter the murky Mississippi River to search for native freshwater mussels. Mussels were relocated from a small site that will become a dry fire hydrant for the town of Harpers Ferry, Iowa.

Asian Carp Work Group meets to begin Development of a National Management and Control Plan

Cartersville Fishery Resources Office (FRO) hosted a second meeting of the Asian Carp Work Group in conjunction with the 134th Annual Meeting of the American Fisheries Society. Thirty-one partners and stakeholders met to review the results of the breakout sessions held during the August Work Group meeting, to finalize a framework for the management and control plan, and to identify drafting teams and timelines for development of the draft plan. This effort will result in a collaborative management and control plan addressing invasive bighead, silver, grass, and black carp species. Once completed, the draft plan will be submitted to the Aquatic Nuisance Species Task Force for implementation approval. This collaborative plan is an essential coordination tool to integrate prevention and control activities across the nation to limit range expansion and negative impacts of invasive Asian carp.

*Greg Conover, Cartersville FRO
Andy Starostka, Columbia FRO*

La Crosse Fishery Resources Office partners with the U.S. Geological Survey

La Crosse Fishery Resources Office (FRO) personnel and Tim Yager (Regional Office) assisted the Iowa City Office of the U.S. Geological Survey on their National Water Quality Assessment (NAWQA) program. This program was implemented in 1991 to support informational needs and decisions related to water-quality management and

policy. The NAWQA program is designed to answer questions concerning our nation's water resources. Information on water chemistry, physical characteristics, stream habitat, and aquatic life are collected. This allows resource managers to make science based decisions on water quality issues.

La Crosse FRO provided their expertise on the fishery aspects of this project. Three sites along the Iowa River and one site on the Wapsipinicon River were electrofished to determine the fish community structure. All fish were identified to species, weighed, and measured. The fishery information will be analyzed in combination with the other aspects of the study which will allow water resource managers to make informed decisions. The NAWQA program has been active for over 10 years and 42 of the original 51 study units will be reassessed for an additional 10 years.

Scott Yess, La Crosse FRO

Jordan River National Fish Hatchery Tour and Executive Council Meeting

Project Leader Jerry McClain and Biologist Aaron Woltdt from the Alpena Fishery Resources Office (FRO) participated in a gathering of Fish and Wildlife Service program personnel from Michigan field stations and Regional Director Robyn Thorson at the Jordan River National Fish Hatchery (NFH). The meeting provided an opportunity for a briefing on Great Lakes fisheries with special emphasis on implementation of the 2000 Consent Decree, a tour of the hatchery, and a question and answer session with Robyn. After the hatchery gathering, Fisheries

staff involved in the implementation of the Consent Decree traveled to nearby Traverse City to provide a briefing to Thorson on issues to be covered at the annual Executive Council meeting the following day.

Thorson represented the Department of Interior for Assistant Secretary Craig Manson at the Executive Council meeting. Several discussion topics had been raised by the Technical Fisheries Committee which McClain chairs and were addressed by the Executive Council. Resolution was reached on most of the topics. In addition to McClain and Woldt, other Fisheries personnel participating in the meeting were Bob Adair (Great Lakes Program Supervisor), Mark Holey (Green Bay FRO) and Rick Westerhof (Jordan River NFH).

Implementation of the 2000 Consent Decree continues to progress and issues continue to be resolved by the parties in a professional and conciliatory manner. Implementation of the 2000 Consent Decree requires cooperation and collaboration of all signatory parties for protection of Great Lakes fishery resources and protection of treaty fishing rights for 1836 Tribes.

Jerry McClain, Alpena FRO
Rick Westerhof, Jordan River NFH

Jordan River Staff participate in the Lake Huron Technical Committee Meeting

Rick Westerhof from the Jordan River National Fish Hatchery (NFH) participated in the Lake Huron Technical Committee meeting held in Bay City, Michigan. Implementation and approval of pulse stocking and operation and haul out of the offshore stocking vessel, M/V Togue, were discussed.

Hatchery and stocking logistics of pulse stocking for 2005 were addressed, but approval from the Lake Committee is still pending.

The M/V Togue is due for a haul-out inspection this fall, and depending upon the outcome, lake trout may need to be shore stocked in 2005 (the vessel has potential safety issues which may cease its operation). A list of alternative shore stocking sites was developed by Paul Haver and Tim Smigielski and presented for approval. Hatchery staff participation is critical to successful lake trout rehabilitation efforts.

Rick Westerhof, Jordan River NFH

Thunder Bay Project Implementation Working Committee Meeting

Biologist Aaron Woldt from the Alpena Fishery Resources Office (FRO) participated in a Working Committee meeting for the Thunder Bay Power Company's Thunder Bay River Project Implementation. The Working Committee was created to assist Thunder Bay Power (TBP) in meeting the requirements of its Federal Energy Regulatory Commission (FERC) license. Woldt is the Fish and Wildlife Service representative on the Working Committee.

During the September meeting, the Working Committee received an update from the City of Alpena, Michigan on construction of the Lamarre Park Fishing Pier. They also discussed Eurasian watermilfoil control plans at Fletcher's Floodwaters, budget status of the FERC license settlement escrow account, work completed at the 2004 erosion remediation sites, and the status of the fish passage study plan submitted by the Great Lakes

Environmental Center. TBP stream gauge calibration and purple loosestrife and Eurasian watermilfoil mapping were also discussed. Woldt and Kyle Kruger from the Michigan Department of Natural Resources (DNR) voiced concerns over the expense of the study plan and suggested that TBP apply for an extension from FERC so that the study plan and all existing data can be thoroughly reviewed.

The meeting was attended by member representatives from the Michigan DNR, TBP, and the Fish and Wildlife Service. In addition, representatives from the Hubbard Lake Sportsmen and Improvement Association, Northeast Michigan Council of Governments, City of Alpena, and the Alpena News also participated. Fish and Wildlife Service involvement in the Working Committee provides opportunities to minimize or mitigate the impacts of habitat alteration on fish and other aquatic species caused by hydropower facilities in the Thunder Bay River system. This outcome is consistent with the "Aquatic Habitat Conservation and Management" and "Partnerships and Accountability" priorities of the Fisheries Program Vision for the Future.

Aaron Woldt, Alpena FRO



Aquatic Species Conservation and Management

Lake Huron and St. Marys River surveyed to Detect New Populations of Aquatic Invasive Species

Alpena Fishery Resources Office (FRO) conducted an annual bottom trawling survey of 14 locations in the St. Marys River and Lake Huron in September to detect new populations and monitor existing populations of invasive Eurasian ruffe and round goby currently established in parts of Lake Huron. Eurasian ruffe and round goby feed on fish eggs and compete with native species for food and habitat resources. Biologists surveyed river mouths and ports from Sault Ste. Marie, Michigan to Harbor Beach, Michigan during the survey. No invasive species were detected in the St. Marys River. One new population of round goby was detected in Lake Huron, and round goby continue to persist at seven other locations. No new populations of Eurasian ruffe were detected. Lake Superior State University - Sault Ste. Marie, Michigan provided volunteers for this work.

Annual aquatic invasive species surveys provide for early detection of new populations which may allow for rapid response and control measures, where approved. Detection, monitoring, and control of invasives address "Aquatic Species Conservation and Management" - a priority of the Fisheries Program's Vision for the Future.

