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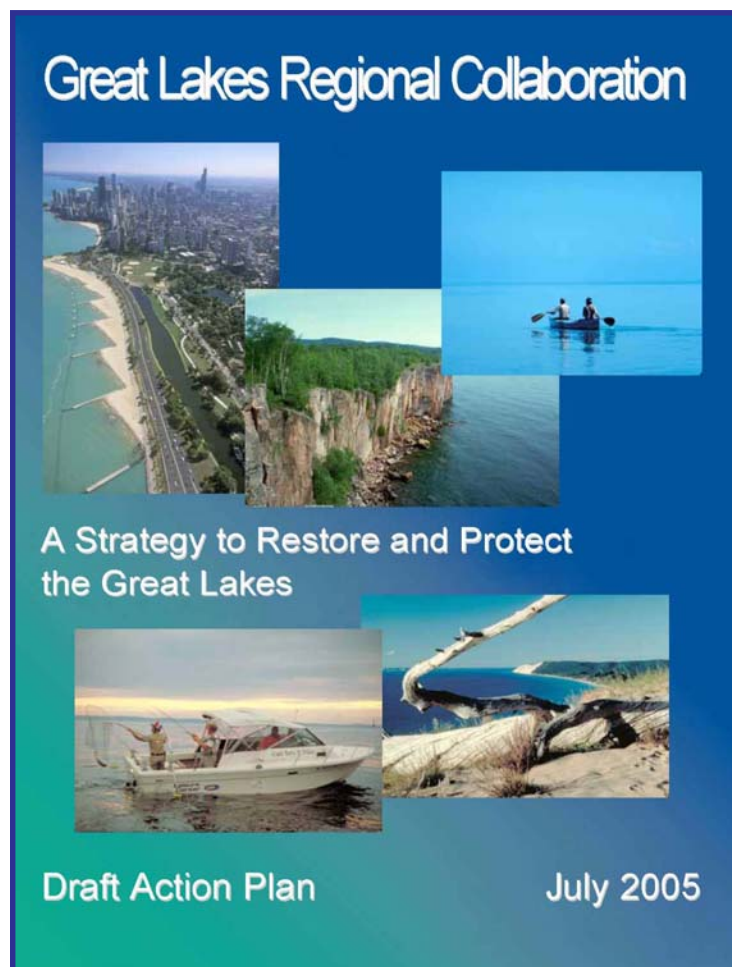
U.S. Fish & Wildlife Service

Fish Lines

Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems

Great Lakes Regional Collaboration: Draft Strategy to Protect and Restore the Great Lakes has been Released



(See the “*Feature Story*” on Page 5)

To view other issues of “*Fish Lines*”, see our Regional website at: (<http://www.fws.gov/midwest/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

Region 3 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. Aquatic Invasive Species

Aquatic invasive species are one of the most significant threats to fish and wildlife and their habitats. Local and regional economies are severely affected with control costs exceeding \$123 billion annually. The Fisheries Program has focused its efforts on preventing introductions of new aquatic invasive species, detecting and monitoring new and established invasives, controlling established invasives, providing coordination and technical assistance to organizations that respond to invasive species problems, and developing comprehensive, integrated plans to fight aquatic invasive species.

4. 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.

5. 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.

6. 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.

7. 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.

8. 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.

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.

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Click here to visit our Fisheries Web Site

Great Lakes - Big Rivers Region Fisheries Field Offices

National Fish Hatcheries

The Region's National Fish Hatcheries primarily focus on native fish restoration/rehabilitation by stocking fish and eggs, such as pallid and lake sturgeon and by developing and maintaining brood stocks of selected fish strains, such as lake trout and brook trout. Hatcheries also provide technical assistance to other agencies, provide fish and eggs for research, stock rainbow trout in fulfillment of federal mitigation obligations and assist with 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 conduct assessments of fish populations to guide management decisions, perform key monitoring and control activities related to invasive, aquatic species; survey and evaluate aquatic habitats to identify restoration/rehabilitation opportu-

nities; 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 Partners for Fish and Wildlife and the Great Lakes Coastal Programs; provide coordination and technical assistance toward the management of interjurisdictional fisheries; maintain and operate several key interagency fisheries databases; provide technical expertise 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. In other Regions of the Service, FRO's are also referred to as Fish and Wildlife Management Assistance Offices.

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



List of Acronyms

DNR- Department of Natural Resources
 FHC- Fish Health Center
 FRO- Fishery Resources Office
 NFH- National Fish Hatchery
 NWR- National Wildlife Refuge

Feature Story - Great Lakes Regional Collaboration: Draft Strategy to Protect and Restore the Great Lakes has been Released

The Great Lakes are not as great as they once were. The size of the lakes and their basin, and the complexity of ecology, political boundaries, and natural resource management programs have all taken their toll. In May 2004, the President signed Executive Order 13340, creating a cabinet-level Great Lakes Interagency Task Force and requiring a “regional collaboration of National significance” to facilitate cooperation among the United States and Canadian federal governments, Great Lakes states, local communities, tribes, and other interests in the Great Lakes basin.

On July 7, during ceremonies held in the Duluth-Superior area, the Great Lakes Regional Collaboration released its draft “Strategy to Protect and Restore the Great Lakes” for public comment. The strategy is available on the Web at www.glrc.us, as are the locations, dates, and times of public meetings that will be held throughout the summer and fall. Comments on the draft plan may also be submitted via the website.

The draft strategy is a true team effort. Eight Strategy Teams developed action plans focusing on priorities of the Council of Great Lakes Governors. Key recommendations submitted by each strategy team follows.

Aquatic Invasive Species - Immediate action to stop the introduction of more aquatic invasive species can prevent significant future ecological and economic damage to the Great Lakes. Recommended steps include passing comprehensive federal aquatic invasive species legislation; preventing aquatic invasives introductions by ships through ballast water, canals and waterways, and other means; restricting trade in live organisms; establishing a program for rapid response and management; and conducting education and outreach.

The *Draft Strategy to Protect and Restore the Great Lakes* is available on the Web at www.glrc.us, as are the locations, dates, and times of public meetings that will be held throughout the summer and fall.

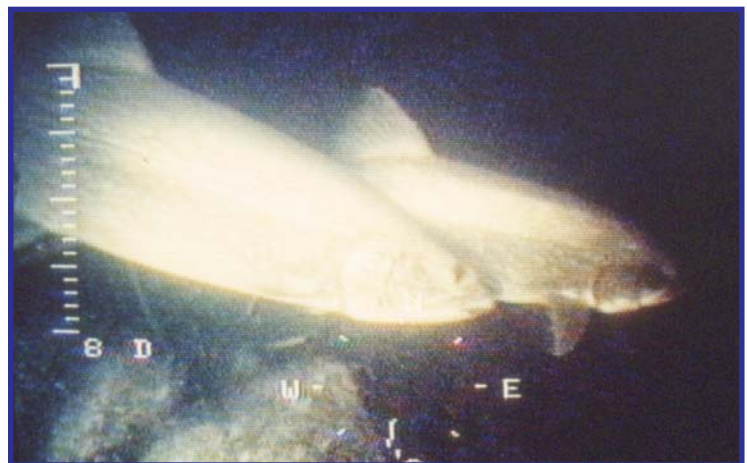


-GLFC

“Invasive Sea Lampreys Attached to a Native Lake Trout”

At least 162 non-native, aquatic species are established in the Great Lakes, and an average of one newly established, non-native species is discovered there every eight months. Not all non-native species cause damage and are considered invasive, but economic losses in the Great Lakes Basin from aquatic invasive species (AIS) were estimated in 2005 at \$5.0 billion per year. More than 40% of threatened and endangered species in the United States are at risk primarily because of impacts from invasive species.

Habitat and Species - There is a need for significantly more habitat conservation and species management in order for the plants and animals of the Great Lakes to survive. This team’s recommendations focus on native fish communities in open waters and near shore habitats; wetlands; stream habitats in Great Lakes tributaries; and coastal shore and upland habitats.



-USGS photo by Greg Kennedy

“Lake Trout on a Reef”

The Joint Strategic Plan for Management of Great Lakes Fisheries, adopted in 1981 and updated in 1985 and 1997 by all state, provincial, tribal, and federal agencies with fisheries management authority in the Great Lakes, focuses on restoring self-sustaining stocks of fishes like lake trout.

Coastal Health - Near shore waters and coastal areas are the region's largest source of drinking water and see a variety of recreational activities. To minimize the risk to human health from contact with near shore waters, actions needed include making improvements in wet weather discharge controls from combined and sanitary sewers; identifying and controlling releases from indirect contaminant sources; implementing a "risk-based approach" to manage recreational water; protecting drinking water sources; and improving the drinking water infrastructure. To solve these problems, this team recommends full funding of the state revolving funds for wastewater and drinking water infrastructure and a new grant program.



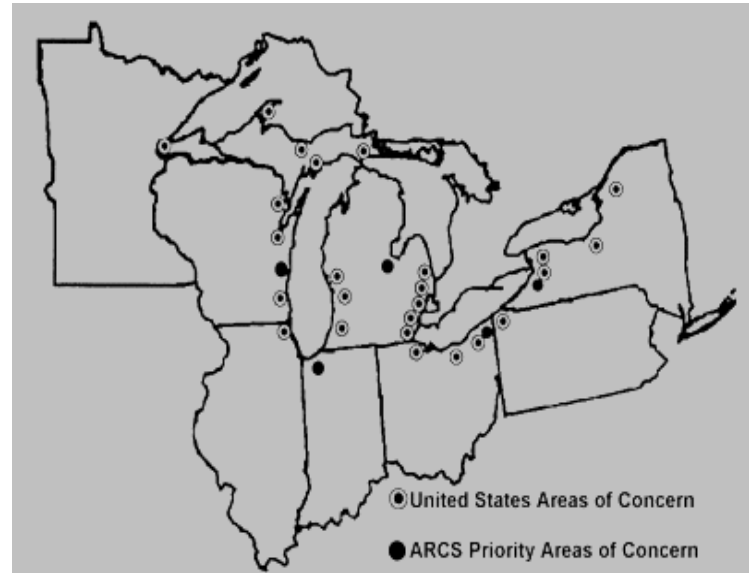
"North Shore Palisade Area on Lake Superior"

Contact with nearshore waters of the Great Lakes can pose a risk to human health. As the primary source of drinking water, supplier of fish for both personal and commercial benefit, and recreational outlet for millions of United States residents, the nearshore waters of the Great Lakes should pose a *minimum* risk to human health.



