



U.S. Fish & Wildlife Service

Fish Lines

Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems

Jordan River National Fish Hatchery

(See the "Station Spotlight" on Page 5)



Fiscal Year 2005
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Series of Fish and Wildlife Service photos depicting Jordan River National Fish Hatchery (NFH) activities: (Top Row, Lt. to Rt.) Lake trout eggs are received each fall from several brood stock stations to support a large fish production program; Wayne Talo and Scott Rozanski sample count young lake trout to estimate growth and determine feed rations; A crew referred to as "fin clippers" mark yearling lake trout prior to release in one of the Great Lakes; (Middle Row) Paul Haver crowds fish that will be loaded into a transport tank; Distribution trucks transport lake trout to the offshore stocking vessel, M/V Togue; Bob Bergstrom (Marine Engineer), Mike Perry (Togue Captain), and Bob Petersen explain loading of fish on the Togue to the new vessel design team; (Bottom Row) Jim and Clare Wisman volunteered their expertise to develop the hatchery's web site; Hatchery staff and partners participate in Jordan River NFH's first annual "Hatchery Fest"; Bob Peterson educates a future fisherman.

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

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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Dave Wedan reaches
Career Milestone

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 evalu-

ate aquatic habitats to identify restoration/rehabilitation 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 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



Station Spotlight - Jordan River National Fish Hatchery

Jordan River National Fish Hatchery (NFH) was established in 1962 and began operation in December, 1963. The hatchery is located on 116 acres adjacent to the Jordan River in Antrim County in Northwest, Lower Michigan. The hatchery was founded under the Coordination Act 48 Statute 410 of March, 1934. The mission of the Jordan River NFH is to rear lake trout for native lake trout rehabilitation efforts in lakes Huron and Michigan. In FY 2004, Jordan NFH reared and released a total of 1,919,043 yearling lake trout at selected sites on the lakes. Water sources for the hatchery come from Five and Six Tile Springs, which provide approximately 5,000 gallons per minute.

All lake trout must be marked prior to release into the Great Lakes in order to differentiate the hatchery fish from naturally reproduced fish. Six temporary employees complete the coded wire tagging process and 12 temporary employees complete the fin clipping process. The hatchery provides leadership in the marking, tagging, and stocking of lake trout in the multi-jurisdictional waters of lakes Huron and Michigan.

The Great Lakes stocking and hatchery product evaluation vessel (M/V Togue) and crew are supervised and scheduled out of the Jordan River NFH. It has been in operation since 1989, after being retrofitted to distribute lake trout to offshore reefs in the Great Lakes. Staff includes Ship Operator Michael Perry and Marine Engineer Robert Bergstrom. A new vessel, M/V Spencer F. Baird, is currently under construction in Louisiana. Plans are to put the new vessel into service in 2006.



-USFWS

M/V Togue: The Fish and Wildlife Service's offshore stocking and hatchery product evaluation vessel for the Upper Great Lakes.



-USFWS

Jordan River National Fish Hatchery

Left to Right: Wayne Talo, Tim Smigielski, Bob Petersen, Paul Haver, John Johnston, Clarice Beckner, Denise Johnston, Norma Sparks, Rick Westerhof

Jordan River NFH has been a popular visitor attraction since the hatchery was dedicated in 1964. An estimated 15,000 visitors enjoy the many interpretive displays annually, and hatchery tours are provided to numerous groups.

Environmental, natural resource, and conservation education are major focus areas at the hatchery. This past September 2004, Jordan River NFH held its first annual "Hatchery Fest", an event designed to foster partnerships with local communities, interest groups, non-governmental organizations, as well as state and other Federal agencies. This tremendously successful event certainly strengthened the public image of the Fish and Wildlife Service in Northern Michigan.

Jordan River NFH is currently staffed by ten dedicated employees. With its experienced staff and leadership, it is certain that Jordan River NFH will succeed in fulfilling the mission and goals of the Fish and Wildlife Service in the Great Lakes region.

For detailed information about the Jordan River National Fish Hatchery, contact the office at (231) 584-2461 or visit the website at:
http://midwest.fws.gov/jordan_river/

Partnerships and Accountability

Commercial Fishers gather Important Data on Lake Superior Lake Sturgeon

A volunteer program utilizing commercial fishers on Lake Superior is providing data on incidental catches of lake sturgeon in their trap and gill net sets. The Ashland Fishery Resources Office (FRO), Michigan Department of Natural Resources, and Bay Mills Indian Community have been gathering biological information (length, weight, and girth measurements) and genetic material supplied by a small fin clip for analysis. Commercial fishers also tag the native lake sturgeon with a numbered floy tag supplied by the agencies. Most of the captured fish are immature, usually 18–30 inches. Data gathered will help biologists better understand the needs and habitats that the sturgeon require. This is the fourth year that the Ashland FRO has been involved with this program. *Glenn Miller, Ashland FRO*



-USFWS photo by Rob Elliot

Lake Sturgeon

Conservation Priorities set for the Manitou Bluffs Conservation Landscape

Biologist Louise Mauldin participated in a Manitou Bluffs Conservation Landscape meeting to provide input for the development of a conservation landscape profile. The state of Missouri is divided into approximately 31 conservation landscapes (CL). The Manitou Bluffs CL encompasses the Missouri River floodplain and associated bluffs between River Miles 220 and 148. This area contains several state and refuge managed lands. In the meeting, a description of the CL was developed, and conservation partners, strategic conservation goals, monitoring, research, inventory needs, and funding sources identified. Once the profiles from each conservation landscape are completed they will be incorporated into the state's Comprehensive Wildlife Conservation Strategy (CWCS).