Anjanette Bowen, Alpena FRO



-USFWS

Bottom trawling is a technique used by the Fish and Wildlife Service to detect new populations of invasive species. Fourteen locations in the St. Marys River and Lake Huron were surveyed in September.

Invasive Eurasian Ruffe Decline observed in Thunder Bay Harbour, Ontario, Lake Superior

The Lake Superior Management Unit of the Ontario Ministry of Natural Resources and the Ashland Fishery Resources Office (FRO) completed an annual assessment of the invasive Eurasian ruffe population in Thunder Bay Harbour, Ontario, Lake Superior. Several obstructions and dense fog hampered the assessment in which 18 of 25 bottom trawl index transects were completed. Following record high ruffe abundance in 2003, a decline in ruffe abundance and many native species was observed during the 2004 assessment. In addition, no invasive round goby or white perch were captured where single specimens of each were initially captured in 2003; however, invasive Eurasian watermilfoil, threespine stickleback, and fourspine stickleback were collected from several transects. The most abundant species captured was the native ninespine stickleback. Further summary and analysis of the fish data is pending.

This binational Eurasian ruffe assessment is conducted annually in Thunder Bay Harbour to monitor the potential impact of ruffe and other aquatic invasive species on the native fish community and to identify opportunities for ruffe population reduction.

Gary Czypinski, Ashland FRO



-USFWS

Ashland Fishery Resources Office completed an annual assessment of the invasive Eurasian ruffe population in Thunder Bay Harbour, Ontario, Lake Superior in cooperation with the Ontario Ministry of Natural Resources. A decline in ruffe abundance was observed in the 2004 assessment.

Lake Sturgeon Production is increased at the Genoa National Fish Hatchery

With the advent of a new sturgeon culture building this year, expectations were high among the crew to increase the production of lake sturgeon at the Genoa National Fish Hatchery (NFH). Four restoration programs ranging throughout the upper mid-west initiated the expansion. Since 1994, Genoa has been working to restore native lake sturgeon populations in waters of Wisconsin, Minnesota, and Missouri which have declined due to habitat loss, pollution, and over-fishing. The species is considered either threatened or endangered in all but one (Wisconsin) of the

historical 20 states within its range.

Hatchery operations begin in May when wild lake sturgeon begin to spawn. Eggs are collected and transported to the hatchery where they are incubated for approximately 7 days. Initially the sturgeon fry take up very little space, but as they grow throughout the summer tank densities increase and the young fish have to be routinely spread out. By August, the lake sturgeon production program uses 2,000 square feet of tank space in three buildings. Genoa released about 20,000 five to six inch sturgeon in 2003. The number of fingerling sturgeon released jumped 75% to approximately 35,000 this year. Many volunteers from the "Friends of the Upper Mississippi River Fisheries Services" helped tag over 20,000 sturgeon which took approximately 80 hours to accomplish. Tagging identifies each fish as a hatchery stocking. This method aids fishery management biologists in determining the effectiveness of each restoration program by distinguishing between hatchery and wild fish.

Three lake sturgeon strains are reared at the hatchery. The Wolf River strain is stocked into Legend Lake of Wisconsin, the Wisconsin River strain is stocked into the Central Mississippi River near the State of Missouri, and the Rainy River strain is released into Minnesota waters. Rearing of multiple strains benefits restoration programs by releasing fish back into an area from which it originated. Although the sturgeon reared at the hatchery are stocked out at about six inches, lake sturgeon adults can attain weights of 200 pounds during their century long lifespan out in the wild, making these stockings a long term investment. The Genoa NFH

achieves its lake sturgeon objectives by partnering with the La Crosse Fisheries Resource Office as well as tribal and state agencies within the states of Wisconsin, Minnesota, and Missouri.

Nick Starzl, Genoa NFH



-USFWS

Genoa National Fish Hatchery staff raised 35,000 lake sturgeon in 2004 thanks, in part, to a new rearing facility and additional funding.

2004 Fish Distribution Season completed for the Jordan River National Fish Hatchery

The 2004 lake trout distribution season began on April 30 and was finished on July 1. The Jordan River National Fish Hatchery (NFH) released approximately 1.9 million lake trout of six strains weighing 162,362 lbs into lakes Michigan and Huron this year. Fish length averaged about 6.6 inches. Nearly 88% were released offshore from the offshore stocking vessel, M/V Togue. The remainder was stocked from shore.

This task required a large amount of coordination between the staffs of all three Great Lake's lake trout hatcheries and the crew of the M/V Togue. Everyone also shared in some level of personal sacrifice, as people worked long hours for many days without a break and some were away from home for extended periods to assist other hatcheries with their

fish distribution. Thanks to John Johnston and Steve Redman (Iron River NFH), and James Anderson, Tracy Roessner, and John Shuman (Pendills Creek NFH) for their assistance in driving distribution trucks. Thanks also to the Togue crew: Captain Mike Perry, Engineer Bob Bergstrom, and emergency hire Jim Page. *Wayne Talo, Jordan River NFH*



-photo by Claire Wisman

The Fish and Wildlife Service's offshore stocking vessel departs Charlevoix, Michigan with a load of lake trout. The fish will be stocked on offshore reefs in support of lake trout rehabilitation plans.

2003 Summary of Endangered Pallid Sturgeon Monitoring Efforts

Columbia Fishery Resources Office (FRO) continued its efforts to document survival, distribution, and habitat use of pallid sturgeon in the Lower Missouri River. Six wild pallids were collected along with 15 recaptures. This number of pallid captures dwarfs any previous year's catch. Information emerging from the recapture of stocked fish shows, in 195 miles of downstream sampling, that fish have only been captured within 60 miles of their stocking site. Also, more than one pallid sturgeon has been found at the same sampling site when successive samples were taken. Two adult pallid sturgeon were implanted this year with ultrasonic tags for tracking by the U.S.

Geological Survey Columbia Environmental Research Center. One of those fish was recaptured to extract last year's archival tag before re-implanting. Along with pallid sturgeon, 5,512 shovelnose sturgeon, 125 blue suckers, and 58 state endangered lake sturgeon were recaptured this year. Additional modifications to gear and sampling design in the coming year will continue to increase our ability to sample these rare, endangered fish.

Wyatt Doyle, Columbia FRO



-USFWS

Columbia Fishery Resources Office staff trawl for endangered pallid sturgeon in the Lower Missouri River.

Nursery Area discovered for Shovelnose Sturgeon and Paddlefish

During the months of June through September, Carterville Fishery Resources Office (FRO) examined habitat usage by young-of-the-year shovelnose sturgeon in the Middle Mississippi River. Carterville FRO extensively sampled the Rockwood Island area (River miles 103-99), a high priority acquisition by the Middle Mississippi River National Wildlife Refuge (NWR). In total, 52 shovelnose sturgeon from 1.0-5.7 inches were collected along with several adult sturgeon. Also of interest was the capture of 23 paddlefish ranging in size from 0.8-7.7 inches. Both shovelnose

sturgeon and paddlefish are considered interjurisdictional fish and are of special interest to fishery scientists.

Little information is available regarding the habitat usage by young sturgeon. The data collected will be of great use to refuge managers and biologists when considering future habitat modifications and restorations. Carterville FRO expended approximately 150 staff hours to complete six field sampling trips surveying habitat usage of juvenile shovelnose sturgeon along the Middle Mississippi River NWR.