Aerial view of industry on the Fox River, Wisconsin

Areas of Concern – More than 15 years ago, the United States identified the 31 most contaminated locations on the Great Lakes under the Great Lakes Water Quality Agreement with Canada. None of these polluted areas have been restored to date. To remedy this situation, a dramatic acceleration of the cleanup process at these areas of concern (AOC) is needed. Actions recommended include amending the Great Lakes Legacy Act to increase funding and streamline the process; improving federal, state, and local capacity to manage the AOC cleanup; creating a federal-state AOC coordinating committee to work with local and tribal interests to speed-up cleanups; and promoting clean treatment and disposal technologies and better beneficial use and disposal options.



-EPA

"Map of Areas of Concern in the Great Lakes Region"

In 1987, the United States and Canada committed to restoring the most degraded portions of the Great Lakes basin. Great Lakes states and provinces worked through the International Joint Commission to formally designate 43 Areas of Concern (AOC) in the Great Lakes. Those AOC were identified using 14 types of human-use impairments and ecological impacts such as degradation of fish and wildlife habitat.

Nonpoint Source - Nonpoint sources of pollution contribute significantly to problems in the areas of concern, as well as to other locations in the Great Lakes, including the open waters. Actions to address these problems include restoring wetlands and buffer strips; improving cropland soil management; implementing comprehensive nutrient and manure management plans for livestock operations; and improving the hydrology in watersheds.



-USDA/NRCS

“Slump Erosion”

Water pollution from nonpoint sources is a substantial contributor to the impairment of waters across the Great Lakes basin. Strategies implemented have failed to reduce this pollution source to levels necessary for adequate protection and restoration of river and lake water quality and fish and wildlife habitats in the Great Lakes.

Persistent Bioaccumulative Toxics - Toxic pollutants continue to stress the Great Lakes ecosystem, posing threats to human and wildlife health. Persistent toxic substances such as mercury and PCBs remain in fish at levels that warrant advisories and restrict consumption throughout the basin. To address this ongoing problem, actions are needed to eliminate the discharge of mercury, PCBs, dioxins, pesticides, and other toxic substances; prevent new toxic substances from entering the Great Lakes; institute a comprehensive research, surveillance, and forecasting capability; create consistent, accessible and easy to understand fish consumption advisories; and enlist the general public in efforts to reduce the generation and use of toxic substances throughout the Great Lakes.

- Persistent Bioaccumulative Toxics include:
- mercury
 - PCB's
 - dioxins and furans
 - cancelled pesticides

Indicators and Information - With a resource as large and complex as the Great Lakes ecosystem, it is essential to have a sound information base and representative indicators to understand what is happening and communicate with all stakeholders. To improve the current situation, this team recommended coordinating monitoring, information management, representative indicators, research, and communications under a coordinating council; supporting the U.S. Integrated Earth Observation System and the Integrated Ocean Observing System as key components of the Global Earth Observation System of Systems; doubling funding for Great Lakes research over the next five years; establishing a regional information management infrastructure; and creating a Great Lakes communications workgroup to manage scientific and technical information.

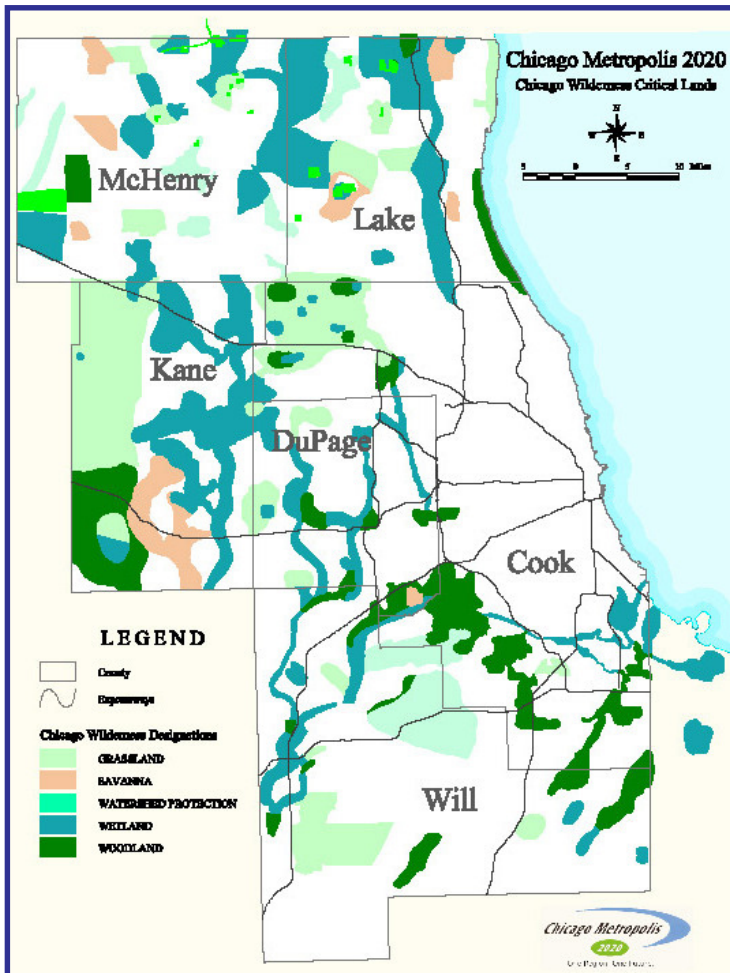


-USFWS

“Stream Survey on Isle Royale”

Great Lakes research programs must be comprehensive, strategically coordinated, and meet needs of decision makers. A scientifically-validated set of indicators for the Great Lakes ecosystem must be fully developed and implemented to evaluate progress toward restoration of the Great Lakes. The Fish and Wildlife Service will need to work with partners to implement recommendations for designing assessment programs, conducting those programs, and analyzing and reporting on results.

Sustainable Development - Ensuring the long term sustainability of the Great Lakes will require a number of significant changes in the way we approach such things as land use, agriculture and forestry, transportation, and industrial activity. To start this process, this team recommends adapting and maintaining programs that promote sustainability across all sectors; aligning governance to enhance sustainable planning and management of resources; and building outreach that brands the Great Lakes as an exceptional and competitive place to live, work, invest, and play.



"Map of the Chicago Wilderness"

The draft desired state of the Great Lakes Regional Collaboration is a Great Lakes basin where human activities support a strong and vibrant economy, meeting societal and cultural needs in balance with a diverse and resilient ecosystem. The Chicago Wilderness is a good example of developing partnerships and implementing sustainable planning and management of resources.

Great Lakes Regional Collaboration - The Great Lakes strategy (including its appendices) is nearly 600 pages, and contains more recommendations and details. Partners are invited to submit their comments via the website. Suggestions will be addressed after the close of the comment period on September 9, and the final strategy is to be released in December.

The Fish and Wildlife Service wishes to thank the 1,500 participants in the collaboration, and we especially wish to thank the co-chairs of the strategy teams and those who drafted materials for the strategy. Much work remains to be done to refine and improve the strategy; however, the real work will begin when the strategy is implemented. The Fish and Wildlife Service looks forward to helping implement the strategy to protect the many wonderful and beneficial natural resources of the Great Lakes, and restore those resources and associated benefits to society that have been degraded or lost.



For more information on the Great Lakes Regional Collaboration, visit <http://www.epa.gov/greatlakes/collaboration/>

Partnerships and Accountability

Biologists Consult, Develop Protocol to Minimize Effects of Granular Bayluscide Assessments

Staff from the Sea lamprey Control program consulted with personnel in the Fish and Wildlife Service's Twin Cities, Green Bay, East Lansing, and Reynoldsburg Ecological Services Field Offices to complete Section 7 reviews on proposed granular Bayluscide assessments to comply with the Endangered Species Act. All agreed that conservation measures are in place to protect seven federal and state-listed endangered, threatened, candidate, and special concern species in Minnesota, Wisconsin, Michigan, and Ohio during 2005.

Based on federal reviews and state permits received, a protocol was implemented to minimize the effects of assessments on 20 rare organisms and a natural feature in 21 of 40 streams scheduled for assessments. The protocol includes a list of stream treatments, known locations, Geographic Information System (GIS) maps, procedures to protect and avoid disturbance, and fact sheets for each rare species.

The federal and state-listed species assessed included the bald eagle, dwarf lake iris, eastern massasauga rattlesnake, Houghton's goldenrod, piping plover, Pitcher's thistle, and eastern prairie fringed orchid.

Thirteen additional state-listed endangered, threatened, and special concern species and one natural feature were described during the treatment permitting process for Minnesota, Wisconsin, Michigan, and Ohio. These are the American bittern, black tern, Blanding's turtle, cerulean warbler, common loon, common tern,

Forster's tern, king rail, least bittern, northern madtom, osprey, pugnose shiner, wood turtle, and Great Lakes marsh habitat.

The sea lamprey program works closely with partners to control populations of invasive sea lampreys in Great Lakes tributaries. These efforts protect the fishery and related economic activities in the basin worth an estimated benefit of \$4 to \$6 billion per year to the region. The Fish and Wildlife Service delivers a program of integrated sea lamprey control in the United States waters of the Great Lakes as a contracted agent of the Great Lakes Fishery Commission.

John Weisser, Marquette Biological Station



-USFWS

The federally endangered bald eagle (state listed as threatened in Michigan) was one of numerous species that required a section 7 review, concerning proposed sea lamprey assessments, to comply with the endangered species act.

Brood Stock Contaminants at Issue

The brood stock at Sullivan Creek National Fish Hatchery (NFH) remain at the station for most of their lives. When they reach a certain age, they are "retired," usually to an inland lake specified by the Michigan Department of Natural Resources (DNR). However, in the last year,

retirement has been postponed because of concern over contaminants found in the fish food. For brood stock, the controversy is a big deal since they live all their life in the hatchery and eat nothing but fish food. A testing program and protocol for retired brood stock is being developed. Until then, no brood stock will be stocked into any lakes until the contaminant levels can be tested. Last summer, the Fish and Wildlife Service destroyed several thousand "retired" and extra brood stock to provide space for future brood stock.

This comes as a disappointment to the Michigan DNR because Sullivan Creek NFH has provided thousands of extra and retired brood stock to inland lakes in the Upper Peninsula of Michigan over the last decade. After Dave DeVault of the Fish and Wildlife Service's Contaminants program contacted Bob Day of the Michigan Department of Environmental Quality (DEQ) to explain his concerns, Day provided funding to test ten of the brood stock from the hatchery. The results should be in well before June 2006 to determine the current level of contamination in those 10 fish. If the results are favorable, a decision to stock the retired fish may be made.