The State Wildlife Grants program is designed to secure Federal funding for fish and wildlife conservation actions identified in each state's CWCS. State Wildlife Grants are intended to primarily benefit non-game species, especially those species in decline. Funding is appropriated by Congress annually with each state allocated funding based on land area and population. Columbia Fishery Resources Office (FRO) continues to work with states and other partners to identify and prioritize actions that will be most effective and efficient in achieving desired resource goals and outcomes.

Louise Mauldin, Columbia FRO

Fisheries Office expands Partnerships to include Four Legged Friends

Two Federal Protective Services officers, along with their dogs "Roxy" and "Katy", regularly use the boat barn of the Columbia Fishery Resources Office (FRO) to maintain bomb materials identification skills. Our facility is conveniently located halfway between the officers' stations in St. Louis and Kansas City. Our boat barn is filled with the usual smells of an active fisheries monitoring program such as fish, nets, gasoline, and motor oil. This makes it an ideal training facility, as the dogs must "sniff out" other specific dangerous smells from this array of background aromas.

Partnership with Federal Protective Services allows Columbia FRO to expand communications with officers responsible for our staff and facility's safety and security. Additionally, the frequent presence of the officers and their canine partners in the facility may act as a deterrent to potential future criminal activities. In the next phase of the dogs' training, Columbia FRO will be taking the officers and their canine partners out on boats on the Missouri River. The dogs will need to be familiar with boarding and searching vessels when the officers assist the U.S. Coast Guard in the ports of St. Louis and Kansas City.

Joanne Grady, Columbia FRO

Friends of the Neosho National Fish Hatchery

The Friends of the Neosho National Fish Hatchery continue to make great strides in supporting their hatchery. Soon after the Friends Group was established, they asked for a “wish list” of items or services that would benefit the Neosho National Fish Hatchery (NFH) and personnel. Well to make a long story short, they have completed most of the items on that list and have asked for another one! Some of the accomplishments of the Friends Group include funding for the new picnic shelter, repainting the historic concrete rainbow trout, volunteering hundreds of hours during the annual fishing derbies and open house events, working at the Fish and Wildlife Service booth during the county fair, and providing refreshments for the last regional biologist meeting, *Roderick May, Neosho NFH*



-USFWS photo by Ralph Simmonds

The “Friends of the Neosho National Fish Hatchery” secured funding for a new picnic shelter at the station.

Pallid Sturgeon Recovery Team Meeting

Project Leader Tracy Hill from the Columbia Fishery Resources Office (FRO) participated in a pallid sturgeon recovery team meeting. Many issues of importance to the recovery of the Federally endangered pallid sturgeon were discussed including genetics, stocking plans, priority uses for any gravid pallids that might be captured during population assessment activities, and updating the Pallid Sturgeon Recovery Plan. The Recovery Team is comprised of ten individuals representing the Fish and Wildlife Service, U.S. Army Corps of Engineers, U.S. Geological Survey, Montana Fish, Wildlife & Parks, Missouri Department of Conservation, Louisiana Department of Wildlife and Fisheries, and the University of Alabama. The Recovery Team made a series of recommendations to aid efforts to protect the Federally endangered pallid sturgeon. Interagency participation in the Pallid Sturgeon Recovery Team ensures agreement and cooperation for coordination of basin wide recovery activities for this endangered species. *Tracy Hill, Columbia FRO*



-USFWS photo

Pallid Sturgeon

Biologists attend Conservation Landscape Meeting

Biologists from the Columbia Fishery Resources Office (FRO) and the Columbia Field Office attended the Niangua Basin Conservation Landscape Project Profile meeting. Representatives from agencies and non-governmental organizations (NGO's) discussed the goals and objectives for the Niangua Conservation Landscape (CL). Conservation Landscapes are areas that have been identified as unique or in need of conservation by both government natural resource agencies such as Fish and Wildlife Service, Missouri Department of Conservation, Natural Resource Conservation Service, as well as NGO's such as The Nature Conservancy and Missouri Prairie Foundation.

Examples of species and communities of particular concern in the Niangua CL are the Niangua darter, Indiana bat, dolomite glade, and Ozark fen. An important objective is to work with land owners to use Best Management Practices to restore and protect native communities, both aquatic and terrestrial, for the enhancement of species conservation. These results are consistent with the Fish and Wildlife Service's goal of recovering endangered species and protecting sensitive habitat. *Andy Starostka, Columbia FRO*

Aquatic Species Conservation and Management

Sullivan Creek National Fish Hatchery's Spawning Season

Sullivan Creek National Fish Hatchery (NFH) had a very productive lake trout spawning season during the months of August, September, October, and November. A total of 1,153 mature female lake trout were spawned, giving a total of 6,111,254 eggs. The first females were checked for ripe eggs on August 18th and the very last females were spawned on November 9th, 2004. Sullivan Creek NFH was designated a lake trout brood facility in 1994 and currently has five different strains of lake trout brood fish: Seneca Lake Wild; Lewis Lake Wild; Superior Apostle Island Wild; Superior Klondike Reef Wild; and Superior Traverse Island Wild.

Once the eggs are harvested from the female fish and fertilized with milt from the male fish, green, fertilized eggs are incubated in vertical incubator trays at Sullivan Creek until ready for shipment to other facilities. There is much work and care involved in getting the lake trout eggs from the stage of newly spawned green eggs to eyed eggs ready for shipment. The incubator trays must be flushed twice a week to remove silt and debris from the hatchery water supply. Once the eggs are 50% developed and have their dark eye-spots showing easily, they are shocked so the good and bad eggs can be separated. Shocking turns unfertilized and weak eggs a solid white color while the good eggs stay a clear orange-pink color. Once shocked, the eyed eggs are run through two mechanical egg pickers. These pickers sort the good eggs from the bad eggs by using a photo-eye, if the light beam goes through the egg, it is good

and ends up in one bucket; if the light beam does not go thru the egg, it is bad and ends up in a different bucket. The good eggs are put back into the incubators and picked through one more time by hand with a suction bulb to get any remaining bad eggs out. The eggs will stay in their incubator trays until packaged in coolers for shipment.