Colby Wrasse, Carterville FRO



-USFWS

Carterville Fishery Resources Office staff captured this young-of-the-year shovelnose sturgeon in the Middle Mississippi River as part of a project to examine habitat usage of young sturgeon and paddlefish.

Historic Lake Trout Spawning Reefs in Lake Huron examined for Presence of Invasive Round Goby

Alpena Fishery Resources Office (FRO) examined three Northern Lake Huron reefs for the presence of round goby, an aquatic invasive species. The reefs were historically used by lake trout for spawning and are currently used for lake trout rehabilitation (stocking). Round goby have been documented in deep waters of Lake Huron and prey on eggs, possibly impacting lake trout

rehabilitation efforts where they are found. The reefs were surveyed with baited setlines in 2003 to target round goby - none were captured. In 2004, baited minnow traps and setlines were used to target round goby. No goby were captured in 2004.

Aquatic invasive species compete with native species for food and habitat resources. Efforts to provide detection and monitoring address "Aquatic Species Conservation and Management"- a priority of the Fisheries Program's Vision for the Future.

Anjanette Bowen, Alpena FRO



-USFWS photo by Aaron Woldt

Alpena Fishery Resources Office biologists Anjanette Bowen and Adam Kowalski deploy baited set lines targeted at capturing invasive round goby on Spectacle Reef in Northern Lake Huron. Round goby may prey on lake trout eggs and inhibit rehabilitation efforts.

Fish Population Estimate conducted for Whittlesey Creek

Four days of electrofishing surveys were conducted in Whittlesey Creek near Ashland, Wisconsin to obtain a population estimate for salmon and trout species. Assessment crews also evaluated survival of coaster brook trout egg and fingerling plants conducted in 2004. Staff members from the Wisconsin Department of Natural Resources (DNR), Ashland Fishery Resources Office (FRO),

Whittlesey Creek National Wildlife Refuge, and the Wild Rivers Chapter of Trout Unlimited joined efforts to collect this important fish population information. This survey is a part of a long range data set the Wisconsin DNR has been collecting on Whittlesey Creek and part of the experiment to establish a self-sustaining coaster brook trout population in the stream.

The crew focused on netting trout/salmon species. Once the fish were collected, length data was recorded and the fish were given a fin clip before they were returned to the creek. All netted brook trout were observed for fin clips and a majority of the fin clips from individual brook trout were saved for genetic analysis. During a second survey period, any fish collected were monitored for an identifying fin clip. A formula is then used to estimate the population size of the trout/salmon species netted based on the number of marked fish in the first run and the number recaptured in the second run. Additional population estimates will be conducted annually for the next nine years. Approximately 60 brook trout fingerlings that were stocked in June of 2004 were identified by a fin clip, and 30 young of the year brook trout that may have been from the egg stockings in December 2003 and January of 2004 were also netted. *Glenn Miller, Ashland FRO*

Survey Stations established at Isle Royale

Biologists Jonathan Pyatskowitz and Henry Quinlan from the Ashland Fishery Resources Office (FRO) surveyed the fish community and instream habitat in three streams on Isle Royale during a joint September trip with the Sea Lamprey Control staff from the Marquette Biological Station. The survey stations were established in Washington Creek, Big Siskiwit, and Little Siskiwit rivers to determine the status and monitor trends of the fish community and habitat. Michigan Department of Natural Resources (DNR) recently established a protocol and implemented a state-wide program to assess fish community status and trends in streams. These surveys will contribute to Michigan DNR's effort as well as provide fish community trend data for management and regulation recommendations to Isle Royale National Park.

Fish were captured by backpack electrofishing, measured, and returned to the stream. All trout captured were also weighed and marked. The mark-recapture of trout will be used to estimate population size. Habitat was characterized both instream and streamside. Instream measurements included estimates of substrate composition, width and depth at cross stream transects, and stream velocity. Streamside habitat was characterized by bank stability and dominant vegetation within 30' of the bank at cross stream transects. Fish surveys will be repeated yearly for three years followed by a three year break and then another 3 years of sampling. *Henry Quinlan, Ashland FRO*



-USFWS

Jonathan Pyatskowitz and Henry Quinlan survey the fish community and instream habitat in this stream on Isle Royale.

La Crosse Fishery Resources Office assists with the Wild Fish Health Survey

La Crosse Fishery Resources Office (FRO) staff and volunteers assisted the La Crosse Fish Health Center with their Wild Fish Health Survey on the Upper Mississippi River. Pools 3, 4, and 7 were sampled using boat electrofishing as a collection technique. Each fish over four inches were collected and then examined for disease and general health. The Wild Fish Health Survey is a nation wide effort which is focused on many of the nation's major watersheds. *Scott Yess, La Crosse FRO*



-USFWS

Fishery Resources Office staff from La Crosse, Wisconsin assisted the La Crosse Fish Health Center with the Wild Fish Health Survey by collecting fish with their electrofishing equipment.

La Crosse Fishery Office Projects highlighted at Fisheries Society Annual Meeting

Three La Crosse Fishery Resources Office (FRO) projects were highlighted in platform presentations made by biologists Ann Runstrom and Mark Steingraeber at the 134th Annual Meeting of the American Fisheries Society. Runstrom co-authored and presented a talk entitled "Lake Sturgeon on the Menominee Indian Reservation: An Effort towards Co-management and Population Restoration" during the Sturgeon Population and Rehabilitation Symposium. Steingraeber authored and presented a talk entitled "Monitoring for Asian carp in the Chicago Sanitary and Ship Canal" during the Bighead and Silver Carp Symposium. Steingraeber also co-authored and presented a contributed talk entitled "Identification of Blue Catfish and Channel Catfish as Hosts for Glochidia of the Endangered Winged Mapleleaf Mussel" during the Fisheries Conservation Session. These presentations were well received by audiences of fisheries professionals from around the nation and the world.

Mark Steingraeber, La Crosse FRO

Carterville Fishery Resources Office presents at the American Fisheries Society Meeting

Biologists from the Carterville Fishery Resources Office (FRO) made several contributions to the 134th Annual Meeting of the American Fisheries Society. Greg Conover gave a presentation on the development of a national Asian Carp Management and Control Plan as part of a symposium on invasive bighead and silver carp. Nate Caswell

contributed a presentation on the station's work on two projects investigating the fish community response to shoreline placement of dredge material. In addition, staff served as a session moderator during the symposium on bighead and silver carp, judged student presentations, and assisted in shuttling meeting participants.

Active involvement in this national professional society meeting benefits the station and staff in keeping current with fisheries science and technology. Recognition and performance as leaders in fisheries science assists the station in furthering the Fish and Wildlife Service's mission and benefiting the nation's aquatic resources.

Greg Conover, Carterville FRO



-USFWS

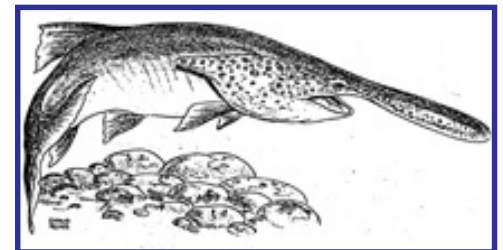
Several invasive Asian carp species have escaped into the Mississippi River Basin and have developed self-sustaining populations. Bighead carp (top) have been collected from 18 states and silver carp (bottom) from 12 states.

