U.S. Fish & Wildlife Service

Fish Lines

Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems

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La Crosse Fish Health Center; Onalaska, Wisconsin

(See the "*Station Spotlight*" on Page 5)

Series of photos depicting La Crosse Fish Health Center activities: (Top Row, Lt. to Rt.); Elementary school students examine aquarium fish and displays as part of a fish health presentation; Staff demonstrate fish health sampling techniques to a group of hatchery visitors; Corey Puzach takes tissue samples from paddlefish snagged on the Black River in Missouri as part of the National Wild Fish Health Survey (Survey); (Middle Row, Lt. to Rt.); This is one of the 26 paddlefish sampled for the Survey; Ralph Simmons, fishery biologist at the Neosho National Fish Hatchery, learned to perform fish health inspections through the training course given annually by Fish Health Center staff; Inspections are critical to monitor fish health in hatchery and wild fish populations.

Pat Maylone Retires

-USFWS

Pat Maylone is ready for retirement! The date is set for January 23, 2004. She will be missed by the Fisheries staff.

We dedicate this issue of *Fish Lines* to Pat Maylone who is retiring from our Fisheries Regional Office staff as of January 23, 2004. Pat has worked in the Regional Office for the past 12 years, 6 of them as a secretary in Fisheries. She is one of the behind the scenes people who work tirelessly to assure the success of field programs through her technical and administrative contributions. As an example Pat has been instrumental in the preparation and distribution of *Fish Lines* to highlight the many accomplishments of others in our Fisheries program. Pat plans to spend her retirement years with her grandkids and researching her family history. We are grateful that we had the opportunity to share these past 6 years with Pat and wish her continued happiness in her retirement.