Tracy Roessner, Pendills Creek NFH

Senator Levin Meets with Fish and Wildlife Service, Geological Survey

U.S. Senator Carl Levin of Michigan and his regional representative, Harold Chase, met with personnel from the Fish and Wildlife Service and U.S.

Geological Survey (USGS) in June aboard the research vessel Sturgeon to discuss dock space for federal vessels in Cheboygan, Michigan. USGS Great Lakes Science Center representatives were Director Leon Carl, administrative officer Steve Longacre, and ship operators Ed Perry and Joe Spicciani. Marine engineer Bob Bergstrom, Jordan River NFH manager Rick Westerhof, and administrative technician Clarice Beckner represented the Fish and Wildlife Service.

The Fish and Wildlife Service leases dock space from Ryba Marine for the M/V Togue, while the USGS docks the R/V Sturgeon and R/V Grayling on its property. Unfortunately, the current space will not accommodate the M/V Baird, under construction in Louisiana, which will replace the M/V Togue. The USGS and Fish and Wildlife Service have been working with the City of Cheboygan to lease 66 feet of dock space for the federal vessels. This space is currently being leased to a local ferry operator. Two other dock space options were discussed: building a 100-foot boat slip up West Second Street, or upgrading the Ryba Marine dock space located east of the USGS property. The second option would require some modifications, but appears to be more cost effective.

Senator Levin was also briefed on Fish and Wildlife Service hatchery operations and USGS programs, and he toured the R/V

Sturgeon. The Senator was very interested in the marking and tagging programs conducted at lake trout facilities, and he was invited to mark and tag lake trout at Jordan River next year.

Clarice Beckner, Jordan River NFH



-USFWS photo by Clarice Beckner
Senator Carl Levin met with personnel from the Fish and Wildlife Service and U.S. Geological Survey for a briefing on inadequate dock space at Cheboygan, Michigan. Pictured in front of the U.S. Geological Survey vessel R/V Sturgeon are (Lt. to Rt.) Steve Longacre, Dr. Leon Carl, Rick Westerhof, Senator Carl Levin, Joe Spicciana, and Ed Perry

Fishery Commissioners Tour Sea Lamprey Control Program

On June 15-17, the two newly appointed commissioners for the Great Lakes Fishery Commission, Michael Hansen and Robert Hecky, toured the Fish and Wildlife Service's Sea Lamprey Control Program, led by staff at the Marquette and Ludington Biological Stations. The Commissioners saw several demonstrations, including electrofishing for larval sea lamprey, trapping for adult sea lamprey, sterilization of male adult sea lamprey, pheromone field trials, and a lampricide treatment. This was a unique opportunity for the Commissioners to witness the many functions within sea lamprey control, working together to accomplish the program mission.

The Fish and Wildlife Service delivers a program of integrated sea lamprey control in the United

States waters of the Great Lakes as a contracted agent of the Great Lakes Fishery Commission. The sea lamprey management program continues to work closely with partners to control populations of invasive sea lampreys in tributaries of the Great Lakes to protect the fishery and related economic activities in the basin worth an estimated benefit of \$4 to \$6 billion per year to the region.

Jessica Richards, Marquette Biological Station



-GLFC
Jessica Richards from the Marquette Biological Station presents sea lamprey information during a recent Great Lakes Fishery Commissioner tour.

Doyle Talks Muddy Water to Smallmouth Alliance

The Missouri Chapter of the Smallmouth Alliance was the target of biologist Wyatt Doyle's efforts to promote fisheries conservation and enhance partnerships with sportsmen's and women's groups. This was the second opportunity Columbia FRO had to speak to this small, but influential group, which boasts membership of more than 300 anglers and conservationists.

The Missouri River was the topic for this year's presentation and Doyle used his four years of experience as a Missouri River biologist to outline the many issues facing this waterway in the St. Louis area. He used more than 50 images of enormous and unusual

fish to show the diversity of the system and express the importance of protecting it for future generations. Alliance members expressed gratitude for the brief glimpse into the Big Muddy and invited Doyle to speak again next year.

Doyle also spoke to this group in 2004, giving an overview of the Fish and Wildlife Service's mission in outreach while introducing some of the many services the agency offers. At that time he introduced malacologist Andy Roberts of the Columbia ES office, who showed rare underwater video of mussels attracting fish with their life-like lures and releasing their larvae onto the gills of river fishes that serve as hosts during this critical part of a mussel's life cycle.
Wyatt Doyle, Columbia FRO

Coded-wire Tags Removed from Michigan DNR Lake Trout

During the last week of June, biologists Adam Kowalski and Scott Koproski from the Alpena Fishery Resources Office (FRO) extracted and read coded-wire-tags (CWTs) from lake trout for the Michigan DNR. Microscopic metal tags (CWT's) are placed in the snouts of juvenile lake trout at hatcheries. Hatchery personnel remove the fish's adipose fin so that tagged lake trout can later be identified by anglers and researchers.

Biologists collected lake trout samples during the Marquette Fishery Research Station's 2004 Lake Superior lake trout surveys and froze them for later analysis. Kowalski removed and read 98 tags from 102 lake trout samples. The DNR will use the information from these tagged fish to monitor Lake Superior lake trout populations and update annual catch-at-age models used to set

safe harvest limits in 1836 Treaty waters.

CWT's are extracted by cutting lake trout snouts into smaller and smaller pieces until the tag can be seen and removed. A metal detector is used to help find tags, which are then examined with a microscope. Each tag's unique number is recorded and compared to stocking records, yielding information such as stocking location, stocking date, fish age, fish strain, and hatchery of origin.
Adam Kowalski, Alpena FRO



-U.S. Geological Survey

Pictured are coded wire tags and a centimeter ruler. The tags are placed in the snouts of lake trout prior to stocking in the Great Lakes. The tags yield information such as stocking location, stocking date, fish age, fish strain, and hatchery of origin.

Technical Group Discusses Spring Rise on the Missouri

Columbia FRO Project Leader Tracy Hill and biologist Wyatt Doyle attended the second meeting of the Missouri River Spring Rise Pallid Sturgeon/Fish and Wildlife Technical Group. The group's tasks include developing Missouri River Spring Rise options for consideration by the plenary group (a broad range of stakeholders on the Missouri River) as well as providing the plenary group with technical information needed to develop a spring rise proposal. The technical group proposed three models for a spring rise for consideration by the plenary group. A spring rise on the Missouri River would be a significant increase in water flows

that is generally designed to accomplish specific goals such as shifting sedimentation to create new sandbars and islands, providing habitat for pallid sturgeon, and transporting nutrients. The technical group will further refine the models and establish the level of monitoring necessary to evaluate the spring rise event before its third and final meeting.

Tracy Hill, Columbia FRO



-USFWS photo by Jeff Finley

Geno Adams and Corey Lee set a fyke net in Diana Scour Hole on the Overton Bottoms Unit of the Big Muddy National Fish and Wildlife Refuge during a period when flood waters connected the scour hole to the Missouri River.

Genoa NFH Fosters Partnership with Forest Preserve District

The staff of Genoa NFH hosted the Forest Preserve District of DuPage County, Illinois, which hopes to set up a small-scale hatchery to culture non-game fish and mussels for restoration efforts. Members of the Forest Preserve toured the hatchery and learned about all aspects of fish and mussel culture. They also took in a mussel infestation demonstration, observed newly transformed juvenile mussels, and saw techniques used for trout and lake sturgeon culture. By sharing information with groups such as the Forest Preserve, Genoa NFH is breaking ground for future partnerships.

Tony Brady, Genoa NFH

Aquatic Species Conservation and Management

Five Endangered Pallids Captured in 48 Hours

On June 20 and 21, Columbia FRO biologists Corey Lee and Wyatt Doyle captured five pallid sturgeon at the Lisbon Bottoms unit of the Big Muddy National Fish and Wildlife Refuge (NFWR), where in 1997 pallid sturgeon reproduction on the Lower Missouri River was documented for the first time in 50 years.

During the flood of 1993, a chute formed naturally at Lisbon Bottoms and continued to evolve into a chute-sandbar complex during flooding in 1995 and 1996. The Columbia FRO and geomorphologists from the U.S. Geological Survey have studied Lisbon Chute since 1997, watching the chute's species composition change over time. In 1997, biologists witnessed history at Lisbon Bottoms when they collected a larval pallid sturgeon there.

On June 20, 2005 biologists captured two hatchery raised pallid sturgeon and two possible wild pallid sturgeon in Lisbon Chute while trammel netting and otter trawling. Another pallid sturgeon was captured adjacent to Lisbon Chute on the main river while trammel netting on June 21. These efforts mark the greatest number of pallid sturgeon captured in one day and in one area for the Columbia FRO. The Columbia FRO has also captured more juvenile pallid sturgeon at the Lisbon Bottoms unit than anywhere else on the river.
Corey Lee, Columbia FRO



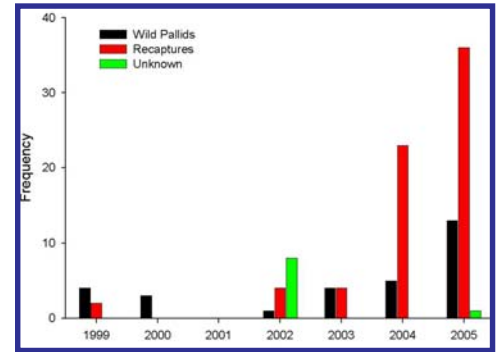
-USFWS

Biologist Corey Lee of the Columbia FRO displays one of five young pallid sturgeon captured during a fishery assessment at the mouth of Lisbon Chute Unit of the Big Muddy NFWR.

End Comes for a "Wild" Pallid Sturgeon Season

June 30, 2005 marked the end of the 2004-2005 pallid sturgeon sampling season on the Missouri River. For Columbia FRO, this turned out to be a record-setting season for pallid sturgeon captures on the Lower Missouri with 37 captures, shattering the old record of 25 captures set in 2003-2004. Over the past decade, Columbia FRO has experienced an increase in the number of pallid sturgeon captured, most notably in the number of wild pallid sturgeon (those not stocked or tagged). Since 1999, Columbia FRO has captured 30 wild pallid sturgeon, of which a record 13 were collected this past season. This topples the old record of five captured during the 2003-2004 season. Wild pallid sturgeon are important in brood stock development and indicate the presence of a naturally reproducing river population. In years to come, biologists at Columbia FRO will be looking to wild pallid captures as an indication of the successful recovery of this federally endangered species.