Egg shipments for the 2004 spawning season finished on January 24. Eggs from this season's spawning were shipped to Pendills Creek NFH, Jordan River NFH, Iron River NFH, Allegheny NFH, Marquette State Fish Hatchery, Purdue University, and the Chippewa Ottawa Resource Authority.

*Crystal LeGault-Anderson,
Sullivan Creek NFH*



-USFWS

The eyes of these developing lake trout can be easily seen inside of the egg. Crews at the Sullivan Creek National Fish Hatchery spawned 1,153 female lake trout that yielded approximately 6.1 million eggs.

Aging Techniques attempted for Chubs

Technician Jennifer Johnson from the Columbia Fishery Resources Office (FRO) removed scales from sicklefin, speckled, and sturgeon chub. These chub species were collected between July and November 2004 in two segments of the Lower Missouri River. Scales were removed between the lateral line and dorsal fin from a total of 29 sturgeon chub, 77 speckled chub, and 140 sicklefin chub. Sicklefin, speckled, and sturgeon chub are members of the warm water benthic fish community. There is a lack of information on age and growth of non-sport fishes. Chubs throughout the Missouri River basin will be collected as part of the Pallid Sturgeon Monitoring and Population Assessment Project for age and growth studies which will aid in understanding the affects of management actions on the ecological community.

Jennifer Johnson, Columbia FRO

Pallid Sturgeon Monitoring Project

The Columbia Fishery Resources Office (FRO) continued field work in January on the long-term pallid sturgeon monitoring project. Biologists Wyatt Doyle, Colby Wrasse, Corey Lee, and Volunteer Cliff Wilson set gill nets at four sites on the Missouri River as part of the winter sturgeon sampling season. The data collected on pallid sturgeon and other target species will be vital in making sound management decisions regarding the future of the Missouri River. Several hundred shovelnose sturgeon were collected. Several fish were previously tagged by the Missouri

Department of Conservation. Sharing of these data from recaptured sturgeon will benefit both agencies and lead to a greater understanding of the shovelnose sturgeon population in the Missouri River. Also of interest was the capture of four lake sturgeon, a state endangered species in Missouri. In addition one paddlefish and six rare blue suckers were collected along with many other native and invasive species.
Colby Wrasse, Columbia FRO

Fish and Wildlife Service presents Results of the Lake Huron Lake Trout Movement Study at the Lake Huron Technical Committee Meeting

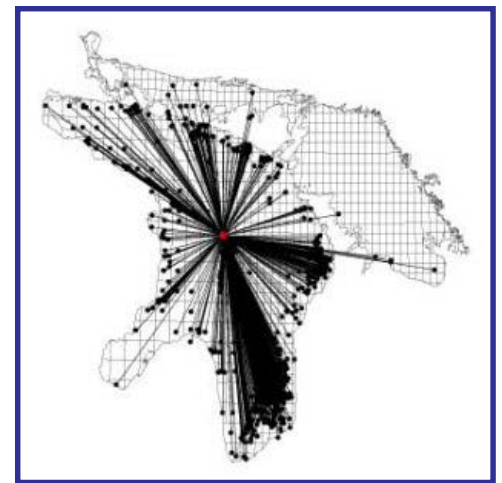
Biologist Aaron Woldt and Project Leader Jerry McClain from the Alpena Fishery Resources Office (FRO) attended the winter Lake Huron Technical Committee meeting. Woldt presented results from the Lake Huron lake trout movement study which compared coded-wire tag (CWT) returns of lake trout yearlings stocked at eight sites across the lake. For this study, four year classes of lake trout (1991, 1993, 1995, 1997) were planted at Adams Point, Middle Island, Sturgeon Point, and Point Au Barques. Three additional year classes (2001, 2002, 2003) were subsequently stocked at each of the four original sites and a new site off Point Clark in Canadian waters. Another year class (2004) will be planted at each of these sites in 2005 as well. CWT lake trout have been stocked annually in the Drummond Island Refuge since 1985 and in the mid-lake Six Fathom Bank Refuge from 1985 to 1998. Two year classes (1999, 2000) of CWT lake trout were also planted on Yankee Reef (mid-lake).

Over the course of the study, there have been 1,276 returns of Adams Point fish, 1,076 returns of Middle Island fish, 1,088 returns of Sturgeon Point fish, 1,275 returns of Point Au Barques fish, 5,049 returns of Drummond Island fish, 5,443 returns of Six Fathom Bank fish, 68 returns of Yankee Reef fish, and 0 returns of Point Clark fish in agency surveys, commercial fishing gear, and the recreational fisheries (all gears combined). Woldt adjusted returns in survey gill nets and large mesh commercial gill nets for effort and estimated dispersal radii with standard errors and directions for the four near shore stocking sites. Analysis of CWT returns in the refuge and mid-lake sites is incomplete at this time. On average, lake trout ranged 21.8 ± 1.4 mi from Adams Point, 27.6 ± 1.8 mi from Middle Island, 32.3 ± 2.2 mi from Sturgeon Point, and 24.0 ± 2.9 mi from Point Au Barques. There was little variation in average distance moved by year at each site. In general, lake trout moved large distances at early ages with some fish moving 100 miles or more by age 2. Only fish from Adams Point (increasing) and Point Au Barques (decreasing) showed statistically significant trends in distance moved by fish age.

Ongoing analyses includes fitting returns per effort at each site using an exponential sigmoid model to estimate lake trout home range, completing effort adjustments for the refuge and mid-lake sites, comparing movement patterns by strain for the Drummond Island and Six Fathom Bank sites, and a deeper analysis of differential movement by year class at each site. A manuscript summarizing the results of the Lake Huron Lake Trout Movement study will

be prepared when all analyses are complete.