Region 3 - Great Lakes/Big Rivers Region

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

Conserving America's Fisheries

Fisheries Program Vision for the Future

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

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

Strategic Plan Vision Focus Areas

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

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

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

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

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

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

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

Inside this Issue

Click here to visit our Fisheries Web Site

Great Lakes - Big Rivers Region Fisheries Field Offices

National Fish Hatcheries

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

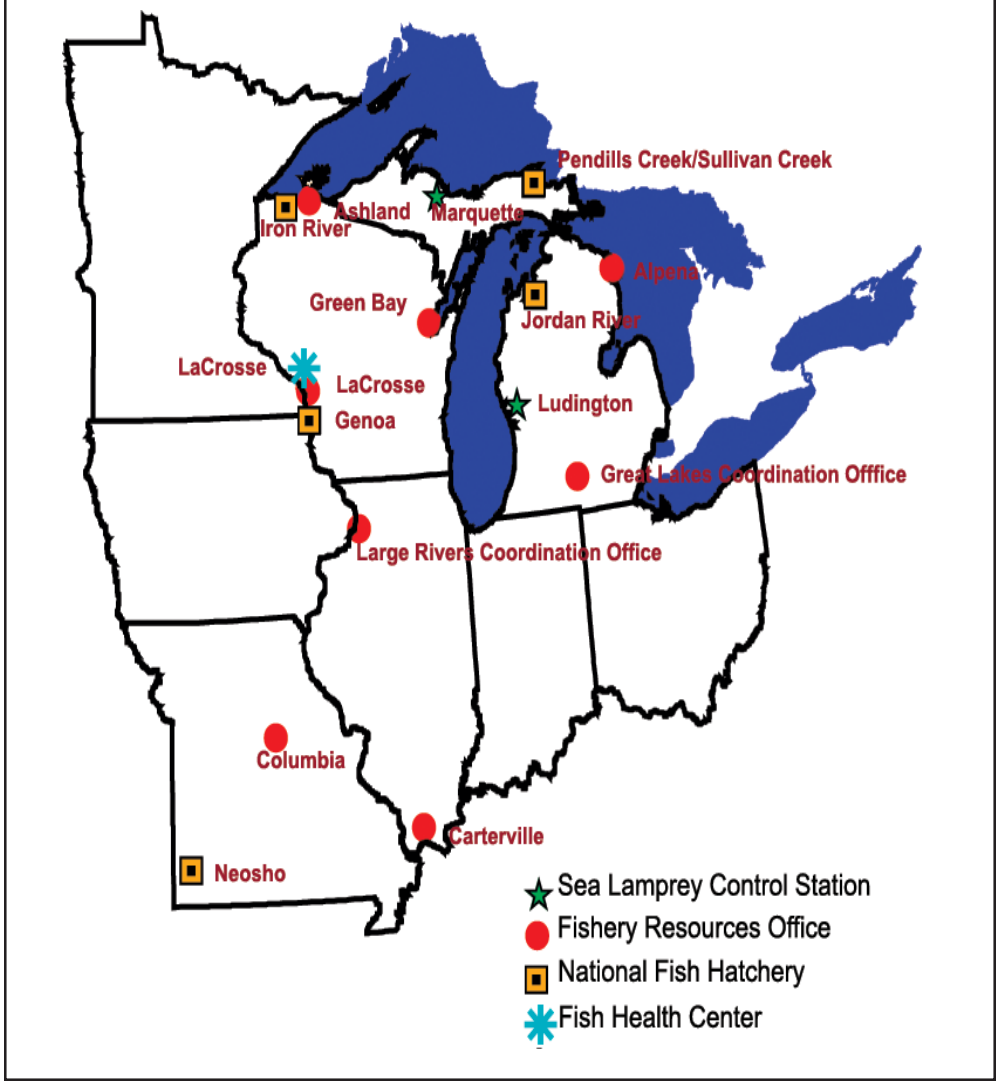
Sea Lamprey Control Stations

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

Fishery Resources Offices

Fishery Resources Offices perform key monitoring and control activities related to invasive aquatic species; survey and evaluate native fish stocks and aquatic habitats to identify restoration opportunities; play a key role in targeting and implementing native fish and habitat restoration programs; work with private land owners, states, local governments and watershed organizations to complete aquatic habitat restoration projects under the Service's Private Lands and the Great Lakes Coastal Programs; provide coordination and technical assistance toward the management of interjurisdictional fisheries; maintain and operate several key interagency databases; provide technical assistance to other Service programs addressing contaminants, endangered species, federal project review and hydropower operation and re-licensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments and treaty authorities.

Great Lakes - Big Rivers Region Fisheries Field 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.

Fishery Coordination Offices

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

Great Lakes - Big Rivers Regional Fisheries Program

Station Spotlight - La Crosse Fish Health Center

The La Crosse Fish Health Center (Center) is located in Onalaska, Wisconsin in the southwest corner of the state bordering the Mississippi River. The Center is one of nine fish health laboratories operated by the U.S. Fish and Wildlife Service to serve the National Fish Hatchery System. The Center was established in 1962 and moved to its current facilities in 1995. The staff consists of eight permanent w/ 1 vacancy, 4 experience program students, and 2 student volunteers.

As an aquatic animal health laboratory, the Center services include health inspections, diagnostics, training opportunities, and technical information exchange to five Regional National Fish Hatcheries. Fish health assistance is also provided to state, tribal, other federal, commercial, and research facilities in diagnosing, prevention, and controlling infectious disease agents.

Another vital function of the Center is to provide fish health training to state, tribal, federal, commercial, and university personnel through short courses, seminars, presentations, and lab details. The Center has an annual short course of one week titled "Introduction to Fish Health Management" taught in La Crosse, Wisconsin to 16 attendees from all over the country. Trained instructors from the Center are also used to teach other short courses throughout the country in cooperation with the Fish and Wildlife Service's National Conservation Training Center in Shepherdstown, West Virginia. Publication of a training manual was recently completed titled "Introduction to Fish Health Management." This very popular publication is used at 7 colleges and universities, many of the state resource agencies, fish culturists at our National Fish Hatcheries, and some commercial hatcheries.

A major effort of the La Crosse Fish Health Center is the National Wild Fish Health Surveys in watersheds throughout the Great Lakes/Big Rivers Region in cooperation with State and Tribal partners. This is a national program that includes all nine Fish Health Centers from across the country to assess the overall fish health concerns of major watersheds in the United States. Some of the species being checked for new pathogens in this Region include paddlefish, pallid and lake sturgeon, baitfish, trout, salmon, sea lamprey, frogs, mussels, carp, bass, drum, suckers and bowfin.