Nicholas Utrup, Columbia FRO



-USFWS graph by Nick Utrup

Pallid sturgeon captures from 1999 to June 30, 2005 on the Missouri River from river mile 0 to 250. These captures included: wild pallids (no tags or markings when captured); recaptures (coded wire tagged fish from 1992, 1997, and 2004 stockings and elastomer tagged hatchery fish); and pallids of unknown origin (fish that were not scanned for tags).

Adult Pallid Sturgeon Returned to the Missouri River

Biologists collected pallid sturgeon from the Missouri River last spring for use as brood stock at South Dakota's Gavin's Point NFH. Six fish were collected near Weldon Springs, Missouri, and taken to the hatchery, where staff attempted to spawn them. Unfortunately, all six fish were immature and none were ready to spawn. In order to gain as much information from these fish as possible, USGS biologist Aaron Delonay implanted ultrasonic transmitters in each sturgeon prior to release into the Missouri River near St. Helena, Nebraska. The transmitters will enable USGS and Nebraska Game and Fish Commission biologists to track their movement and habitat selection, and assist Columbia FRO in recapture during next year's spawn. Telemetry data from endangered pallid sturgeon will help the Fish and Wildlife Service recommend future habitat modifications and improvements.
Andy Plauck, Columbia FRO

Getting Some Culture at Neosho NFH

The first two phases of a new pallid sturgeon culture building at Neosho NFH are complete. Phase one included design, while phase two included construction of the floor, base walls, underground plumbing, mixing tower, and one deep water well. Preliminary test results showed that the well should produce about 800 gallons per minute of flow.

The pallid sturgeon being reared in existing facilities are doing great. More than half have been elastomer- and passive-integrated-transponder tagged. All are to be stocked in the Missouri River at Miami, Missouri. Meanwhile, the 2005 year class of pallid sturgeon have arrived! Approximately 45,000 eggs came from Gavins Point NFH. There will not be an inventory until fish reach two inches since pallids are very sensitive at this early life stage and we try to avoid handling the young fish.

Roderick May, Neosho NFH



-USFWS

A new fish culture building is being constructed at the Neosho NFH to rear federally endangered pallid sturgeon.

Now Showing: "Swim Free"

The last of the yearling lake trout at Pendills Creek NFH were loaded onto trucks on May 17, 2005 and driven to meet the offshore stocking vessel, M/V Togue, in Charlevoix, Michigan. This is the earliest date in recent years that all of the yearlings from Pendills Creek NFH have been stocked, though the distribution season isn't over quite yet. Pendills Creek NFH will continue to provide a truck and driver to Jordan River and Iron River NFH's until both stations finish stocking lake trout. Pendills Creek NFH stocked about 803,623 lake trout, or 41,936 pounds, into Lake Michigan, exceeding its goal of 750,000 for the second year in a row. This number would have been even higher if 10 percent of the fish not been taken by predation by nearby forest critters.

Having the raceways empty so early is an advantage to Jordan River, since most of the fish raised at Pendills Creek NFH are initially hatched and reared to two to three inches at Jordan River NFH. If the fish are held too long, crowding can be a problem in the rearing tanks. Seven small trucks will bring the remaining fry up to Pendills Creek NFH, lightening the load at Jordan River NFH.

Jordan River NFH released 1.12 million lake trout into lakes Huron and Michigan during June for lake trout rehabilitation. These fish averaged 6.94 inches in length (10 fish per pound). Jordan River NFH's total number released thus far for 2005 is 1.95 million lake trout. This is 100,000 fish over their annual production goal.

Tracy Roessner, Pendills Creek NFH

Wayne Talo, Jordan River NFH

Future Lake Trout Brood Stock Come Out and Say "Hi"

Saratoga NFH in Wyoming is the primary provider of the lake trout strain, Lewis Lake for the Great Lakes lake trout rehabilitation program. The Sullivan Creek NFH in Michigan is Saratoga's back-up in case anything goes wrong. During the fall of 2004, the crew at Saratoga crossed their adult Lewis Lake strain of lake trout to make a new future brood stock lot of eggs.

In four more years, these little Lewis Lakes will become mature enough to tell the girls from the boys, and hopefully a year after that they'll be producing quality lake trout eggs.

Once the eggs developed to the eyed stage (the eyes of the fish are visible through the egg shell) about 10,000 were packaged and shipped to Sullivan Creek NFH in an insulated container. Upon arrival at their new home at Sullivan Creek NFH, the eggs were disinfected with an iodine solution as a precaution against any bacteria that might have hitched a ride. After disinfection, the eggs were placed in incubator trays to continue development. The little Lewis Lakes began to hatch out in February, 2005. At this stage they are called sac fry because of the huge yolk attached to their stomachs.

In March, still with their slowly shrinking yolk attached, the future brood stock fish were transferred into small rearing tanks so they could try out their swimming techniques. The first of them began to swim around in the water column instead of scooting on the bottom of the rearing tank with their big yolk sac around early March.

James Anderson, Sullivan Creek NFH

Genoa NFH Meets Walleye Requests despite Cold Snap

Despite chilly temperatures, Genoa NFH staff met all fingerling walleye requests in 2005 to support fishery management programs. Staff netted for brood stock during three weeks in early spring on the Mississippi River to collect and spawn adult walleye. After seven to 10 days in incubating jars at the hatchery, the eggs hatched and millions of fry swam into a holding tank, awaiting their future destination. The fry and eggs were shipped to states including Arkansas, New Mexico, Iowa, Oklahoma, and Texas. Some of the fry were stocked in hatchery ponds for further culture.

In April and May, biologists stocked two rearing ponds with 150,000 walleye fry each; however, due to the weather, the survivability in the individual ponds were noticeably different. Pond 10 was stocked earlier than pond 9 and endured cold frosty mornings with air temperatures of 20 degrees overnight. Water temperature below 50 degrees Fahrenheit leads to a lack of food organisms for walleye fry and is the most likely reason for the poor survival. Conversely, pond 9 was stocked only a week later and bypassed the early cold snap. The walleye harvest from pond 9 turned out to be one of Genoa NFH's most successful ponds ever, with a total production of 80,000 1.7-inch fish.

The walleye averaged 1.7 inches after 46 days of growth, and were harvested June 9 and June 14, 2005 for a total of 87,000 fish. These walleyes were used for further culture programs, stocked into Iowa state waters, and a few provided to the Upper Midwest Environmental Sciences Center to support scientific studies. The

walleyes that remain on the hatchery will grow to six inches by October and will be stocked on federal and tribal lands as well as national wildlife refuges in the Midwest. Because of increased growth, the fish have a much higher chance of surviving once they are stocked.

Pond culture is much more variable than rearing fish in tanks, so often an excess of fish are stocked in case one pond does not meet expectations. Culturists must try to control many variables, such as the water quality, predators, and excessive weeds. Nevertheless, weather is out of our control and can make or break the outcome of pond culture. This year, the affects of pond temperature were very apparent. *Nick Starzl, Genoa NFH*

Brood Stock Collected for Genoa NFH

Biologists collected more than 150 fish to be used as captive brood stock for rearing largemouth bass and bluegill at Genoa NFH. These fish are free of any serious diseases and will produce thousands of young fry and fingerlings that will be stocked into managed waters. La Crosse FRO volunteers and staff assisted Genoa NFH staff with brood stock collections by electrofishing in two small reservoir lakes in Southwest Wisconsin. The fish were previously cleared by the La Crosse Fish Health Center (FHC), who tested the fish for a range of fish diseases. Volunteers Gil Hanesworth and Ian Morse-Nicholson netted 87 largemouth and 62 bluegill, which Nick Starzl relocated to a holding pond at Genoa NFH.

Scott Yess, La Crosse FRO



-USFWS

La Crosse FRO volunteers and staff use an electroshocking boat to collect brood stock for the Genoa NFH. Over 150 largemouth bass and bluegill were captured which will provide thousands of fry and fingerlings for various culture programs.

Biologists Begin Michigan Islands NWR Survey

Alpena FRO biologists Scott Koproski, Adam Kowalski, Susan Wells, and Anjanette Bowen began field work this spring on a Michigan Islands NWR fishery survey. Koproski received funding through the Fish and Wildlife Service's Challenge Grant Program to obtain fishery data on islands located in Thunder Bay, Lake Huron. This is a cooperative project between the Michigan DNR and the Fish and Wildlife Service.

Two of four islands where the biologists collected fishery data are part of the Michigan Islands NWR; however, all four islands are important to coastal fish species and recreational fishing opportunities in the Thunder Bay area. These islands provide important feeding, spawning, and nursery habitat to a variety of fish species, but the status of these populations is unknown. The goal of this study is to obtain baseline data to monitor any future trends in these populations based on disturbances such as habitat alteration, invasive species, and cormorant predation.

Alpena FRO staff set two to four 1,000-foot variable mesh gill net gangs on each of the four islands. They set a total of 6,000 feet of gill net, but catch rates were low because algae fouled the nets, clinging to the gill net twine and causing the nets to collapse. The presence of algae has been a problem in the past, but the problem was more severe this year. As a result, the gill nets did not provide a representative sample of the fish species utilizing the islands. The project is postponed until late August in the hope that algae will be less abundant at that time of year.
Scott Koproski, Alpena FRO

Another Large Lake Sturgeon Captured at the Mouth of the Osage River

In the past eight years of sampling in the Lower Missouri River, lake sturgeon more than 40 inches long have simply not been found—until recently. This spring, Columbia FRO collected a 53-inch lake sturgeon, only to outdo themselves on the final day of sampling by catching a 58 1/2-inch sturgeon.

On June 30, 2005 the final day of trawling for the Missouri River pallid sturgeon sampling season, staff netted the 58 1/2-inch lake sturgeon while stern trawling with a 16-foot otter trawl near river mile 130. It appeared to be of wild origin and in good physical condition. There was a small scar on the fish's right operculum, indicating it may have lost a tag. According to Project Leader Tracy Hill, operculum tags were frequently used in lake sturgeon research in the Great Lakes and there are no records of operculum tags having been used in the Lower Missouri River. The large lake sturgeon collected the

previous month had been fin clipped, another technique once used on the Great Lakes. This evidence raises the question of whether these fish could have migrated from the Great Lakes. Age estimates, based on compiled lake sturgeon data, predicted that this fish is 25 to 30 years old. The sturgeon was measured, tagged, and released. Later that same day, a smaller lake sturgeon was netted in the same area.