Analyzing lake trout movement patterns allows managers to better delineate management units, better model lake trout population dynamics, and calculate safe harvest levels, especially in 1836 Treaty waters. These outcomes are 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.
Aaron Woldt, Alpena FRO



-USFWS image by Jerry McClain

This is a map of Lake Huron showing lake trout movement following stocking. Aaron Woldt from the Alpena Fishery Resources Office presented results from the Lake Huron Lake Trout Movement study at the Lake Huron Technical Committee Meeting. The study compared coded-wire tag returns of lake trout yearlings stocked at eight discrete movement sites.

Brrrr – Winter's Here!

Arctic temperatures hit the Eastern Upper Peninsula early this year, upsetting the fish at the Pendills Creek National Fish Hatchery (NFH). Every year when temperatures drop below freezing and especially when it drops below zero, the sixteen raceways at Pendills Creek freeze over even with high water flows through them. Normally this doesn't occur until the end of January or February; however, this year Mother Nature had different ideas.

The raceways have already been covered with ice for seven days this winter. While the ice never gets more than three or four inches thick, it still disrupts the normal feeding schedule for the fish. As long as the ice completely covers the raceways, fish can't be fed and raceways can't be cleaned. The staff remains vigilant for the first opportunity to feed fish as the ice thaws.

The fish aren't the only ones disrupted by these icy conditions. When ice forms on the raceway, it tends to freeze to the dam boards that are located at the end of the raceways and control the water depth. If this ice isn't chipped away from the dam boards on a regular basis, the raceways can overflow causing more serious problems. Biologists will normally chip ice away from the dam boards about four times a day: when they arrive at work, just before or after lunch, before they leave work, and around ten o'clock at night. These conditions usually last through the end of February and sometimes into the first of March. This year, it seems that anything goes when it comes to the weather.

Tracy Roessner, Pendills Creek NFH



-USFWS

Assistant Manager Crystal LaGault-Anderson chips ice off of the dam boards which regulate the depth in the fish production raceways at the Pendills Creek National Fish Hatchery. When temperatures drop to below zero, the raceways freeze over. The dam boards need to be free of ice to prevent flooding which may lead to a fish loss.

Neosho National Fish Hatchery's Pallid Sturgeon Program

The 2004 year class of pallid sturgeon are doing great at the Neosho National Fish Hatchery (NFH)! There are fish over eight inches already. Passive Integrated Transponder (PIT) tags will be inserted into the fish when they reach nine inches. In addition, the La Crosse Fish Health Center analyzed 60 fish to certify that the fish are disease-free. There are currently 3,626 Federally endangered pallid sturgeon at the hatchery to meet high priority stocking requests.

To enhance the sturgeon program at Neosho NFH, a new sturgeon building is being constructed at the Neosho NFH to enhance production capabilities. Contractors are hauling fill to the construction site and the well drillers are working. The plan has been revised to have only one well, but there will be two pumps in the event that one malfunctions.

Roderick May, Neosho NFH

Catch Summary completed in Huron Bay Fish Assessment, Lake Superior

In cooperation with the Michigan Department of Natural Resources, Ashland Fishery Resources Office (FRO) and the Keweenaw Bay Natural Resources Department conducted a week long fish assessment of Huron Bay, Lake Superior. The assessment, funded by a grant from the U.S. Environmental Protection Agency, collected a total of 2,058 fish consisting of 27 species.

The two most abundant species collected, longnose dace and lake chubs, were captured by a collapsible version of the English Windermere trap. Total catch by gear type included modified Windermere trap, 1,604; small bottom trawl, 248; and experimental gillnet, 206. Species diversity by gear type was nearly even, averaging 13 species per gear type. Species diversity was not unusual and ranged from small forage species consisting of shiners, smelt, and sculpin to large predators consisting of salmonids, walleye, and burbot. Catches of lake trout, whitefish, and yellow perch were smaller than anticipated. A total of four sculpin species were also collected consisting of mottled, slimy, spoonhead, and deepwater (mottled sculpin was the most abundant). A total of nine threespine stickleback represented the only invasive species collected. Enthusiastic personnel, the pristine environment, and favorable weather all contributed to the success of this assessment.

Gary Czapinski, Ashland FRO

Aquatic Invasive Species

Great Lakes Captain's Association Meeting

Anjanette Bowen from the Alpena Fishery Resources Office (FRO) presented information on invasive Asian carp at the Great Lakes Captain's Association annual "Industry Days" conference held in Traverse City, Michigan. Bowen provided a presentation on problems associated with the four species of Asian Carp that are spreading in the United States. Information was also presented on their effects in the Mississippi River system, current distributions, and the Chicago Shipping and Sanitary Canal Dispersal Barrier Project in Illinois. Over 125 attended the event. Information used in the presentation was provided in part by Jerry Rasmussen of the Mississippi Interstate Cooperative Resource Association.

Aquatic invasive species compete with native species for food and habitat resources. Public education about invasives is an important mission of the Fish and Wildlife Service and necessary in order to conserve, protect, and enhance native fish and wildlife species for the continuing benefit of the American people.

Anjanette Bowen, Alpena FRO



-photo by D. Riecks

Bighead carp (top) and silver carp (bottom) are two invasive Asian carp species causing concern in the Great Lakes/Big Rivers Region.



-photo by L. Lovshin

Open House held at Walpole Island

Biologist James Boase attended an open house on Walpole Island, Ontario. The open house was held at the Heritage Center and was attended by approximately 75 people, mostly from the local community. The purpose of the event was to meet some of the governing members of the Walpole Island First Nation, research biologists from the island, and researchers from Environment Canada to discuss common fishery and aquatic resource issues with particular interest in invasive species.