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La Crosse Fish Health Center

Left to Right: Janet Beitlich, Becky Lasee, Cory Puzach, John Whitney, Terrence Ott, Kenneth Phillips, Richard Nelson

A new program the Center is participating in is a joint national surveillance program for the presence of Spring Viremia of Carp which is a new virus to the United States. This is a cooperative program with the U.S. Department of Agriculture, Fish and Wildlife Service, and many state partners. Surveillance teams have been set up to investigate carp die-offs for the presence of the virus throughout southeast and mid-west watersheds.

Outreach is also an important part of operations. The Center works closely with two sister facilities, the Genoa National Fish Hatchery and La Crosse Fishery Resource Office, in supporting and assisting the "Friends of the Upper Mississippi River Fishery Stations" friends group located in the La Crosse, Wisconsin area.

For detailed information about La Crosse Fish Health Center, contact the office at: **(608) 783-8441.**

Partnerships and Accountability

Regional Dive Team Searches the Muddy Waters of the Upper Mississippi River for Rare Treasure

Divers from the Region 3 Dive team, stationed out of Genoa National Fish Hatchery (NFH), plied the turbid waters of the Upper Mississippi River between Minneapolis, Minnesota and Cordova, Illinois during the month of October looking for buried treasures. Not the shiny kind that you wear on your finger or that may pay for that retirement home on the lake, but rather the more valuable ones known as endangered species. Biologists from the hatchery, working with Minnesota Department of Natural Resources personnel, conducted mussel surveys within Pool 9 on the Upper Mississippi River National Wildlife and Fish Refuge (NW&FR) near DeSoto, Wisconsin.

The divers identified over 20 species of native mussels that still inhabit this portion of the NW&FR, including the federally endangered Higgins' eye pearlymussel. This portion of the Mississippi River has been severely impacted by the recent invasion of exotic, invasive zebra mussels. Native mussel density and species composition was markedly lower than recorded historic levels.

Hatchery divers also conducted assessment surveys on several known populations of Higgins' eye pearlymussels within other areas of the upper river. These sites included a recovering population established in 2001 near Minneapolis, Minnesota and a site located within the Savannah District of the Upper Mississippi River NW&FR, near Cordova, Illinois. Divers gathered data on both populations, as well as collected over 15 gravid (larva bearing) female mussels for recovery work being carried out by hatchery staff.

Roger Gordon, Genoa NFH

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Divers from the Region 3 Dive Team prepare to "treasure hunt" in Pool 2 of the upper Mississippi River near Minneapolis, Minnesota. The treasure they will look for is endangered mussels.

Coasters on the Rocks

Coaster brook trout fingerlings reared at the Iron River National Fish Hatchery (NFH) were recently stocked at Pictured Rocks National Lakeshore. This stocking was a collaborative effort between the National Park Service, Northern Michigan University, Trout Unlimited, Michigan Department of Natural Resources, and the Fish and Wildlife Service. Three National Lakeshore rivers were stocked with fingerling coaster brook trout that originated from previous gamete (eggs and milt) collections of the Tobin Harbor (Isle Royale) strain. Mosquito River received 12,400, Seven Mile Creek 13,700, and Hurricane River 10,000 fingerlings. All fish stocked had a river specific fin clip and several hundred trout carried an implanted pit-tag. Reintroduction of marked fingerlings into these three streams at Pictured Rocks National Lakeshore, Michigan, began in 1997.

All partners are engaged in a long-term commitment to reach the goal of a self-sustainable coaster brook trout population in Lake Superior. Surveys using electro-shocking equipment in Mosquito River, Hurricane River, and Seven mile Creek will be conducted twice next summer. Biologists will assess populations of fin-clipped coaster populations by size/age class. Data regarding the timing, duration, and extent of the migrations will be considered in establishing fishing regulations in the State of Michigan. Future stocking recommendations will be based on these results.