Carterville Fishery Resources Office performs Essential Role in the National Paddlefish Stock Assessment

Carterville Fishery Resources Office (FRO) was actively involved in coordinating the Mississippi Interstate Cooperative Resource Association (MICRA) National Paddlefish Stock Assessment throughout 2004. Twenty-three state natural resource agencies have been

actively involved in this Mississippi River Basin stock assessment project since 1995. The Carterville and Columbia FRO's have provided crucial coordination assistance to this project by operating a coded-wire tag processing center, managing a database to store data from across the basin, and providing data sets and summaries that are used to generate sub-basin level paddlefish management plans. Staff at the Carterville FRO processed and read more than 10,000 reference tags from wild and hatchery tagged paddlefish as well as extracted and read coded-wire tags from more than 500 recaptures. These data will be added to the national database, summarized, and provided back to the project participants at the next MICRA paddlefish sub-committee meeting in January 2005.

Greg Conover, Carterville FRO



Paddlefish

Public Use

Hatchery Fest 2004

Jordan River National Fish Hatchery (NFH) staff hosted their 1st Annual Hatchery Fest on Saturday, September 18th. Over 140 visitors passed through the five hour event. Michigan Department of Natural Resources staff from Oden State Fish Hatchery and the Bellaire Forest Management Fire Unit staffed displays and assisted with kids games. Smokey the Bear also made an appearance. Michigan Department of Environmental Quality staff presented a surface water runoff model called "Enviroscape" which was a popular stop for visitors. Fish and Wildlife Service staff from Pendills Creek NFH, Alpena Fishery Resource Office, and Seney National Wildlife Refuge, along with Jordan River staff provided information at the various interpretive displays and worked the kid's games. Hayride tours of the hatchery grounds were a very popular attraction. Of course, the children's games and various door prize donations were enjoyed by all. Thanks to all the volunteers and sponsors who helped make the event possible. We hope to advance the Fish and Wildlife Service's mission through the future leaders of natural resource conservation and management, our children. Thanks again to everyone!
Tim Smigielski, Jordan River NFH



-photo by Joanie Moore

Michigan Department of Environmental Quality staff present a surface runoff model called "Enviroscape" which was a popular stop for visitors at the 1st annual Hatchery Fest at the Jordan River National Fish Hatchery.

Friends of the Neosho National Fish Hatchery lose a Valued Member

The Neosho National Fish Hatchery (NFH) and the Friends of the Neosho National Fish Hatchery lost a dear friend and wonderful advocate with the passing of Joe Butler. He was the treasurer for the Friends Group at the time of his passing. Joe was a very familiar face around the hatchery. He worked with the kids on derby day teaching fly fishing every year since 1988. Joe was also president of MAKO fly fishers. Even though Joe isn't with us any more, he will be awarded volunteer of the year, in fact; in honor of Joe, the "Volunteer of the Year Award" will become the "Joe Butler Volunteer of the Year Award." The award will be presented to his family.
David Hendrix, Neosho NFH

Ozark Cavefish

Neosho National Fish Hatchery (NFH) continued to monitor and protect endangered Ozark cavefish that live in one of the spring boxes that serve as a water source for the hatchery. A live camera, located inside the spring-box, projects a live video to a monitor inside the visitor center. This allows the public to view this unique little fish in its natural environment. The Ozark cavefish is considered to be a water quality indicator in nature.

David Hendrix, Neosho NFH

Genoa Works the Circuit to bring Walleye Back to the River

The Masters Walleye Circuit held its third World Walleye Championship on Pools 9 and 10 of the Mississippi River in Southwest Wisconsin. Over the years, competitive fishing tournaments have been faulted with causing undue stress to the fish and returning the fish many miles away from the habitat from which they were caught. The local Falling Rock Walleye Club asked the Genoa National Fish Hatchery (NFH) to participate in the live release portion of tournament to ensure that fish were released with the most amount of care possible to ensure high survival and their return to the resource.

This year, over 45 teams were invited to participate in the "World Walleye Championship!" Only the nation's top walleye anglers were invited to participate. Over 200 fish were caught and released over the 4 day tournament. The Genoa staff was on hand to promptly take possession of the fish after weigh-in to recover in the station's 450 gallon distribution tank. Fish were

then promptly taken back to the river and released at two separate locations. Approximately 250 people attended the last day of weigh-ins at the Cabela's largest warehouse store in Prairie du Chien, Wisconsin. This cooperative effort between sportspeople and the Fish and Wildlife Service conserves local populations of walleye and provides a useful tool to reach people with a conservation ethic during a competitive fishing event.
Doug Aloisi, Genoa NFH



-USFWS

Genoa National Fish Hatchery (NFH) staff carefully returns walleyes to the Mississippi River. The fish were caught during a professional tournament. Genoa NFH presence at the event ensured a high survival rate of captured fish to protect a valuable resource.

Jordan River National Fish Hatchery participates in Family Hunting and Fishing Expo

Jordan River National Fish Hatchery (NFH) staff participated in the 9th Annual Northland Sportsman's Club Family Hunting & Fishing Expo. The Alpena Fishery Resources Office provided 50 floy tags for use in marking prize trout for the kid's trout fishing pond. Rick Westerhof, Wayne Talo, and Tim Smigielski staffed a booth providing information on lake trout rehabilitation, hatchery operations, sea lamprey control,

and aquatic invasive species. "Tattoo Timmy" spent most of his time applying tattoos of trout on the many children who visited the booth. About 1,400 children attended the event.

Tim Smigielski, Jordan River NFH



-USFWS photo by Rick Westerhof

Tim Smigielski "Tattoo Timmy" applies a trout tattoo to a child at the Northland Sportsman's Club Family Hunting & Fishing Expo. Jordan River National Fish Hatchery employees staffed a booth that provided information on lake trout rehabilitation, hatchery operations, sea lamprey control, and aquatic invasive species.

High School Students learn About Fisheries

Students at the Buena Vista High School in Saginaw, Michigan learned about fisheries first hand. Biologist Anjie Bowen from the Alpena Fishery Resources Office (FRO) met with approximately 50 senior and sophomore students, their teachers, and instructors at the Shiawassee National Wildlife Refuge (NWR) and at Buena Vista High School in Saginaw to demonstrate activities associated with fisheries and fish sampling. A variety of sampling gears including gillnets, trap nets, minnow traps, seines, and trawls were on display and their use discussed with students. Students also had an opportunity to participate in seining activities at the NWR. Fish were on hand for examination and identification. Fishery career

requirements were discussed as well. Education and outreach are important tools for the "Public Use" component of the Fishery Program's Vision for the Future.
Anjanette Bowen, Alpena FRO

New Website created for the Jordan River National Fish Hatchery

Jim and Claire Wisman began their volunteer assignment at the Jordan River National Fish Hatchery (NFH) the end of May. During their two month stay, they created a website that tells the Jordan River hatchery story. In addition, the site describes the educational, public use, and volunteer/intern opportunities the hatchery provides. The web address for the new site is: <http://midwest.fws.gov/jordanriver/>. The Wisemans are from Fayetteville, Arkansas. Jim taught chemistry at the University of Arkansas for 34 years and Claire was a librarian at a vocational high school. They retired in 1998 and have been volunteering at state and county parks, historic sites, and National Wildlife Refuges for the past six years. They have had a variety of experiences including being lighthouse tour guides, landscape and maintenance workers, site caretakers, and campground hosts. They spent the last two winters at refuges in Texas and Louisiana where their primary responsibility was also website development.
Claire Wisman, Jordan River NFH

Friends Group Meeting at the Neosho National Fish Hatchery

The Neosho National Fish Hatchery (NFH) hosted an annual Friends Group Picnic. It was a great turn out with State Representative Kevin Wilson in attendance. The picnic is always an excellent opportunity to fellowship and recruit new members to the Friends of Neosho National Fish Hatchery. In addition, Hatchery Manager David Hendrix attended the monthly Friends Group meeting. Issues like hatchery signage, annual picnic, recognition for the late Friends Group member Joe Butler, and an update on the future visitor center were covered. There were about 20 members in attendance.