A state endangered species in Missouri, lake sturgeon populations were strong until over fishing for the caviar trade decimated the populations in the late 1890s. Recovery efforts by the Missouri Department of Conservation have resulted in stocking 230,000 lake sturgeon since 1988. These fish are tagged with pit tags, coded wire tags, or both.
Casey Berghold, Columbia FRO



-USFWS

This 58 1/2 inch lake sturgeon is the largest ever collected by the Columbia FRO. It was captured using a 18' otter trawl at the confluence of Osage and Missouri rivers.

Taking a Videans Creek Expedition

Pendills Creek NFH, located in Michigan's Eastern Upper Peninsula, raises 750,000 lake trout yearly to support the rehabilitation program in lakes Michigan and Huron. Though the hatchery gets its name from the

creek along which it resides and once used as a main water source, it now receives its water from nearby Videans Creek. While the hatchery is equipped to use either creek as a water source, the Videans Creek water has been used since the late 1950s when it was found to be several degrees colder, a quality that lake trout prefer.

Videans Creek is a small creek that begins at a natural spring at the base of one in a series of ravines at an elevation of 700 to 800 feet. While the water quality from Videans Creek is excellent for raising lake trout, it requires much observation and work, including control of beaver populations and beaver dam removal. In the last 15 to 20 years, the beaver problem has escalated and the water quality slowly deteriorated. With the demands for raising more lake trout, the sub-par water quality has taken its toll on the environment in which the fish are raised.

In order to document the effects on the water quality and the environmental degradation that has occurred from inadequate beaver management, Biologist James Anderson hiked the length of Videans Creek and captured digital photos. During his trek, Anderson noted at least 22 beaver dams in various states of repair, with four extremely large dams reaching from one bank to the other, approximately 300 yards wide. These dams impound large amounts of water, causing the temperature to rise several degrees before it reaches the hatchery. Also, there is the fear of one of the larger dams breaking and bringing downstream large amounts of sediment and debris.
James Anderson, Sullivan Creek NFH

Aquatic Invasive Species

Destroying Lampreys to Save Lake Trout

From April through June, the Fish and Wildlife Service's Sea Lamprey Control program treated 14 Great Lakes streams — five in Lake Superior, five in Lake Huron, and four in Lake Michigan — with lampricide to eliminate larval sea lamprey populations. These treatments destroyed an estimated 5,317,300 invasive sea lampreys, including about 50,100 that would have become parasites in 2005 and entered the Great Lakes, where each would have been capable of killing upwards of 40 pounds of lake trout during its year-long life in the lakes.

Dennis Lavis, Ludington Biological Station

Summer Activities of the Sea Lamprey Control Program

The Fish and Wildlife Service delivers a program of integrated invasive sea lamprey control in the United States waters of the Great Lakes as a contracted agent of the Great Lakes Fishery Commission. The sea lamprey management program continues to work closely with partners to control populations of sea lampreys in tributaries of the Great Lakes to protect the fishery and related economic activities in the basin (an estimated benefit of \$4-6 billion/year to the region). Following is a list of summer activities that contribute toward sea lamprey control in the Great Lakes.

- Staff attended a pre-construction conference on June 29, 2005 in Sault Ste. Marie, Michigan, with the U.S. Army Corps of Engineers and Luedtke

Contracting to discuss plans for constructing a permanent sea lamprey trap at the Edison Sault Electric plant in the St. Marys River.

- The larval assessment team worked with Ludington assessment personnel to complete biological collection surveys in support of the pheromone research initiative (25,000 to 30,000 sea lamprey larvae) primarily from the Salmon Trout and Brule rivers. As a result, our U.S. Geological Survey partners at Hammond Bay Biological Station now have the required number of sea lampreys to collect pheromones.
- Larval assessment personnel completed lampricide (TFM) spray applications in backwater areas of the Ford River to complement the stream treatment during June.
- United States and Canadian biologists completed lentic surveys, using the RoxAnn seabed classification device, on the Manistique, Magnetewan, Batchawana and Chippewa rivers.
- Nearly 21,000 sea lampreys were delivered to the Sterile Male Facility during June. Of them, nearly 16,500 were males that were sterilized and released in the St. Marys River.
- Control unit employees successfully treated the Pine, Ford, Cedar, and Iron rivers.
- Ludington staff mailed news releases to the media and

health agencies announcing Bayluscide surveys of the Jordan River and Monroe Creek and the upcoming treatments of Grace and Gurney creeks. News releases mailed from Marquette announced treatments of the Iron and Salmon Trout rivers and Bayluscide surveys of the Manistique, AuTrain, Carp, Dead, Gogomain, Menominee, and Suamico rivers and Harlow, Albany, McKay, and Trout creeks.

- A sea lamprey control presentation was given in Traverse City, Michigan, to the Inland Seas Education Association of Suttons Bay. Approximately 30 people attended, and the question and answer period lasted well over an hour after the video. Both live larvae and adult specimens of sea lampreys were displayed.
- Staff conducted two "Monsters of the Great Lakes" weekly presentations featuring the sea lamprey control video at the Ludington State Park. The first show had over 60 participants and the second around 40 participants. Staff displayed live larval lampreys and answered many questions.



-New York State Department of Environmental Conservation

Sea Lamprey

La Crosse FRO and Partners Participate in Goby Roundup and Asian Carp Corral

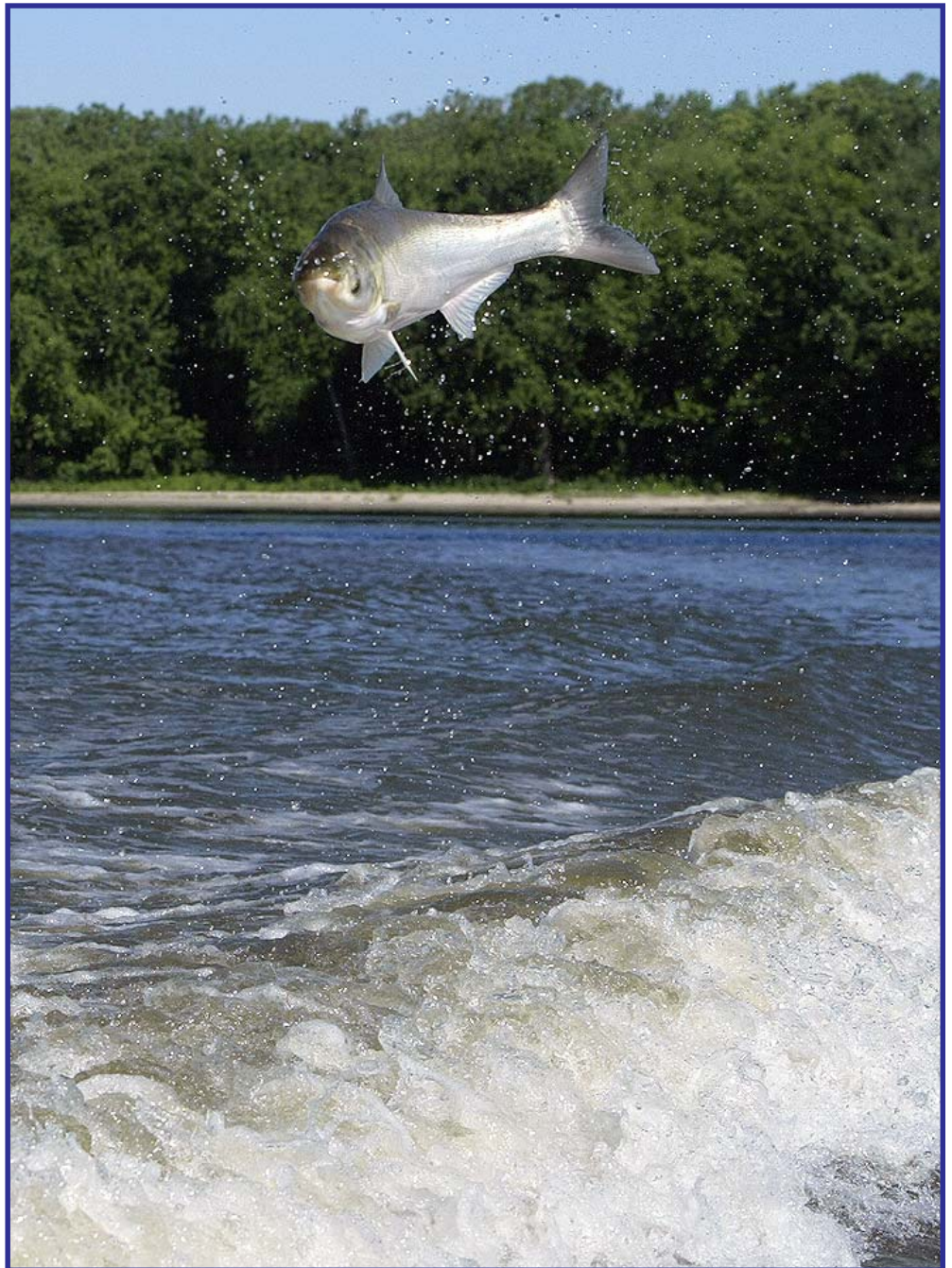
Sunny skies and warm weather accompanied nine Fish and Wildlife Service field staff; volunteers; and local, state and federal organizations on the 10th annual Goby Roundup and 4th annual Asian Carp Corral in the upper third of the Illinois Waterway System, June 13 to 17, 2005. Led by La Crosse FRO, the Chicago Field Office, Carterville FRO, La Crosse FHC, National Conservation Training Center, Mark Twain NWR, Columbia FRO, Ashland FRO, and Illinois River NWR proved essential in monitoring both the invasive round goby and Asian carp species including the bighead carp, silver carp, and grass carp. This four-day survey included a fleet of 12 boats on approximately 180 miles of river to determine range and relative abundance of the invasive species.

Survey results show that round goby have not progressed any further downstream, nor have Asian carp progressed any further upstream; however, Asian carp densities have increased in existing locations. Oriental weatherfish, another fish originally from Asia was also sampled during the survey. Populations of this invasive fish have increased in abundance during the 10-year survey, especially from 2003 to 2005. La Crosse FRO and its partners will continue to monitor distributions of all invasive fish in the Illinois River System.