Steve Redman, Iron River NFH

Apostle Island Lake Trout headed to Isolation

This fall, John Johnston and Angela Baran from the Iron River National Fish Hatchery (NFH) were onboard the Wisconsin Department of Natural Resource's (DNR) research vessel Hack Noyes. Over a four day period in October, they collected eggs from 110 pairs of wild lake trout from the Apostle Islands of Lake Superior as part of an annual fall assessment of the lake trout population in Lake Superior by the Wisconsin DNR. Gill nets were set in 2 sites each day. These nets were then pulled to sample the fish and reset for the next day. The Wisconsin DNR uses this time to assess the condition of the lake trout and collect their next year's production eggs. To create future brood fish, a one to one spawning method was used with ripe females and males of wild fish. A small

collection of eggs from each pair were kept in separate containers and disinfected with iodine. These eggs were then transferred to the Keweenaw Bay Tribal Fish Hatchery for an 18 month isolation period. An agreement with the Keweenaw Bay Tribal Hatchery allows Iron River NFH to keep eggs and fish at their hatchery to insure they are disease-free before transferring to a brood stock facility. This process ensures that the hatchery will be producing and stocking fish as close to "wild" as possible to achieve rehabilitation goals.
John Johnston, Iron River NFH

Higgins' Eye Pearlymussel Infestation takes place in Iowa

Genoa National Fish Hatchery (NFH) divers, (members of the Region 3 dive team) descended into the depths of the Mississippi River at Cordova, Illinois on October 8 to collect gravid (larva bearing) Higgins' eye pearlymussels. With help from Illinois Department of Natural Resources (DNR) and the Army Corp of Engineers, they were able to collect 16 gravid females.

These mussels were used as a part of an ongoing effort by Genoa NFH, Iowa DNR, and other members of the Higgins-eye Mussel Coordination Team to recover this endangered mussel species to inland waters of Iowa. The combined resources of the Mussel Coordination Team allowed the group to inoculate 1800 hatchery and wild caught fish with Higgins' eye glochidia (larval mussels).

On October 15, 500 hundred bass (largemouth and smallmouth) produced at Genoa NFH, 1230 Iowa DNR produced walleye, and 70 wild caught fish were inoculated with Higgins' eye glochidia and then released into the Iowa River near Iowa City, Iowa.

Current statistics indicate that over 70% of all mussel species are imperiled or in decline throughout much of their historic range. Factors contributing to the decline include pollution, sedimentation, and the establishment of invasive zebra mussels in the upper Mississippi River and its tributaries. We have seen drastic declines not only in Higgins' eye populations but in many other native mussel populations as well. By inoculating the fish with Higgins' eye glochidia and releasing them into the river, our goal is that the fish will deliver transformed juvenile mussels into suitable habitat in which they will be able to grow and begin repopulating the river.
Tony Brady, Genoa NFH

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Tony Brady is collecting mussel larva "glochidia" from a Higgins' eye pearlymussel at Genoa National Fish Hatchery. Working with the Iowa Department of Natural Resources, approximately 1800 fish were were inoculated with glochidia and released into the Iowa River near Iowa City, Iowa. Largemouth bass, smallmouth bass, and walleye served as hosts for this endangered mussel. It is hoped that transformed juvenile Higgins' eyes will reach suitable habitat to begin repopulating the river.

Results of Zebra Mussel monitoring on St. Croix River

During the week of August 18-22, the Fish and Wildlife Service in coordination with the National Park Service (NPS) conducted a series of scuba dives to document the current status of the exotic zebra mussel in the lower 28.5 river miles of the St. Croix River bordering Wisconsin and Minnesota. The latest survey indicates no zebra mussels in the St. Croix River downstream from the High Bridge upstream of Stillwater, Minnesota to Bayport, Minnesota where we started seeing very low densities of zebra mussels. Higher densities of zebra mussels are evident from the Kinnickinnic Narrows downstream to the mouth of the St. Croix River.

Specifically we documented the following: St. Croix River Mile (RM) 28.5 downstream to RM 21, no zebra mussels were found RM 20, along MN shoreline, 3 adult zm's found RM 18.5, along MN shoreline, 4 adult zm's found RM 17.4 to 16.1, Hudson Narrows, 13 adult zm's found RM 16, WI shoreline along I-94 causeway riprap, adult zm density = 12-16/m2 RM 16 to 12.5, along MN shoreline, 7 adult zm's found RM 11.5, along MN shoreline at City of Afton, adult zm density = 16/m2 RM 6.5, along MN shoreline in Kinnickinnic Narrows, adult zm density = 408/m2 RM 4, along MN shoreline near St. Croix Bluffs Regional Park, adult zm density = 8-28/m2 RM 0.2, along WI shoreline near Prescott Higgins' eye relocation site, adult zm density = 400/m2.