Current research on the island is focused on native mussel recovery efforts taking place on the St. Clair delta. Walpole Island is one of numerous islands that make up the delta and is one of the last locations in the Great Lakes where a relatively healthy population of native mussels still exists. Researchers from Walpole Island First Nation and Environment Canada have been studying the impacts that invasive zebra mussels have on native species. Work has been on going for the last three years and will continue this coming summer. Boase was invited to assist in the research this summer with the hope that future joint projects between the Fish and Wildlife Service, Environment Canada, and Walpole Island First Nation can be established.

James Boase, Alpena FRO

Public Use

Columbia Fishery Resources Office partners with Fort Leavenworth for a Fish Survey

Columbia Fishery Resources Office (FRO) was contacted by Ft. Leavenworth (Base) staff to conduct a fish survey targeting species of concern such as sturgeon. A pallid sturgeon is reported to have been caught by an angler in Corral Creek, a tributary to the Missouri River. Columbia FRO has been asked to determine if pallid sturgeon are using the Missouri River adjoining the base and tributaries that are found on the base. Pallid sturgeon (a species normally associated with large rivers) use of tributaries has important management implications for this Federally endangered species. Future potential fisheries work at Fort Leavenworth facility includes management plans for two small impoundments for bass, bluegill, and catfish and a complete survey of the upland streams located on the base is also needed.
Andy Starostka, Columbia FRO



Largemouth Bass stocked into Crab Orchard Lake

Crab Orchard Lake is a 7,000-acre impoundment on Crab Orchard National Wildlife Refuge (NWR). It is a popular destination for anglers, host to several fishing tournaments each year, and important to the local economy. The Illinois Department of Natural Resources (DNR), Carterville Fishery Resources Office (FRO), and Crab Orchard NWR cooperatively manage this recreational fishery. The lake is a popular spot for largemouth bass fishing and supplemental stocking is important to maintain the quality of bass fishing. Genoa National Fish Hatchery (NFH) recently stocked 10,945 largemouth bass (4-5-in. long) into Crab Orchard Lake. Carterville FRO put in a request for these fish but based on other previous commitments it didn't look like the fish were going to materialize. Lucky for us and the anglers who fish Crab Orchard Lake, they did! Thanks to Genoa NFH for making it happen and to Chris Bickers, Illinois DNR, for helping the hatchery staff to stock fish into the lake.

Rob Simmonds, Carterville FRO

Fishery Management Reports completed for Horicon and Fox River National Wildlife Refuges

Fishery assessment reports were completed for the Horicon and Fox River National Wildlife Refuges (NWR). Both refuges were surveyed in 2004; this was an initial survey for Fox River NWR. The data will be used as a baseline to compare with future surveys. One of the goals at the Fox River NWR is to determine if Long Lake will be a good site to build a fishing pier. Long Lake is an oxbow lake that still has a connection to the main river during high water events. A strong population of bluegill dominant the fishery and good populations of crappie, largemouth bass, and northern pike should provide an enjoyable experience for anglers. The Fox River and Muir Creek were also sampled to establish baselines on those fisheries.

At Horicon NWR, excessive numbers of common carp continue to be the main challenge. Since the last carp reduction treatment using rotenone in 2000, the population has rebounded to pre-treatment levels. Recommendations include maintaining the carp trap, water level management, spot treatments, commercial fishing, and predator stocking. The reports will provide managers with current information on the fishery to make informed decisions on management options.

Scott Yess, La Crosse FRO

Pheasant Fest 2005

Technician Corey Lee, along with several other Fish and Wildlife Service employees, attended the Pheasants Forever Pheasant Fest 2005 in Omaha, Nebraska in January in an effort to inform and educate the public about the Fish and Wildlife Service’s Fishery program and its work on the Missouri River. Over 24,000 people filled the Quest Center to attend this event which highlighted outdoor related activities such as hunting and fishing. Outreach to stakeholders in the Missouri River fishery is critical in attempting to establish new partners in aquatic conservation. Conference attendees were eager to ask questions and learn about the Fish and Wildlife Service’s programs involving the Missouri River and its floodplain. Lee answered questions on a variety of subjects including Federally endangered species such as pallid sturgeon, invasive species such as Asian carp, aquatic species, and habitat conservation.

Corey Lee, Columbia FRO



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Corey Lee was one of the Fish and Wildlife Service representatives at Pheasant Fest 2005. The event was held at Omaha’s Quest Center and attracted over 24,000 people.

Neosho National Fish Hatchery raises Rainbow Trout for Mitigation and Public Use Programs

Neosho National Fish Hatchery (NFH) stocked 9,372 (3,878 pounds) of rainbow trout during the month of January. Eight thousand two hundred forty seven of those went to Lake Taneycomo as mitigation fish. The remaining 1,125 went to local stockings.

Roderick May, Neosho NFH



-USFWS by Duane Raver

Rainbow Trout

Recreational Fishing in Downtown Neosho, Missouri

The city of Neosho along with the Missouri Department of Conservation (DOC) and Neosho National Fish Hatchery (NFH) are joining efforts to create a trout fishing park within the city limits. There are other trout parks within the state, but Neosho will be one of only two cities state-wide that has a trout park within the city limits. The park supports numerous recreational activities including baseball, softball, tennis, soccer, hiking, picnicking, carnivals, and of course fishing! A biologist with the Missouri DOC will manage the stream and make recommendations on habitat improvements and maintenance. Neosho NFH will provide the rainbow trout for this project. Approximately 500 fish will be stocked each month from October through May, totaling around 3,000 fish per stocking season. So far, there has been two stockings. The overwhelmingly positive response to this new project has been simply mind boggling.