David Hendrix, Neosho NFH



-USFWS photo by Ralph Simmonds

Hatchery Manager David Hendrix poses with State Representative Kevin Wilson at the Friends Group's annual picnic at the Neosho National Fish Hatchery.

Jordan River National Fish Hatchery hits the Air Waves

Leave it to Biologist Tim Smigielski to get the word out about the first annual Jordan River Hatchery Fest! Tim contacted Jim Miller from WMJZ Oldies 101.5 radio station in Gaylord, Michigan to do a Michigan Outdoor Adventures segment on the hatchery. Hatchery Manager Rick Westerhof did the 12 minute live broadcast about the hatchery, development of a Friends Group, and the upcoming First Annual Jordan River Hatchery Fest. Rick made subsequent appearances on the show as a live remote from the Hatchery Fest and a segment about the new Great Lakes stocking and hatchery product evaluation vessel, M/V Spencer F. Baird.

Rick Westerhof and Tim Smigielski, Jordan River NFH



-photo by Joanie Moore

Jordan River National Fish Hatchery Manager Rick Westerhof participated in several live interviews this summer discussing the hatchery and other Fish and Wildlife Service programs. A magnified view of Rick's cheek will show a temporary fish tattoo, not a smudge mark on the camera lens.

Cartersville Fishery Resources Office assists Boy Scouts with Merit Badges

Cartersville Fishery Resources Office (FRO) and Crab Orchard National Wildlife Refuge (NWR) assisted local Boy Scouts in

completion of the Fish and Wildlife Science Merit Badge. Requirements for the merit badge include a fishery science component. Personnel assisted 17 boys in a project to sample the fish community of a pond and dissect and examine the stomach contents of five different fish species. The Boy Scouts thoroughly enjoyed the day while learning about fishery science. Cartersville FRO expended 6-manpower hours to collect fish and assist Boy Scouts with pond sampling and fish dissection, to fulfill merit badge requirements.

Colby Wrasse, Cartersville FRO

Students Learned while having fun at "Non-Native Species Awareness Day"

Fish and Wildlife Service personnel participated in a program for 60 elementary students to become aware of non-native species and their impacts at the Seney National Wildlife Refuge in Michigan. Students learned, through sea lamprey running games and lectures, how invasive species affect bio-diversity and what we can do to prevent more from being introduced.

John Weisser, Marquette Biological Station



-GLFC

Gregg Baldwin leads a hands-on demonstration at the Wetland Education Fair at Moose Wood Nature Center. Sea Lamprey Management Program staff are actively involved in outreach efforts to educate the public on this invasive species.

Cooperation with Native Americans

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

Biologist Aaron Woldt from the Alpena Fishery Resources Office (FRO) attended and co-chaired the September meeting of the Modeling Subcommittee (MSC) of the Technical Fisheries Committee (TFC). The primary focus of this meeting is to generate preliminary 2005 harvest limits for lake whitefish management units in 1836 Treaty waters of lakes Huron, Superior, and Michigan. As stipulated in the 2000 Consent Decree, preliminary lake whitefish harvest limits must be calculated by the MSC, reviewed by the TFC, and presented to the parties to the decree by November 1 each year.

Preliminary lake whitefish harvest limits will be presented to the TFC for review on October 6. The MSC will complete final lake whitefish harvest limits and present them to the TFC at its December 1 meeting. Harvest limits, when reviewed by the parties and finalized, will become binding 2005 lake whitefish harvest limits for 1836 Treaty waters. These harvest limits will allow lake whitefish fisheries to be executed while still protecting the biological integrity of the lake whitefish stocks. This outcome is consistent with the Fish and Wildlife Service's goal of building and maintaining self-sustaining populations of native fish species while meeting the needs of tribal communities under the "Aquatic Species Conservation and Management" and "Cooperation with Native Americans" priorities of the Fisheries Program Vision for the Future.

Aaron Woldt, Alpena FRO



-USFWS

Jerry McClain holds a lake whitefish captured during a fishery assessment. Alpena Fishery Resources Office provides some of the data which is used in an analysis to develop a harvest limit for this native species in 1836 Treaty waters of the Great Lakes.

Chippewa Ottawa Resource Authority Walleye Assessment in 1836 Treaty Waters

Biologist Scott Koproski assisted the Chippewa Ottawa Resource Authority (CORA) with their annual juvenile walleye assessment of the St. Marys River near Sault Ste. Marie, Michigan. Using the Alpena Fishery Resources Office's (FRO) electrofishing vessel, Koproski and two CORA staff sampled four locations in the St. Marys River system (Waiska Bay, Lake Nicolet, Lake George, Sugar Island Side Channel) over four nights. The objective of this work is to determine the percent contribution of hatchery reared walleye to the St. Marys River walleye population and to index juvenile walleye abundance.

To differentiate hatchery produced walleyes, fish are immersed in oxytetracycline (OTC) prior to release. OTC leaves a mark on calcified structures like otoliths and vertebrae that can be detected in the lab. Data collected will also be used to determine appropriate stocking levels and

stocking locations for this system. Staff from the Alpena FRO has been assisting CORA with this walleye assessment for the past 12 years.

Scott Koproski, Alpena FRO

Ashland Fishery Resources Office takes on Fall Walleye Surveys

Frank Stone from the Ashland Fishery Resources Office (FRO) assisted the Great Lakes Indian Fish and Wildlife Commission in determining recruitment levels of juvenile walleye this fall. The objectives of these surveys are to estimate relative abundance of young-of-the-year walleye in several lakes of northern Wisconsin and Michigan. The data will be used in conjunction with spring population estimates to set walleye safe harvest levels for the 2005 spring spearing season. Frank will be conducting fishery surveys on a total of 32 lakes over an eight-week period.

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

Frank Stone, Ashland FRO

Leadership in Science and Technology

Higgins' Eye Pearlymussel Recovery in Action

On a beautiful autumn day in September, 3,000 cultured, sub-adult Higgins' eye pearlymussels were placed in their new home in the Upper Mississippi River (UMR). This joint effort by the U.S. Army Corps of Engineers St. Paul District, Minnesota Department of Natural Resources, Twin Cities Ecological Services Field Office, and Genoa National Fish Hatchery (NFH) marks the second attempt to place cultured sub-adult Higgins' eye into new habitat where no or few invasive zebra mussels are found. The invasive zebra mussel is the primary threat to Federally endangered Higgins' eye pearlymussels and other native mussels of the UMR. Of the 3,000 sub-adults used in this year's transplant, 700 were from the 2002 year class while the remaining mussels were from the 2003 year class. The day before the transplant, all mussels were given either an individual numbered tag or a black dot tag to aid in monitoring efforts in the future.