The NPS summarized all the results in a report which was available starting the week of September 29th.
Richard Rowse, Twin Cities FO

Fisheries Step-down Vision presented to Great Lakes Sportfishing Council

Project leader Jerry McClain, Alpena Fishery Resources Office (FRO), traveled to Port Clinton, Ohio on October 18 to attend the annual meeting of the Great Lakes Sportfishing Council. McClain provided a presentation to the group on the Fish and Wildlife Service's new Fisheries Program Strategic Planning Vision.

This regional step-down process is intended to provide an overview of the proposed future of the Fisheries program and to seek feedback from partner agencies and constituency groups. McClain's presentation highlighted current and planned activities of the Great Lakes fishery stations including Fishery Resources Offices, National Fish Hatcheries, and the Sea Lamprey Control program. In addition to the presentation on the Fisheries Vision, McClain was asked to provide a short update on the Fish and Wildlife Service's final rule on Double-crested Cormorant management which was issued on October 8.

The Fisheries Program is seeking partner input on the proposed future of our program. This outreach effort is one of several step-down activities that will be undertaken by this station and the Region to get the message out and receive feedback on the priorities of the Fisheries Program. The Great Lakes Sportfishing Council represents sport fishing interests on Great Lakes waters.

Jerry McClain, Alpena FRO

Thunder Bay River Working Committee Meeting

Assistant Project Leader Tracy Hill participated in a Federal Energy Regulatory Commission (FERC) Working Committee meeting for Thunder Bay Power (Working Committee). The Working Committee was created to assist Thunder Bay Power with its requirements to FERC under the terms of their license dealing with the Thunder Bay River which enters Lake Huron at Alpena, Michigan. Dr. Hill is the Fish and Wildlife Service representative on the Working Committee. During the meeting, completion of 2003 field activities was discussed. Two erosion sites on the river were repaired, inventory and monitoring of erosion sites was completed, two erosion sites were selected for repair during 2004, and an aquatic nuisance plant survey was completed. An initial draft of Article 409 (Fish Passage) was distributed. The draft plan must be reviewed by both Michigan Department of Natural Resources (DNR) and Fish and Wildlife Service prior to submission to FERC.

Under Article 418 (Recreational Plan), the Working Committee agreed to partner with the City of Alpena to expand a fishing pier that exists at Lamarre Park. Partnering with the city will allow the pier to extend an additional 150 feet and result in over 500 feet of barrier free access to the river. The Working Committee is seeking assistance from the Fish and Wildlife Service and Michigan DNR to develop grants for funding this project. The meeting was attended by member representatives from Michigan DNR, Thunder Bay Power, and Fish and Wildlife Service. In addition, representatives from Hubbard Lake Sportsmen and Development Association and Northeast Michigan Counsel of Governments also participated. Fish and Wildlife Service involvement in this initiative provides an opportunity to minimize the impacts of habitat alteration on fish and other aquatic species from the hydropower facilities.

Tracy Hill, Alpena FRO

Invasive Ruffe Surveillance completed in all Major Lake Michigan Ports

In cooperation with the Michigan Department of Natural Resources, the Ashland and Green Bay Fishery Resources Offices (FRO) continued surveillance for invasive Eurasian ruffe in Lake Michigan. Surveillance consisted of bottom trawling and targeted the east shore Michigan ports of St. Joseph, Muskegon, Manistee, and Traverse City. No ruffe were captured, but surveyors collected another invasive fish, round goby, in all ports except Traverse City with the largest catch (352) collected from Muskegon. Round gobies were not uniformly distributed and were most commonly associated with large catches of invasive zebra mussels. The abundance of native yellow perch was rare in all catches. A large catch (150+) of the invasive species, rusty crayfish, was collected from one site near Traverse City; however, surveyors also collected several large catches of native crayfish from other sites in the Traverse City area. A survey of four ports on the west and south shores of Lake Michigan was completed previously in July. No ruffe were captured in that survey.