Roderick May, Neosho NFH



Neosho National Fish Hatchery

Cooperation with Native Americans

Ashland Fishery Resources Office can now read Oxytetracycline Marks

Thanks to a recent Tribal Wildlife Grant (TWG) that was awarded to the Keweenaw Bay Indian Community (KBIC), the Ashland Fishery Resources Office (FRO) and the Tribe will be working together to help determine the contribution of hatchery reared brook trout in KBIC waters. KBIC recently purchased equipment required to read oxytetracycline (OTC) marks in the otolith of fish. This compound microscope and ultraviolet light system will be housed at the Ashland FRO. Our staff will read the samples provided by the KBIC Natural Resources Department and will also be able to use this equipment for other programs.

The Ashland FRO and the KBIC Natural Resources Department have been working together in the marking of brook trout with OTC since 1998. A means of evaluating stocked fish is an important facet of fishery management. Now that the OTC reading equipment is available, the KBIC Natural Resources Department will have a better means of estimating the survival of stocked brook trout.

Glenn Miller, Jonathan Pyatskowitz, and Frank Stone recently traveled to the Wisconsin Department of Natural Resources (DNR) office in Spooner, Wisconsin for OTC training. Technician Gene Hudsonmiller (Wisconsin DNR) presented our staff with the techniques needed to prepare otoliths and read the OTC marks.

Frank Stone, Ashland FRO



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The Keweenaw Bay Indian Community purchased this equipment for reading oxytetracycline marks on bony structures (otoliths) of fish. Personnel from the Ashland Fishery Resources Office were trained to use this specialized equipment as an important fishery management tool.

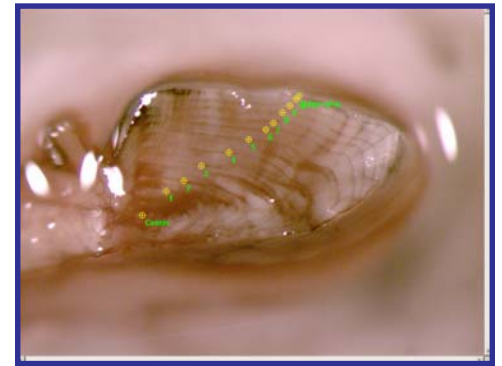
Lake Whitefish Age Determination

Biologist Scott Koproski finished aging lake whitefish otoliths collected during the 2004 fishery independent lake whitefish survey. The Alpena Fishery Resources Office (FRO) is responsible for assessing lake whitefish populations in two management units (WFH-04 and WFH-05) in Northern Lake Huron. The study sampling design was established by the Modeling Subcommittee (MSC) of the Technical Fisheries Committee (TFC). The MSC is responsible for developing lake whitefish harvest limits in 1836 Treaty Ceded Waters.

In 2004, the Alpena FRO collected 128 lake whitefish during assessment activities in Lake Huron lake whitefish management units WFH-04 and WFH-05. Scales and otoliths were collected from all lake whitefish sampled. Koproski used the "crack and burn" technique to identify annuli present in the otoliths. This technique allows researchers to differentiate two distinct growth patterns within the structure: broad summer growth

and narrow winter growth. By counting the bands of winter growth, age estimates can be obtained from the otoliths. Ages, along with other biological parameters, are used in the statistical catch at age models used by the MSC to develop safe harvest limits in 1836 Treaty Waters. The Alpena FRO is fulfilling the Fish and Wildlife Service's obligations as a signatory to the 2000 Consent Decree by serving as members of the Technical Fisheries Committee and the Modeling Subcommittee, and by assessing lake whitefish populations in 1836 Treaty ceded waters.

Scott Koproski, Alpena FRO



-USFWS photo by Scott Koproski

A bony structure in whitefish (otolith) is being examined to determine age. The growth rings (annuli) are marked on this sample. The process is similar to counting growth rings on a tree stump. Biologist Scott Koproski aged lake whitefish otoliths collected during the 2004 fishery independent lake whitefish survey in Lake Huron. The Alpena Fishery Resources Office is responsible for assessing lake whitefish populations in two management units in Northern Lake Huron.

Leadership in Science and Technology

Research Results presented at the Scaphirhynchus Conference

Biologist Wyatt Doyle from the Columbia Fishery Resources Office (FRO) presented results on: "Gear Efficiency and Bias for Shovelnose Sturgeon on the Lower Missouri River" at the 2nd Annual Scaphirhynchus Conference in St. Louis, Missouri. This presentation was a culmination of a collaborative effort with Dr. Craig Paukert, Assistant Unit Leader of the Kansas State Cooperative Unit, to present biologists with new information about the effectiveness of pallid sturgeon monitoring efforts. The January meeting was attended by over 200 biologists and researchers from Montana to Louisiana and reflected an intense effort by all to bring new information to the forefront of pallid sturgeon recovery efforts. This type of new information will allow other biologists to refine their efforts in collecting information related to the biology of the Federally endangered pallid sturgeon. Partnerships with the U.S. Geological Survey and universities will expand our abilities to publish peer reviewed information that will guide recovery efforts.

In addition, Biologist Andy Starostka, also from the Columbia FRO, presented "Dispersal of Hatchery Reared Pallid Sturgeon from a Stocking Site on the Lower Missouri River." Information presented during this presentation was data gathered as part of the Sturgeon Monitoring Program. Results of this presentation revealed that hatchery reared pallid sturgeon were as likely to move upstream from the stocking site as down. Fish from multiple year classes and hatcheries have been recaptured indicating that pallid

sturgeon stockings are making a contribution to the river population. Hatchery reared pallid sturgeon have been captured at the same location as both adult pallid sturgeon and hatchery reared juveniles of the same and different year classes.