Like parents not quite ready to turn loose of their youngest child, biologists placed the 2003 sub-adults under three protective "blankets" made of wire or plastic screen. The blankets are designed to prevent large fish such as freshwater drum, carp, and suckers from preying upon the smaller sub-adult mussels. Next fall, biologists will transplant an additional 5,000 sub-adult Higgins' eye pearlymussels from the 2003 year class and possibly some sub-adults from the 2004 year class.

Tony Brady, Genoa NFH



-USFWS

Susan Rogers from the Twin Cities Field Office and Tony Brady from the Genoa National Fish Hatchery (NFH) tag endangered Higgins' eye pearlymussels. Roger Gordon, also from the Genoa NFH, measures and records lengths for future monitoring (Roger is standing in the background on the right side of the picture).

Reproduction of Invasive Sea Lampreys reduced in the St. Marys River

Trapping and the release of sterilized sea lamprey males reduced reproduction of invasive sea lampreys in the St. Marys River by about 80 percent in 2004. Traps operated by the Fish and Wildlife Service and its partner, the Department of Fisheries and Oceans, Canada, removed 27 percent of the spawning, sea lamprey population from the St. Marys River which borders the United States and Canada. Trapping in the river has three benefits for control; 1) removal of females and their eggs, 2) removal of males that compete with sterile males for mates, and 3) collection of additional males for sterilization and release back into the river. Further, trapping allows estimation of the population in the river and contributes to a lake-wide population estimate that is used to assess the effectiveness of the control program. About 26,000 male sea lampreys captured in 14 Great Lakes tributaries in the United States and Canada were

sterilized and released into the St. Marys River. The sterile-male-release technique reduces reproduction by causing the remaining females to waste their eggs in matings that will fail. The technique has reduced reproduction in the river since 1991. The Fish and Wildlife Service delivers an integrated program of sea lamprey management in United States waters of the Great Lakes as contracted agent of the Great Lakes Fishery Commission.

Michael Twohey & Jessica Richards, Marquette Biological Station

Small Lake Sturgeon occupy Unique Habitats in the St. Clair River

Alpena Fishery Resources Office (FRO) Biologist James Boase worked with Bruce Manny (U.S. Geological Survey Great Lakes Science Center), Mike Thomas (Michigan Department of Natural Resources 'DNR' Lake St. Clair Research Station), and Tim Purdy (Purdy Fisheries), to finish the last phase of field work pertaining to juvenile lake sturgeon in the St. Clair River. The purpose of the research, funded by the National Fish and Wildlife Foundation, was to determine habitats used by juvenile lake sturgeon in the St. Clair River. By implanting the young fish with ultrasonic transmitters and releasing them back into the St. Clair River, the rationale was that we would be able to follow those individuals to habitats where other larger groups of juvenile sturgeon would be found.

In the spring of 2004, Alpena FRO and partners were able to collect juvenile lake sturgeon (less

than four years old) and implant them with ultrasonic transmitters. Small baited setlines and small mesh gill nets were used to collect sturgeon for the project. Sturgeon ranged in size from 10 to 32 inches. A total of eight sturgeon were successfully captured and implanted over a period of three weeks. Following implantation, sturgeon were released into the North Channel of the St. Clair River. Implanted sturgeon were tracked daily using an ultrasonic hydrophone and receiver to determine movement patterns and habitats used. Six of the eight sturgeon were successfully tracked for the duration of the battery life of the transmitters, while two of the sturgeon were lost or experienced transmitter malfunction within 48 hours of release. Transmitters lasted an average of 50 days.

Movement data was entered into a geographic information system (GIS) mapping program allowing users to graphically display the results. Movement patterns indicated that the implanted sturgeon moved to four general locations in the North Channel of the St. Clair River. Once the batteries failed in the transmitters, we went to those locations and sampled using gillnets and setlines. Our goals were to recapture the implanted sturgeon to document their health and also to capture other juvenile lake sturgeon in those areas. Although we were successful capturing many new juveniles, we did not capture any of the fish that had been implanted; however, one implanted sturgeon was caught by a St. Clair River recreational fisher following our sampling. After the gillnetting and set-lining had been completed, we surveyed the four areas of the river using a high resolution underwater camera

connected to a video recorder. Multiple video transects were run to collect information about the habitat where most of the juvenile sturgeon were found. Preliminary results indicate that juvenile sturgeon are found at specific depths and on specific substrate types.

The waterways connecting lakes Huron and Erie support the largest stock of lake sturgeon in the Great Lakes. Population estimates by the Michigan DNR using mark-recapture methods lists the stock size at around 25,000 fish. What makes this area of the Great Lakes so productive for sturgeon is not fully understood. What is known is that some of the best spawning habitat in the Great Lakes is found in the connecting waterways. As a result, juvenile lake sturgeon are found in greater numbers in those locations.

James Boase, Alpena FRO



-USFWS

Jim Boase from the Alpena Fishery Resources Office (FRO) examines a juvenile lake sturgeon implanted with an ultrasonic transmitter. Partners are conducting a study to determine habitats used by juvenile sturgeon in the St. Clair River.

Lake Sturgeon Database

Biologist Adam Kowalski from the Alpena Fishery Resources Office (FRO) received a grant for \$11,000 from the Great Lakes Fishery Trust to construct a database containing tag numbers for native lake sturgeon for the entire Great Lakes Basin. Lake sturgeon are tagged by several agencies and universities in research studies and evaluations throughout the Great Lakes. This database will contain fields for tag type, tag number, and contact name, phone number, and email address of the tagger. Data will be collected from all entities that tag lake sturgeon. Kowalski has already built and formatted the database, entered all Alpena FRO data, and is soliciting data from other agencies. The final database will be posted on the internet to facilitate contact and information exchange between fishers who capture tagged lake sturgeon and the tagging agency.

This project will produce a database containing contact information for all tagged lake sturgeon currently at large throughout the Great Lakes. This database will improve the information sharing process between agencies and the general public who may encounter tagged lake sturgeon. Improved data sharing will lead to a better understanding of the population trends and movement patterns of lake sturgeon in the Great Lakes.

Adam Kowalski, Alpena FRO

Aquatic Habitat Conservation and Management

Lower Missouri River Side Channel Evaluation Project

In cooperation with the Big Muddy National Fish and Wildlife Refuge, Columbia Fishery Resources Office (FRO) staff assessed fish communities in side channels managed by the Refuge in the Lower Missouri River. Fish community structure and habitat use vs. habitat availability in relation to river discharge is the focus of this evaluation project. Lisbon chute, Cranberry chute, and Overton chute are the three side channels included in the study.