*Heidi Keuler, La Crosse FRO
Louise Mauldin, Columbia FRO
Gary Czipynski, Ashland FRO*



Round Goby



-Chris Young - State Journal Register

"An Asian carp leaps out of the boat wake on the Illinois River"

Public Use

Another Successful Year for the Rainbow Trout Program at Neosho NFH

Neosho NFH met its commitment to stock 17,115 rainbow trout (5,868 pounds) into Lake Taneycomo during the month of June. The rainbow trout are stocked into the lake as mitigation for a federal dam, which made the river too cold and only supports trout.

Fish culture water is supplied by four springs from around the city of Neosho, Missouri. Great water quality from the springs and excellent survival rates allowed the Fish and Wildlife Service to transfer 12,660 (3,224 pounds) surplus fish to the state of Oklahoma. Another 400, 15-inch trout were used for fishing derbies.

Roderick May, Neosho NFH



-USFWS

It all starts with an egg! Neosho NFH's rainbow trout program relies on high quality, disease free eggs that are provided through the National Brood Stock Program.

Public Fishing Lake Surveyed at Fort Leavenworth Military Post

From June 6 through 8, 2005 biologists from the Columbia FRO, along with Fort Leavenworth Natural Resources Director Matt Nowak, surveyed Smith and Merritt Lakes on the installation. Residents of the post actively use these lakes for recreational fishing, and the survey created a little excitement,

prompting an article in the local newspaper, the *Fort Leavenworth Lamp*. A two-page article with interviews and pictures of the survey work was published on June 30, 2005.

Cliff Wilson, Geno Adams and student employee, Ryan Tilley, used trap nets, mini-fyke nets, and electrofishing to survey the fish populations in the two lakes. Both lakes were found to contain large populations of small stunted bluegill and bluegill hybrids. Only ten largemouth bass weighing greater than one pound were sampled, the largest of which weighed 5.41 pounds. Anglers are currently prohibited from keeping fish because of the post's catch and release regulations. After the data from this survey are analyzed, management recommendations will be developed to improve recreational fishing opportunities in the lakes.

Cliff Wilson, Columbia FRO

Desoto Lake and the Mossy-back Cat

In cooperation with the Iowa DNR, Columbia FRO biologists Louise Mauldin, Jeff Finley, and Geno Adams sampled the DeSoto Lake fish community in June. The highlight of the trip was a flathead catfish that was captured during daytime electrofishing just down from the DeSoto NWR visitor center. This amazing fish was over 51 inches long and weighed around 60 lbs. This flathead is likely a remnant resident of a 1980's stocking event. Though ageing structures were not taken, it was evident this fish was an old timer having been around so long it had algae growing on its back.

The biologists used modified fyke nets and both day and

nighttime electrofishing. They captured a variety of different fish species, including bluegill, crappie, channel catfish, freshwater drum, largemouth bass, and gizzard shad. Data collected during this sampling exercise will be used to develop management options allowing for increased size structure of largemouth bass and increased abundance of crappie.

DeSoto Lake is an 800-acre oxbow lake located on DeSoto NWR on the border between Iowa and Nebraska. It was renovated in the early 1980s and current sampling is conducted in an effort to fulfill one objective of the Fish and Wildlife Service's recreational fishing goal: "Provide increased expertise and assistance to help develop and implement fish and other aquatic resource management plans on National Wildlife Refuges." After the lake's renovation in the early 1980s, flathead fingerlings were stocked in an effort to control invasive populations of bullheads.

Geno Adams, Columbia FRO



-USFWS photo by Louise Mauldin

Geno Adams and Jeff Finley from the Columbia FRO hold a flathead catfish sampled by electrofishing at Desoto Lake. The 60 pound fish was probably stocked in the early 1980s after the lake was renovated.

Pendills Creek and Sullivan Creek Hatcheries Participate in Spring Show

For the first time, Pendills Creek and Sullivan Creek NFH's participated in the Sault Saint Marie, Michigan, Area Chamber Of Commerce's annual Spring Show at Lake Superior State University. The event combines a craft show, gun show, local non-profit agency awareness booths, and local business booths. The Pendills Creek and Sullivan Creek booth featured a table with hatchery displays, brochures, fish coloring books, children's sunglasses, a sea lamprey display, a display of "name the fish parts", and candy for the kids. The display showed pictures and information on lake trout rehabilitation in the Great Lakes and the mission of the Fish and Wildlife Service. The sea lamprey display received much attention, especially from children who could not believe just how ugly a sea lamprey can be. Adults who visited the booth were full of questions about where the hatcheries are located and whether tours are available. Biologists James Anderson and Tracy Roessner, administrative technician Debbie Jones, and hatchery manager Curt Friez staffed the booth.

Many people from Sault Saint Marie, Brimley, Detour, Rudyard, and other local towns were glad to see the fish hatcheries represented. Pendills Creek and Sullivan Creek are planning to make the Spring Show an annual outreach event.

*Crystal LeGault-Anderson,
Sullivan Creek NFH*



-USFWS

Sullivan Creek NFH biologist James Anderson explains the Great Lakes Lake Trout Rehabilitation program to interested attendees of Sault St. Marie, Michigan's Spring Show.

Hatchery Tour Season Arrives!

As the end of the school season approaches, students are eager to continue learning outside of the classroom. Rising outdoor temperatures and early life stage fish rearing operations attract many tour groups to Genoa NFH. During the month of May, hatchery staff welcomed 90 students and adults from Horicon NWR and Wisconsin schools, including Stoddard Middle School, Lincoln School, and Immanuel Lutheran School.

Tours begin with an introduction to the hatchery's history and information about some of the ongoing restoration programs. The information is supplemented with hands-on experience throughout the tour. Students were able to see lake sturgeon yearlings (up to a foot long) and two-year-olds (up to two feet long) and assist with feeding and care of lake sturgeon fry (newly hatched) and fingerlings. In addition, coldwater trout culture is always a hit with hatchery tours, especially at feeding time. Thousands of two- to three-inch rainbow trout fingerlings and three-inch coaster brook trout fingerlings that will be used in restoration projects in Lake

Superior were on hand. During tours, students are allowed to inspect hatchery ponds for large and smallmouth bass fry, yellow perch, black crappie, bluegill, and walleye and northern pike fingerlings. Genoa's freshwater mussel recovery building provides students with a unique opportunity to learn about endangered mussels and some techniques biologists use to restoring wild mussel populations to the upper Mississippi River and its tributaries. Tours at Genoa NFH provide students with real-life experiences in aquaculture, biology, and hatchery operations to help them decide the direction they may take as they continue their education and contemplate future careers.

Jennifer Walker, Genoa NFH



-USFWS

Jennifer Walker demonstrates the different types of nets used during Genoa NFH's spring fish collections to a high school group.

Ashland FRO's Web Page Averages 18,000 Hits per Month

The Fish and Wildlife Service's Web tracking system has shown that Ashland FRO's Internet users averaged 18,000 hits per month between January and May. If we were to equate this demand (18,000) to phone calls during a normal 20-day work month, the office would have received 900 phone calls per day, or 112 calls per hour. Naturally, this is an overstatement of what would have actually occurred; however, what is not exaggerated is the enhanced level of technical

support and general information that the public is accessing. One wonders what dividends will develop from this level of public interest. Networking with the public to inform and share our accomplishments can take place in many fashions. The Ashland FRO Web site is just one tool we use to communicate about fish, our responsibilities, and staff accomplishments.

Frank Stone, Ashland FRO

Sunfish and Catfish Festival Parades Gain Visibility for La Crosse FRO

Sunfish Days is an annual Memorial Day weekend event held in Onalaska, Wisconsin, on the banks of the Mississippi River. The La Crosse FRO transformed a pick-up truck and electrofishing boat into a float for the parade, adorning the truck with posters of sunfish and invasive carp and information about why you shouldn't release unwanted pet fish. The boat was festooned with gill nets that had collected stuffed catfish, sunfish, and sturgeon. Boy Scouts "drove" the boat, waved to the crowd, and passed out aquatic invasive species literature.

Catfish Days is an annual July festival held in the historic village of Trempealeau, Wisconsin, nestled in the scenic bluffs of the Mississippi River near the Upper Mississippi River National Wildlife and Fish Refuge and Trempealeau NWR. Our truck and boat float there were outfitted in a similar manner as for Sunfish Days, except this time we had a stuffed catfish for a hood ornament and catfish posters on the truck. A husband and wife team from our Friends group accompanied the float. "Stop Aquatic Hitchhiker" stickers were handed to kids along the parade route.

We patterned this float concept after Ashland FRO's award-winning parade ideas. We not only gained visibility for the Fish and Wildlife Service's Fishery program with the thousands of parade goers, but we also helped spread the word about aquatic invasive species.

Pam Thiel, La Crosse FRO



-USFWS

La Crosse FRO gained visibility for the Fishery program by participating in the local Sunfish Days and Catfish Days parades.

College Students Enjoy Programs at Jordan River NFH

Fifteen students from various colleges who were enrolled in a summer course at North West Michigan's Au Sable Institute visited the Jordan River NFH as part of the curriculum. Wayne Talo, Rick Westerhof, and Tim Smigielski teamed up to provide a three-hour program. Wayne and Tim led a tour of the hatchery, highlighting hatchery operations and lake trout culture. Wayne provided a homework problem for the students to calculate fish food rates. Rick and Tim exposed the students to the many aspects of the Great Lakes lake trout rehabilitation program such as fish stocking, sea lamprey control, implementation of the 2000 Consent Decree, and other aquatic invasive species. The students found the video and presentations informative. The students also

enjoyed their lunch at the hatchery while participating in an informal question and answer session.

Tim Smigielski, Jordan River NFH

Jordan River NFH Staff Return to Mancelona Bass Festival

For the second year, the Jordan River NFH staffed a booth at the Mancelona Bass Festival. Project Leader Rick Westerhof along with volunteers Dan Sutherland, and Ray Puroll, along with his children, Megan and Dylan, participated in the parade. Dan and the kids passed out candy along the parade route. Biologist Tim Smigielski staffed a booth to inform the public about the Fish and Wildlife Service's programs and the hatchery's role in Great Lakes lake trout rehabilitation. After the parade, Rick led tours of the hatchery truck, showing the public how it functions and displaying some yearling lake trout. Our staff has developed a successful partnership with the Bass Festival committee and its chair, Joan Moore. Other projects are in the works with these new friends.