Andy Starostka, Columbia FRO
Wyatt Doyle, Columbia FRO



-USFWS

Andy Starostka holds a Federally endangered pallid sturgeon that was captured with an otter trawl during a fishery assessment in the Missouri River. This individual was reared in a fish hatchery.

Lake Trout Eggs support Research at Purdue University

Sullivan Creek National Fish Hatchery (NFH) was requested to provide 5,000 disease free lake trout eggs to Purdue University's Department of Forestry and Natural Resources by Assistant Professor of Fisheries Biology Dr. Trent Sutton. Sullivan Creek NFH and Sutton have been connected in the past; Sutton was formerly the head of the Lake Superior State University's Fisheries Department, which is located only 45 minutes from the Sullivan Creek NFH. Lake Superior State University's fishery students have a long standing tradition of coming out to Sullivan Creek NFH in the fall to volunteer during lake trout spawning.

Sutton's research required lake trout eggs to look at predator-prey relationships. The project will include the evaluation of lake whitefish over-winter mortality to evaluate the ability of newly hatched lake whitefish to evade a natural predator such as the lake trout.

Sullivan Creek NFH is a sub-station of the Pendills Creek NFH located in Brimley, Michigan. Sullivan's has been a lake trout brood facility since 1994 and currently holds five different strains of lake trout brood fish which are used to supply eggs to NFH's; other Federal, state and tribal natural resource agencies; and universities.

Crystal LeGault-Anderson,
Sullivan Creek NFH



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These lake trout brood stock are ready to spawn at the Sullivan Creek National Fish Hatchery. Eggs are used for high priority restoration programs in the Great Lakes with a few eggs reserved for research.

Aquatic Habitat Conservation and Management

Whittlesey Creek Engineered Log Jam Project

A series of engineered log jams on Whittlesey Creek in Bayfield County, Wisconsin were installed early this winter which restored approximately 1,200 feet of instream habitat and enhanced spawning habitat for miles beyond. Engineered log jams are designed to emulate natural jams and large woody debris. They also provide native fish and wildlife habitat, channel stability, decrease bank erosion pressure, and decrease sediment which impairs fish spawning.

Historic accounts of Bayfield area streams indicate that they were nearly impossible to traverse due to the tremendous density of log jams and large fallen wood. This is no longer the case due to watershed disturbances such as stream channel clearing and repeated timber harvests. Because of a lack of channel roughness provided by the large wood, native fish habitat has been severely degraded and stream power during flood events has greatly increased. Partners hope to help reverse this trend with this project, which if proven successful will spawn further restoration projects of this type on Whittlesey Creek. A combination of construction techniques were used, from high impact heavy equipment to a low impact horse team. Coaster brook trout as well as other game and non-game fish will benefit through restoration of habitat and reduced sedimentation to critical spawning areas downstream.

The partners on the project consisted of: Trout Unlimited, Galligan Farms Inc., Ashland Fishery Resources Office (FRO), Whittlesey Creek National Wildlife

Refuge (NWR), Wisconsin Department of Natural Resources, National Fish and Wildlife Foundation, Trout and Salmon Foundation, and the Ashland Bayfield Douglas and Iron Counties Land Conservation District. Inter-Fluve Incorporated of Lake Mills, Wisconsin provided the engineering and construction oversight, and two local contractors were hired to install the project (K & D Excavating of Ashland, Wisconsin and Rocking O' Ranch Logging of Mason, Wisconsin). Trout Unlimited also provided over 60 hours of volunteer labor which was instrumental in the project's success. They provided much of the down and dirty labor, cabling logs into place and helping with other aspects of construction. Mike Mlynarek of the Whittlesey Creek NWR was extremely helpful in providing pre-construction coordination. By working together, great strides have been made in the improvement of habitat for brook trout and other species in Whittlesey Creek.

Ted Koehler, Ashland FRO



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Engineer Marty Melchoir from Interfluve Inc. inspects one of the engineered log jams placed on Whittlesey Creek in Bayfield County, Wisconsin. Engineered log jams are designed to emulate natural jams of large woody debris providing native fish and wildlife habitat.

Pine River/Van Etten Lake Watershed Tour for Landscape Restoration Projects

Biologist Susan Wells toured potential restoration sites in the Pine River/Van Etten Lake watershed. The tour was led by personnel from the Alcona County Conservation District, Rick Myrick and Boyd Byelich, and a member of the Pine River/Van Etten Lake Watershed Coalition, Joe Plunky. The purpose of the tour was to identify a series of small sites within close proximity to each other where efforts can be concentrated for the next few years. Most of the sites toured consisted of road crossings but a few erosion sites were also viewed. A seven mile stretch within the watershed on the East Branch of the Pine River was identified.

This project will be a multi-agency demonstration project to restore habitat integrity, on a landscape scale, within a segment of a watershed. Smaller projects will be conducted within a two year time period and incorporate both upland, riparian, and instream activities. Funding for the individual projects will come from numerous partners. Volunteers will be utilized to educate the public and encourage involvement of local citizens within the watershed.

Susan Wells, Alpena FRO

Turkey Creek Fish Passage Modification benefits Native Fishes

Iowa Department of Natural Resources (DNR) and Hungry Canyons Alliance, with the assistance of Fish Passage funding from the Columbia Fishery Resources Office (FRO), have recently completed construction of weir modifications on Turkey Creek. Turkey Creek, in Cass County, is one of several streams located in South-west Iowa's loess soils area. The soft loose nature of loess soils make them highly erodible. The Hungry Canyons Alliance began constructing weirs in some loess soils streams to reduce erosion and protect state and county infrastructure such as roads and bridges. The original weirs were four foot high with a 4:1 slope. Iowa DNR fisheries staff realized, that over time, the structures were impassable by native fishes. The two agencies have been working together to develop designs for weirs that will meet the needs of both fish passage and human safety. Previous fish passage funds were used to construct weirs with a longer gradual slope of 20:1. These were successful at passing fish but prohibitively expensive to control erosion. The two newly-modified weirs have a slope of 15:1 and are constructed to resemble a natural stream riffle. Mary Litvan and Clay Pierce of Iowa State University are studying fish movements within Turkey Creek before and after the fish passage modifications to assess the benefits to native fishes. Mary will continue to sample fish within the creek for the next year. A project completion report is expected in March 2006.