A hatchery reared, endangered pallid sturgeon was collected by trammel net in Lisbon chute near the outlet of the side channel. A pallid sturgeon was also captured by trammel net in the upper half of Cranberry chute. Lisbon chute (RM218) is approximately 2 miles in length and was the first naturally formed side channel (1996) in the Lower Missouri since the river was developed for flood control, navigation, and irrigation. Pallid sturgeon have not been collected in this side channel since 1999. A braided channel with swift velocities is characteristic of the upper half of the side channel and a defined thalweg with low velocities is characteristic of the lower half. Cranberry chute (RM280), a natural remnant, is approximately 0.5 mile in length with swift velocities throughout and is dominated by a sandy substrate. Blue suckers and shovelnose sturgeon are commonly found in and adjacent to this side channel chute. Both of these side channels, though very different, provide a diversity of habitat for a variety of native fishes. Fish community and habitat data collected from these side channels provide Refuge and

river managers with sound scientific information that can be used to identify opportunities to increase the quantity and quality of aquatic habitats for native fish.

Louise Mauldin, Columbia FRO



-USFWS

The Lisbon chute is a side channel in the Lower Missouri River. The Columbia Fishery Resources Office is evaluating this side channel along with two others. Fish community structure and habitat use vs. habitat availability in relation to river discharge is the focus of the evaluation project.

Fisheries Response to the Swan Lake Habitat Rehabilitation and Enhancement Project

Swan Lake is a large backwater slake of the Illinois River and part of the Two Rivers National Wildlife Refuge. Swan Lake was the site of a recent Habitat Rehabilitation and Enhancement Project (HREP) aimed at improving the fishery. Carterville Fishery Resources Office (FRO), along with Southern Illinois University Carbondale (SIUC) and the Illinois Natural History Survey (INHS), is part of a large project investigating the fisheries response to the project. Carterville FRO is examining the population age and size structure of both native and invasive species. Staff has removed bony structures from the heads (otoliths) from hundreds of native fish of four species (bluegill, black crappie,

white crappie, and freshwater drum) and performed age and growth analysis on these samples. For the invasive species (bighead and silver carp) component of the project, fin spines were sectioned using a low speed precision saw and examined to determine the age of each fish. Biologists have aged a great deal of the fish and are continuing to work on this time consuming task. Monthly reports are prepared that detail work progress. The project is scheduled to continue through 2006 and will provide valuable information for future HREP projects.

Colby Wrasse, Carterville FRO

September Construction for the Partners Program

September was one of the busiest on record for Partners for Fish and Wildlife Coordinator Heather Enterline. Seven wetlands totaling 33 acres were restored in six counties in Northern Michigan, and habitat was improved in a 300-ft. section of Hatlems Creek in Leelanau County by the removal of sediment and protection of the creek banks. Partner contributions provided a 1:1 match with \$29,005 of Fish and Wildlife Service dollars matched with a \$30,000 contribution from 5 private landowners. Due to dry weather conditions, construction took place without interruption. The completion of these projects spent the remaining 2004 funds allotted for the Alpena Fishery Resources Office (FRO) Partners Program.

Migratory birds will benefit from the restored wetland in Northern Michigan. The Hatlems Creek restoration will benefit a native population of brook trout, and will reduce the threat of

sediment smothering a population of Federally endangered Michigan monkey flower located on a floodplain of Hatlem's Creek, directly downstream of the restoration site.

Heather Enterline, Alpena FRO



-USFWS photo by Heather Enterline

Elsholtz Construction seeds a 66 foot earthen berm, newly created to restore a two acre wetland on the Alan Benson property in Wexford County, Michigan. This was one of seven wetlands restored totalling over 33 acres in six Michigan counties during September.

Fischer 04 Wetland Project

Construction has finished on the Fischer Wetland Project. This Partners for Fish and Wildlife project consists of one wetland restoration site with a total of one and a half wetland acres. The project took place in a 20 acre abandoned hay field. This wetland will enhance wildlife habitat on the adjacent upland and wetland areas as well, and the entire farm has been positively impacted. A Wetland Development Agreement was signed to protect a total of 10 acres for a period of 10 years. After the design was completed, the contract was awarded to Ritola Incorporated of Mason, Wisconsin. The landowner contributed to the success of this project through assisting with equipment operation.

Ted Koehler, Ashland FRO

Dredge Material Placement Studies

Carterville Fishery Resources Office (FRO) recently submitted the final report for a three year study of the effects of dredged material placement on fish to the U.S. Army Corps of Engineers (USACE) - Rock Island District. Environmental impacts of channel maintenance dredging on the Upper Mississippi River System have long been a concern of river resource managers. Under the terms of a recent Clean Water Act-Section 404 permit to discharge dredged or fill material into the waters of the United States, the USACE agreed to assess the ecological impacts of dredged material placement.

Representatives of the Fish and Wildlife Interagency Committee, Fish and Wildlife Service, and USACE agreed to assess the impacts of dredged material placement on several key biotic components (i.e., fish, benthic macro invertebrates, shoreline vegetation) over a period of several years at a location where dredged material placement was anticipated in the near future (i.e., experimental site) and at a similar location where dredged material placement had not occurred recently nor was planned for the near future (i.e., control site). A three year evaluation of fish community response to dredged material placement at Island 241 in the Upper Mississippi River Pool 12 was completed by the La Crosse FRO in 2001. The interagency 404 study team selected additional investigation sites at Hogback Island (RM 331.7 - 333.5 L) in the Upper Mississippi River (Pool 21) and at Senate Island (RM 130.0 - 133.1 L) in the Illinois River (La Grange Pool) to determine if the results from the

Island 241 investigation apply in other parts of the system.

Carterville FRO collected fish community samples monthly at both additional sites spring through fall over a three-year period (2001-2003). Final analyses for the Hogback and Senate Island data sets indicate that there were no significant changes in species richness, evenness, or diversity at either study site. These results, combined with the results of the Island 241 study, indicate that there are no short-term negative impacts to the fish community as a result of dredged material placement at existing placement sites. Carterville FRO is currently preparing a manuscript summarizing the project to submit for publication in a scientific journal. This report summarized the Year 3 results and the final results of a three-year study to determine the effects of dredged material placement on the fish community at sites on the Mississippi and Illinois Rivers.

Nathan Caswell, Carterville FRO

National Public Lands Day

The Alpena Fishery Resources Office (FRO) and Ottawa National Wildlife Refuge (NWR) hosted a volunteer event as part of National Public Lands Day that included a small scale habitat restoration project. This project is an extension of what was completed last year during the 2003 National Public Lands Day. A group of volunteers applied bank stabilization techniques along 160 feet of Crane Creek using soft engineering techniques. Crane Creek is a low gradient stream which flows through the Refuge and empties into Lake Erie through a flooded river mouth. The creek provides habitat for migratory birds and Lake Erie fish

species and is a vital link between the refuge and the lake. Bank stabilization techniques used in this project will enhance the habitat and reduce sedimentation into the creek without the use of large rock. Materials utilized for this project included coconut filter fabric, coir logs, and native live plants and seed mixes. The materials used are completely biodegradable, within a 5 year span, after the vegetation has been established. Examination of the 2003 site showed that the bank was dominated by thistle; although, native grasses such as big blue stem as well as forbs were also present. Within the next two years, the native vegetation is expected to out-compete the thistle and provide stabilization roots for the bank as well as food and cover for wildlife.

Biologist Susan Wells and Public Use Specialist Rebecca Hinkle planned this as a National Public Lands Day event to allow people the opportunity to become involved in habitat management of a small portion of the refuge. Individuals involved with the project responded with positive attitudes towards the restoration project and enjoyed the opportunity for the hands on work. Many of the volunteers were from the 2003 event and plan on returning for the 2005 event. This project provides an opportunity which is not usually offered to the public, and their efforts can be viewed from the walking trails. A sign will be erected commemorating their efforts. Plans have already begun between the Alpena FRO and Ottawa NWR to repeat the project on a larger scale in 2005. Some of the volunteers will be spending their winter growing native vegetation for next years project.