Tim Smigielski, Jordan River NFH

Migratory Bird Day at Whittlesey Creek NWR

Biologists Ted Koehler and Glenn Miller helped celebrate International Migratory Bird Day at the Whittlesey Creek NWR. The public had a variety of activities to attend during the celebration, including auto tours of the refuge and neighboring Fish Creek estuary and bird watching in the tower at the Northern Great Lakes Visitor Center (home of Whittlesey Creek NWR). There were also guided nature trail walks, a kids coloring contest, and building blue bird houses and robin nesting platforms.

Glenn Miller, Ashland FRO

Cooperation with Native Americans

Lake Superior Brook Trout Assessment for the Keweenaw Bay Indian Community

Glenn Miller and Frank Stone conducted two brook trout assessments along the shore of Keweenaw Bay and Huron Bay at the Keweenaw Bay Indian Community. The objectives of this project were to detect changes in abundance of wild and stocked coaster brook trout, describe the biological characteristics of coasters (length, weight, and age), collect tissue samples for genetic analysis (for source population assignment), and describe the abundance of other salmon and trout species within the project area.

Conducted after sunset, the survey used an electrofishing boat. During four nights of work, Miller and Stone sampled approximately 17 miles of shore in two trips. While only brook trout were to be collected during these surveys, they observed other fish species and recorded them as few, common, or abundant. This survey is part of a Lake Superior plan to restore coaster brook trout in Lake Superior. The data collected from these ongoing surveys will help tribal and Fish and Wildlife Service resource managers develop long term management plans for this important resource.
Glenn Miller, Ashland FRO



-USFWS

Populations of adult coaster brook trout are held in National Fish Hatcheries to provide fertilized eggs for various restoration programs in the Lake Superior watershed. Biologists are assessing locations to detect changes in the abundance of wild and stocked fish.

Ashland FRO Biologist Assists with Evaluation, Scoring of 2005 Tribal Grants

Frank Stone from the Ashland FRO participated on a six-member team to discuss the scoring process for the Fish and Wildlife Service's 2005 Tribal Wildlife Grants (TWG) and Tribal Landowner Incentive Program (TLIP). The team aimed to define problem areas in scoring submissions before the top ranked proposals were presented for national ranking. A total of 25 TWG and 3 TLIP proposals were submitted for regional review. All of the TLIP proposals were forwarded for the national review process. The average regional score for the TWG proposals was 70 points. Under the consensus of the team, the 16 projects that scored at or above this average were forwarded to the national review team for a competitive selection process among all seven regions.

Stone also assisted the Regional Tribal, Liaison John Leonard, in scoring all tribal grants submitted by tribes throughout the United States,

reviewing 47 grant proposals (33 – TWG and 14 – TLIP).

Although the list of accepted grants has yet to be finalized, tribal resource programs throughout the United States will soon be receiving the financial help they need to initiate their programs. The TWG and TLIP programs will provide new funding opportunities to tribes for activities that protect and restore habitats that will benefit fish and wildlife species of tribal significance. These grant programs also support the efforts of tribal governments to develop or augment the capacity to manage, conserve, or protect fish and wildlife species of concern through the provision of additional funding and technical support.

Frank Stone, Ashland FRO

The Tribal Wildlife Grant Program supports federally recognized Indian tribes to develop and implement programs that benefit wildlife and their habitat, including non-game species on tribal lands. The Service has approximately \$5.98 million available for this program and will fund 28 of the 121 proposals submitted. These selected grants represent 28 tribes in 16 states.

The Tribal Landowner Incentive Program supports federally recognized Indian tribes to protect, restore, and manage habitat to benefit species at-risk, including federally listed endangered or threatened species, as well as proposed or candidate species on tribal lands. The Service has approximately \$2.14 million available for this program and will fund 17 of the 35 proposals submitted. These selected grants represent 17 tribes in 11 states.

Leadership in Science and Technology

Lake Sturgeon Research Presented to Saginaw Bay Watershed Initiative Network

Biologist James Boase presented the preliminary results from the first year of research on the Saginaw River watershed at the annual meeting sponsored by Watershed Initiative Network. The annual meeting provides an opportunity for recipients of funding to present their research to approximately 50 board members, interested citizens, and business members from the local community.

The forum was an excellent opportunity to explain how Alpena FRO is working closely with others to better understand and enhance sturgeon populations throughout the Great Lakes.

Preliminary findings from spring sampling indicate that lake sturgeon were present at two locations. One fish was located on the Tittabawassee River below DOW Dam while a second individual was sighted below the Chesaning Dam on the Shiawassee River. Since egg mats placed in the Tittabawassee River below the DOW Dam failed to detect the presence of eggs, we concluded that the fish sighted below the dam was just one individual. No egg mats were placed in the Shiawassee River because preliminary examination of that portion of the watershed in the fall of 2004 suggested that the available habitat would not be suitable for spawning.

Consequently we decided to focus our efforts on the Cass River.

Research in 2006 will focus on the Cass, Tittabawassee and Shiawassee rivers. Our primary goal is to collect genetic information from the lake sturgeon

that occasionally migrate up the watershed to spawn and compare it with the genetic information from other known populations around the Great Lakes. Obtaining genetic information about Saginaw River lake sturgeon is essential for future management decisions and is vital to determine future research needs.

Presentation questions focused on: 1) how efforts to rehabilitate lake sturgeon integrates with the Fish Community Objectives for Lake Huron, 2) how the research would benefit other game species, and 3) what other lake sturgeon habitat would be available if the DOW Dam was removed. Specific questions were addressed about what steps will be necessary to rehabilitate lake sturgeon in the watershed following the results of the current research.

James Boase, Alpena FRO



-USFWS photo by James Boase

"Water Control Structure on the Saginaw River"
Alpena FRO Biologist James Boase presented the preliminary results from the first year of research on the Saginaw River watershed at the Watershed Initiative Network's annual meeting, which allows funding recipients to highlight their research.

Fry Shipped for Research

Pendills Creek NFH sent approximately 13,000 lake trout fry to the U.S. Geological Survey's National Fish Health Research Laboratory in Leetown, West Virginia, for two research projects.

The first 10,000 fry will be used in a project entitled "Virulence Assessments of Isolates of Infectious Pancreatic Necrosis Virus (IPNV) Endemic and Exotic to the Great Lakes Basin," being investigated by Philip E. McAllister and Christine L. Densmore of the Fish Health Research Lab. IPNV is a viral disease associated primarily with salmonids that occurs worldwide and is common in North America. The disease has probably spread to other countries by the shipment of contaminated eggs and fish, and it causes significant mortality in one-to four-month-old fish. Survivors of the disease become lifelong carriers of the virus. The data will provide a scientific reference to gauge the potential for adverse biological and/or economic impact of IPNV's common or foreign strain introduced to watersheds of the Great Lakes basin.

The remaining 3,000 fry will be used in the research project entitled "Effect of Thiamine Deficiency on Disease Resistance in Lake Trout," by Dale Honeyfield of the Leetown Science Center and Chris Ottinger, Christine Densmore, and Phil McAllister of the National Fish Health Research Lab. The project will examine the impact of thiamine deficiency on lake trout immune function in relation to disease resistance to bacterial and viral pathogens.

Tracy Roessner, Pendills Creek NFH

Aquatic Habitat Conservation and Management

Bark River Fish Passage Project Completed

Fish access to prime habitat in the headwaters of the Bark River in Bayfield County, Wisconsin, was restored this month. Within 30 minutes of opening flows through the new culvert, a 12-inch native brook trout was spotted powering up through the structure!

The Bark River is a Class A trout stream tributary to Lake Superior. It provides habitat for brook trout and historically produced coaster brook trout, as well. In addition, naturalized populations of steelhead and coho salmon inhabit the lower stream reaches. Access to about 0.7 miles of prime spawning and nursery habitat in the headwaters was totally blocked by a 30-year-old culvert that was installed improperly and badly damaged (see photo above, right). Bank slopes at the installation were excessively steep and the culvert was perched.

The Region 3 Fish Passage Program provided \$15,000 for the project. This was combined with partnership contributions from the Township of Clover and Bayfield County. The new eight-foot by 100-foot culvert is embedded at the natural stream slope and all banks were re-contoured to stable configurations, seeded, and mulched. A natural substrate bottom that provides fish habitat and easy upstream accessibility for fish has been established.

Lee Newman, Ashland FRO



This damaged culvert (above) was replaced (below) on the Bark River providing brook trout with uninhibited access to 0.7 miles of prime spawning and nursery habitat.



-USFWS photos

Discussing a Partnership Approach to Protect Maries River

Biologists Nick Frohnauer of the Columbia FRO and Rick Hansen of the Columbia Ecological Services Field Office participated in an informational field trip to the Maries River. The event was organized by State Representative Tom Loehner to address bank erosion and habitat loss. The objectives of the trip were to identify problems that landowners face along the Maries River and brainstorm possible solutions. In addition to the Fish and Wildlife Service, the Missouri Department of Conservation, Missouri DNR, U.S. Army Corps of Engineers, Farm Bureau Service, area landowners, and private organizations took part. Participants visited several sites

along the river that were indicative of the problems. They also visited with the site's landowners to get their view on potential solutions and what has worked for them. The Maries River experiences high variability in stream flows resulting in flood problems and bank erosion. Landowners are looking for professional advice on ways to stabilize banks and identify cost cutting measures. One idea was to blast rock from nearby cliffs for bank stabilization versus having it hauled from a distant site. Nick was along to identify federal funding opportunities through the Fish Passage program.

Nicholas Frohnauer, Columbia FRO

Thunder Bay Project Meeting

Biologist Aaron Woldt participated in a working committee meeting for the Thunder Bay Power Company's Thunder Bay River Project Implementation. Woldt is the Fish and Wildlife Service representative on the working committee, which was created to assist Thunder Bay Power (TBP) in meeting the requirements of its Federal Energy Regulatory Commission (FERC) license.

The primary focus of the June 9, 2005 meeting was license requirements pertaining to downstream fish passage and protection. The Great Lakes Environmental Center (GLEC), a contractor retained by TBP, submitted a preliminary fish passage and protection study plan in 2003 to the Working Committee for evaluation. A final plan is due to FERC on July 1, 2005. Because of concerns about the number of fish diversion techniques to be

tested, time period and seasonality of the planned evaluation, and overall cost of the original field-based study, the Fish and Wildlife Service and Michigan DNR suggested that a “desktop” model/evaluation might be more appropriate and cost effective. The model could use the wealth of existing entrainment data already collected at the Thunder Bay projects. As a result, GLEC was asked to draft and submit to FERC a new study plan to reflect this change by July 1. The new plan will evaluate more than one downstream fish diversion technique, be applied over a longer time frame including peak migration periods, and help preserve the solvency of the settlement escrow account.