Joanne Grady, Columbia FRO



Fish Passage funding contibuted to modifications on Turkey Creek in Cass County, Iowa. The above weir has a 4:1 slope. The below photo is the reconstructed water control wier with a 15:1 slope which approximates natural stream gradients.



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Ashland Fishery Resources Office Fish Passage Projects

Ashland Fishery Resources Office (FRO) fish passage projects in the Bad River watershed and on the Bark River are moving forward. In the Bad River watershed, installation of one culvert was squeezed in this fall before the brook trout spawning season. Three proposed fish-friendly culvert installations were also surveyed. The culverts have been purchased, and Ashland Township road crews are ready and eager to complete the installations as soon as spring weather permits. These installations will open about 11 miles of stream habitat in the Bad River watershed for native brook trout.

Another fish passage project is underway on the Bark River. The site was surveyed and a replacement culvert has been delivered. The Clover and Bayfield County

township road crews are also ready to complete the installations this spring. The Bark River culvert replacement will remove the only fish passage barrier on this stream and restore native brook trout access to the high quality spawning and nursery habitat in the upper one mile of the stream.

Lee Newman, Ashland FRO

Habitattitude Campaign Poster

Mark Steingraeber, a biologist at the La Crosse Fishery Resources Office (FRO), has created an attractive poster/handbill to highlight the Fish and Wildlife Service co-sponsored Habitattitude campaign to raise public awareness of the need to protect aquatic environments by not releasing unwanted pet fish and aquatic plants in public waters. This poster was prominently displayed to Fish and Wildlife Service personnel at the recent regional Fishery program project leaders meeting in Onalaska, Wisconsin and to the general public at the 2005 Boat, Travel, and Sport Show in La Crosse, Wisconsin where it was well received. The file containing this poster/handbill can be provided to other offices interested in actively supporting this important conservation outreach effort by contacting Mark Steingraeber (mark_steingraeber@fws.gov).

Mark Steingraeber, La Crosse FRO



Workforce Management

Dave Wedan reaches Career Milestone

Dave Wedan from the La Crosse Fishery Resources Office (FRO) celebrated 20 years of service with the government in January. He started his career with the Air Force. His first Fish and Wildlife Service position was at the Iron River National Fish Hatchery. After about five years, Dave transferred to the Winona FRO that later became the La Crosse FRO.

Dave conducts a variety of tasks at the La Crosse FRO. High on his list of favorite activities is work with tribes, including lake sturgeon restoration on the Menominee reservation and wall-eye assessments with the Great Lakes Indian Fish and Wildlife Commission. Dave takes pride in his work as the Regional Motorboat Operators Certification Course (MOCC) Coordinator, which takes advantage of his teaching abilities. He conducts invasive zebra mussel monitoring and environmental education efforts on the St. Croix River and serves as the crew leader for walleye harvest at Rydell National Wildlife Refuge. Dave maintains our fleet of boats and vehicles and also serves as our safety officer and is a representative on the safety and security committee.

Pam Thiel, La Crosse FRO



-USFWS

Pam Thiel recognizes Dave Wedan for 20 years of Federal service.

Motorboat Operator Certification Course Instructor Meeting and Training

The Motorboat Operator Certification Course (MOCC) regional boat safety instructor scheduling and training meeting was held at the Bishop Henry Whipple Federal Building in January. The meeting was chaired and organized by Dave Wedan, Regional Boat Safety Coordinator, and Pat McDermott, Regional Safety Chief. Project Leader Anne Sittauer from the Sherburne National Wildlife Refuge (National Boat Safety Coordinator) was also present and addressed the workgroup. Regional Director Robyn Thorson greeted and spoke to the instructors along with Deputy Regional Director Charlie Wooley. McDermott and Wedan also held a brief question/answer session on the MOCC program with Regional Management Team members. Along with developing the boat safety training schedule for Fiscal Year 2005, instructors were briefed on new equipment usage, manual changes, travel procedures, safety, instructor assignments, accident reporting,

open water and airboat course changes, and updates.

Tom Charles from Cypress Creek National Wildlife Refuge and Brian Pember from Upper Mississippi River National Wildlife and Fish Refuge-Winona District were welcomed as new instructors. Robert Drieslein, previous Regional Boat Safety Coordinator and instructor, and Lead Instructor John Decker were honored for their contributions to the MOCC program upon their recent retirements from the Fish and Wildlife Service, but both indicated a desire to continue as instructors as volunteers. Instruction and training of employees as MOCC instructors will help foster a safe work habitat for all Fish and Wildlife Service programs.

Dave Wedan, La Crosse FRO
Adam Kowalski, Alpena FRO



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Motorboat Operator Certification instructors met in Fort Snelling for a training session.

Great Lakes - Big Rivers Regional Fisheries Offices

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

Gerry Jackson (gerry_jackson@fws.gov)

Michigan

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

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

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

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

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

Missouri

Columbia Fishery Resources Office
101 Park Deville Drive; Suite A
Columbia, MO 65203
Tracy Hill (tracy_hill@fws.gov)
573/234-2132

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

Illinois

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

Wisconsin

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

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

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

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

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

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



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

Phone: 612/713-5111

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



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Windows in time

A Glimpse into our Proud Past

Aerial view of the Neosho National Fish Hatchery (circa 1930's)

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