Susan Wells, Alpena FRO



-USFWS photo by Susan Wells

Ottawa National Wildlife Refuge (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.

Pre-project Data Collection for the Mississippi River Habitat Restoration Project

Maintenance of a 9-foot navigation channel in the Mississippi River has required considerable engineering modifications to the natural river system. Flows in the Middle Mississippi River have been redirected towards the navigation channel by the construction of wing dikes. This redirection of energy has caused the constriction of the river channel and has created a homogenous pattern of sediment deposition that limits the quality, quantity, and diversity of aquatic habitat types in the river. The U. S. Army Corps of Engineers (USACE) has proposed dike alterations within the Red Rock reach of the Middle Mississippi River as a method of increasing habitat diversity in this area. The Red Rock reach is a 7-mile stretch of the Middle Mississippi River (Miles 86.0-93.0) located approximately eight miles downstream from Chester, Illinois.

Construction of dike alterations by the USACE is expected to begin during 2005 or 2006. The Carterville Fishery Resources Office (FRO), in consultation with

the Marion Ecological Services Office, has begun limited pre-project data collection on habitat use by sturgeon in the Red Rock reach. Field sampling was conducted monthly from July through September using gill nets and a Missouri trawl. Preliminary data show that this reach of the Middle Mississippi River is lightly used by young-of-year and adult sturgeon during the warmest months of the year. Catches; however, are expected to increase as water temperatures drop and sturgeon begin to seek out deep holes associated with the wing dikes. This project provided preliminary data on existing habitat use by sturgeon in the Red Rock reach of the Middle Mississippi River.

Nathan Caswell, Carterville FRO

Healthy Fish Habitats Workshop

Project Leader Tracy Hill from the Columbia Fishery Resources Office (FRO) attended the Healthy Fish Habitats workshop held in conjunction with the 134th Annual Meeting of the American Fisheries Society. The purpose of the meeting was to establish national scientific criteria for measuring aquatic habitat health throughout North America. This workshop is an important component of the National Fish Habitat Initiative. The goal of the initiative is to focus national attention and resources on common priorities to improve aquatic habitat health. Once fully established and implemented, the initiative will foster geographically focused, locally driven, and scientifically based partnerships to protect, restore, and enhance aquatic habitats and help reverse declines in aquatic species.

Tracy Hill, Columbia FRO

Workforce Management

Wisconsin Private Lands Technical Session – 2004

The 2004 Wisconsin Private Lands Technical Session was hosted by the Ashland Fishery Resources Office (FRO) in Ashland, Wisconsin. This is a meeting of Private Lands staff from around the state and hosted by a different office each year. During the session, practices and ideas are shared and restoration projects toured. The knowledge gained from these sessions benefits everyone and the projects in which they are involved.

This year's session focused on stream and riparian restoration. A few of the projects visited included the Wickstrom Whittlesey Creek Instream Habitat Improvements, Whittlesey Creek National Wildlife Refuge Riparian Forest Restoration, Submerged Vane Projects on Fish Creek and the Billy Creek Fish Passage Culvert Replacement. Participants learned about the many instream, riparian, and north woods issues along with practices and projects happening in the Lake Superior basin of Wisconsin.

Ted Koehler, Ashland FRO



-USFWS

Fish and Wildlife Service Private Lands staff from Wisconsin met at the Ashland Fishery Resources Office for their 2004 Wisconsin Private Lands Technical Session.

Fish Culturists and Big Rivers Station Project Leaders meet La Crosse, Wisconsin

Fish culturists from Neosho, Iron River, and Genoa National Fish Hatcheries (NFH), and the La Crosse Fish Health Center, joined together at the La Crosse Fishery Resources Office (FRO) for a meeting to share information about ongoing activities and research at the different stations. Some of the subjects covered were the new Fish Health Policy, Neosho NFH's Pallid Sturgeon restoration activities, Genoa NFH's new sturgeon building, feed trained bass at Genoa, and the trial use of a fish tagging trailer at Iron River. Two science support projects were discussed; one conducted between U.S. Geological Survey's (USGS) Jeff Rach and Iron River NFH that covered the use of hydrogen peroxide to treat lake trout eggs, and; the other conducted by USGS's Jeff Rach and Genoa NFH on the effects of fish therapeutants on mussel larval (glochidia) encysted on the gills of fish.

Project leaders from all the Big River Stations in Region 3 as well as Fisheries leaders from the Regional Office met to discuss fisheries activities. Both Groups were treated to a fish fry at Genoa NFH, sponsored by the Friends of the Upper Mississippi Fisheries Services. Friend's members met and listened to speakers such as Tracy Hill from the Columbia FRO on work being done on the Missouri River, Dave Hendrix from the Neosho NFH on work with pallid sturgeon, and Assistant Regional Director for Fisheries Gerry Jackson on the value and importance of a Friends Group to fishery offices.

Tony Brady, Genoa NFH

Region 6 Hydrologist visits Northern, Lower Michigan

To better identify the need for a hydrologist in Region 3, Meg Estep, Region 6 Hydrologist, is participating in a month long detail to view the type of habitat work being conducted here. Alpena Fishery Resources Office (FRO) biologists Susan Wells and Heather Enterline toured the Thunder Bay River watershed with Estep, Refuge Facilities Manager Rob Miller, and Regional Pilot Brian Lubinski. The group viewed and discussed a variety of watershed restoration issues within the watershed. Three fish passage and one large stream bank erosion project site were visited. Strategies for the stream bank erosion site were discussed extensively and several ideas were suggested by Estep and Miller. A written report will be provided by Estep at the end of her detail with her suggestions for each of the facilities and projects she visited. Ideas on how to address prioritization, from a hydrological view, were discussed for the fish passage projects. A goal of the Alpena FRO fish passage program is to identify projects that offer the greatest resource benefit with a limited amount of funding. Being able to utilize the knowledge and expertise of a hydrologist would assist all stations involved in watershed restoration programs.

This is an example of inter-regional collaboration to improve information sharing and optimize habitat restoration efforts in Region 3.

Susan Wells, Alpena FRO

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Fish Lines

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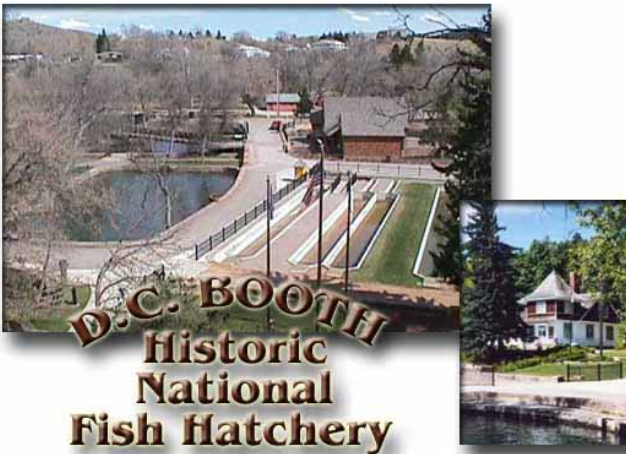
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