TBP also updated the working committee on the status of the sale of the Thunder Bay River Projects to North American Hydro (NAH). The sale should be complete in less than a month, and only a few small issues are pending. NAH is expected to provide a chairman for the working committee in the near future, possibly Andy Blystra, the current chairman, if his services are retained by contract with NAH. In addition to member representatives from Michigan DNR, TBP, and the Fish and Wildlife Service; representatives from the Hubbard Lake Sportsmen and Improvement Association, Montmorency Conservation District, Thunder Bay Audubon Society, and Northeast Michigan Council of Governments also participated. Fish and Wildlife Service involvement in the TBP 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. *Aaron Woldt, Alpena FRO*

Farcus Creek Pre-Construction Monitoring Conducted

Biologists completed pre-construction monitoring on the Farcus Creek Fish Habitat Restoration Project located on the Tom Fratt Farm in northern Wisconsin. The project will involve removing a failed concrete dam, stabilizing the stream, and improving instream and riparian habitats. Farcus Creek is a historic brook trout stream, and these stream improvements will provide additional habitat for this native species.

A crew from Wisconsin DNR Fisheries Research conducted an aquatic habitat and fish population inventory on the stream. Data was collected for calculating an Index of Biological Integrity. The effort will provide important pre-project baseline data that will be used to measure the success of restoration efforts, and may eventually become a long term research and monitoring site.

Partners in the restoration project include the Fratt Family; USDA Natural Resources Conservation Service; Ashland, Bayfield, Douglas, and Iron counties – Land Conservation Department; Wisconsin DNR; and the Fish and Wildlife Service’s Partners for Fish and Wildlife Program. Most of these partners were involved in the pre-construction monitoring. Local citizen volunteers, ranging in age from four to forty, and a group of students from Northland College were also involved. Everyone pitched in and helped with the electrofishing portion of the survey and many nice rainbow and brown trout were collected.

Ted Koehler, Ashland FRO



-USFWS

A crew from Wisconsin DNR Fisheries Research and volunteers conducted an aquatic habitat and fish population inventory on Farcus Creek as part of the Farcus Creek Fish Habitat Restoration Project.

Habitat Assessment Project Meeting Held on Lower Missouri

Representatives from the Army Corps of Engineers (Corps), Fish and Wildlife Service, and Nebraska Game and Fish Commission met to discuss problems relating to the startup of the Habitat Assessment Project. Formerly known as shallow water habitat, the project will monitor and provide biological and hydrologic feedback on the reconstruction of lost habitats by Corps work crews on the channalized portion of the Missouri River. Sampling site selection, sampling gears, and mapping were all discussion subjects. Being on the river and seeing first-hand what is being discussed helped immensely in understanding the problems that the field crews are encountering as this new project gets underway.

Andrew Starostka, Columbia FRO

Workforce Management

Detailees and Volunteers Spend Time at Pendills Creek

The short-handed staff at Pendills Creek NFH got some much needed assistance during fin-clipping season this year, in the form of volunteer Randy Obermiller of Traverse City, Michigan, and biologist Scott Koproski from Alpena FRO. Randy spent February and March at the hatchery, assisting with a variety of jobs including help with finclipping, raceway cleaning, feeding, and moving brood stock at the Sullivan Creek substation. This was Randy's first volunteer experience with the Fish and Wildlife Service's hatchery system. Scott came up from downstate for a two-week detail, from March 14 through 25, 2005.

Scott and Randy could not have picked a better time to help. At one point, the manager, assistant manager, and administrative technician were all out of the office, leaving one biologist at Sullivan Creek and one biologist at Pendills Creek, where the finclipping operation was taking place. That happened the same week that three local Head Start programs had scheduled to bring their students in for an "up-close-and-personal" look at some lake trout yearlings. Needless to say, things could have been disastrous that week without their help. The hatchery relies heavily on volunteers throughout most of the year. Last year, volunteers gave over 2,000 hours of their time to assist hatchery personnel in the spawning and rearing of lake trout for the Great Lakes rehabilitation program.

Each year, Pendills Creek brings in nine finclippers to clip the fins of the yearling lake trout

before distribution season. Because of the cold winters in the Eastern Upper Peninsula, which causes ice on the raceways, finclipping doesn't start until the middle of March — much later than the other two lake trout hatcheries in Region 3. Even with such a late start, biologists still spend a lot of their time breaking thin ice in order to crowd the fish in the raceways to move them inside. The finclippers marked over 800,000 fish this year.

Tracy Roessner, Pendills Creek NFH



-USFWS

Biologist Scott Koproski from the Alpena FRO and volunteer Randy Obermiller prepare to weigh fish feed at the Pendills Creek NFH. They assisted the permanent staff during the busy fin-clipping season.

Chris Olds Returns to Jordan River NFH for Another Summer!

Student Temporary Experience Program (STEP) student Chris Olds recently finished his first year of college at Lake Superior State University (LSSU) and has returned for a second period of employment with the Fish and Wildlife Service at Jordan River NFH. Chris is working towards a Bachelor's degree in Fisheries and Wildlife Management. He is getting "hands-on" experience with fish culture by assisting with cleaning tanks, fish counting techniques, and fish distribution.

Chris' interest in fish culture led him to studying fish growth, eating habits, and spawning habitat. In his free time, he enjoys conducting research projects on different species of fish. Currently, he has three research projects on lake trout, muskellunge, and northern pike at his home. Running cross-country and track for LSSU keeps Chris busy during the school year. During the summer, when not at the hatchery, Chris can be found raising horses on his parents' ranch. The STEP program is working great for Chris and he looks forward to a future career in fisheries.

Christopher Olds, Jordan River NFH



-USFWS

Chris Olds has finished his first year of college at Lake Superior State University and is ready for a second round of employment at the Jordan River NFH under the Student Temporary Experience Program (STEP).

YCC Enrollees – A Nice Catch for Genoa NFH

Alex Derrickson of Genoa, Wisconsin, and Brandon Keesler of Viroqua, Wisconsin, joined the staff at the Genoa NFH on June 13 as part of the Fish and Wildlife Service's Youth Conservation Corps (YCC) program. The YCC program is an eight- to ten-week summer employment program for local young men and women ages 15 to 18. The objectives of the program are for enrollees to further the development and maintenance of the nation's natural resources, to increase self-discipline, learn good work habits, and develop and maintain good working relationships. Genoa began recruiting for the two summer positions in April by contacting numerous local schools. Nine applications were received for these two positions, and Alex and Brandon were chosen by a random drawing.

Along with general building and grounds maintenance, and day to day fish culture activities, the pair will be heavily involved in the construction of an interpretive trail encompassing the entire hatchery property. Welcome Alex and Brandon!

Darla Wenger, Genoa NFH



-USFWS
Alex Derrickson and Brandon Keesler are working at the Genoa NFH this summer under the Youth Conservation Corps (YCC) program.

Standard Operating Procedure Manual: It's a Wrap

Final touches have been made to the Administrative Standard Operating Procedure (SOP) manual that has been a project of long-time Fish and Wildlife Service employee Clarice Beckner. Beckner, who has worked at Jordan River NFH for nearly 34 years, began accumulating materials while training new administrative personnel at nearby facilities. She decided to consolidate the information into a manual. When other administrative personnel heard about the manual, they requested a copy. So far, copies have been provided to 12 Fish and Wildlife Service offices in Region 3. Rick Westerhof, project leader at the Jordan River NFH, also requested a copy. He has found the manual very helpful when Beckner is out of the office. Beckner hopes to provide updates and changes to the manual as they occur. She has also requested feedback on those using the manual in hopes of adding other helpful administrative information.

Clarice Beckner, Jordan River NFH



-USFWS photo by Wayne Talo
Clarice Beckner proudly displays the Administrative Standard Operating Procedure (SOP) manual she assembled to serve as one-stop-shopping guidance for administrative information.

Region 3 Dive Team Members Complete Rescue Training

Region 3 Dive Team members Roger Gordon and Tony Brady from Genoa NFH and Scott Yess of the La Crosse FRO completed Oxygen First Aid for Diving Injuries and Rescue Diver training courses during June. These courses are part of continuing education requirements for all regional dive team members and were provided by the National Association of Underwater Instructors organization.

These courses help ensure team members are trained in accident management, recovery, and most importantly, prevention. Dive team members participate in a wide variety of projects across Region 3 and are exposed to highly variable and demanding environmental conditions. This training, in conjunction to annual fitness and skills training, is one of the preventative steps that this group takes to ensure all our dives are successful and safe.

Roger Gordon, Genoa NFH

Scott Yess, La Crosse FRO

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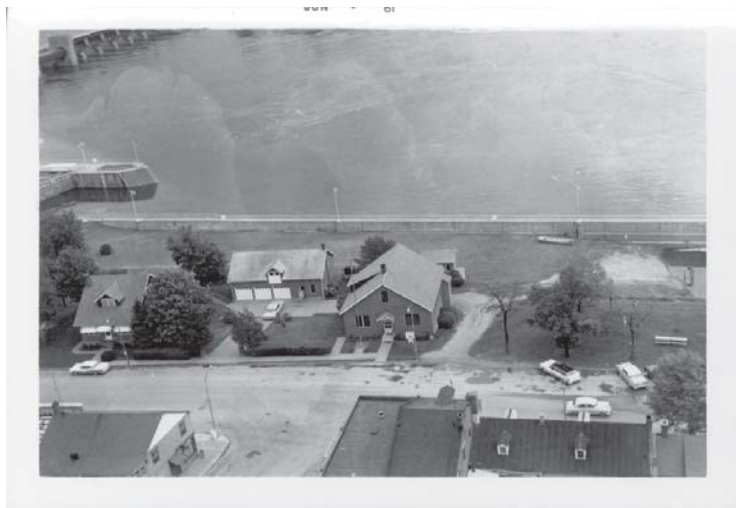
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Windows in time

A Glimpse into our Proud Past

"Guttenberg NFH and aquarium survive the 1965 flood." The facility is located on the banks of the Mississippi River in Guttenberg, Iowa, and is now operated by the State of Iowa.

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