Gary Czypinski, Ashland FRO
Stewart Cogswell, Green Bay FRO

Aquatic Species Conservation and Management

Round Goby and White Perch invade Ruffe Colony in Thunder Bay Harbor, Lake Superior

The Lake Superior Management Unit (LSMU) of the Ontario Ministry of Natural Resources (OMNR) and the Ashland Fishery Resources Office (FRO) completed an annual assessment of the invasive Eurasian ruffe population in Thunder Bay harbor of Lake Superior in Ontario, Canada. The assessment consisted of 25 bottom trawl tows of 5-minute duration. A total of 23 species were collected, and spottail shiner (1,899) dominated the total catch followed by invasive ruffe (1,138), and trout-perch (769). Single specimens of round goby and white perch, also invasive species, were captured along with ruffe in one transect within a freighter slip. The round goby capture is a new discovery here, and a second confirmed location for this invasive fish in Lake Superior. The only other confirmed location of round goby in Lake Superior is the Duluth/ Superior harbor. The white perch capture could also be a new discovery pending review of earlier LSMU records. Relative ruffe abundance has increased significantly from 78 per hour in trawls in 2000 to 569 per hour in trawls currently. Invasive ruffe accounted for 21% of the total catch and 2003 marks the first year in which ruffe are one of the top three most abundant species collected in trawls here. These annual joint OMNR/Fish and Wildlife Service ruffe assessments in Thunder Bay harbor have been ongoing since 1997.
Gary Czypinski, Ashland FRO

-Shedd Aquarium

Invasive species round goby (above) and white perch (below)

-Shedd Aquarium

Fish Health Center monitors Wild Fish for Exotic Viral Disease

On October 28th, Corey Puzach, Eric Leis, and experience program students from the La Crosse Fish Health Center (FHC) teamed up with several of their partners to monitor the Illinois River for Spring Viremia of Carp (SVC) including three professors from the University of Illinois Veterinarian School that volunteered their time. The fish tissue samples were taken to Jake Wolf Memorial Hatchery near Havana, Illinois for analysis. This joint sampling effort was conducted as a follow up of a case of SVC which was isolated from the Calumet-Sag Channel in June of 2003. During that time, the virus was located while conducting a survey of invasive round goby and Asian carp. Staff also gathered data for the National Wild Fish Health Survey.

The Calumet-Sag Channel eventually drains into the Illinois River. These health samples will help determine if the virus has spread to the Illinois River. SVC is an exotic viral disease which was recently discovered in the United States. The virus is commonly found in Europe, Asia, and the Middle East where carp aquaculture takes place. SVC was isolated from a Koi farm in North Carolina in spring of 2002. It has also been isolated from a wild carp population in Cedar Lake, Wisconsin during the spring of 2002.

SVC is caused by the virus Rhabdovirus carpio, a bullet shaped ribonucleic acid virus. Signs of SVC are darkening of the skin, pop-eye, excess fluid in the body cavity and/or organs (ascites), hemorrhages in the gills, skin, and eyes, tiny hemorrhages in the swim bladder, swollen spleen, and protruding vent. The virus enters the fish through the gills and is spread through the feces and mucus of infected fish. The virus is active when water temperatures range between 12 degrees C to 22 degrees C. Therefore, SVC affects fish in both the spring and the fall, when waters are warming and cooling at the optimal temperature range. All of the exotic carp species located in United States waters are susceptible to the virus. Tissue samples were taken from the kidneys, spleen, and gills to screen if the fish is currently infected. Blood samples were also taken to see if the fish had been exposed to the virus in the past.
Corey Puzach, La Crosse FHC

Culmination of Invasive Round Goby Predation Study in Thunder Bay, Lake Huron

In October, the Alpena Fishery Resources Office (FRO) culminated field work associated with a two year study funded by the U.S. Environmental Protection Agency's Great Lakes National Program Office to examine round goby predation on lake trout eggs. Round goby are invasive bottom dwelling fish native to Eurasia that were accidentally introduced into the Great Lakes from ship ballast water. They are thought to compete with native species for food and habitat resources, and are known to feed on eggs. They have rapidly spread within the Great Lakes and may pose a threat to native species restoration. Lake trout rehabilitation is the focus of fishery efforts in Lakes Huron and Michigan and goby have been found in offshore areas where lake trout spawn. There is concern that goby may be feeding on lake trout eggs deposited during fall spawning. In 2002, Alpena FRO initiated a study to examine the stomachs from goby captured from a known lake trout spawning reef near shore in Thunder Bay, Lake Huron. Fall catches of goby were examined for presence and number of lake trout eggs. Set line and minnow trapping gear were used to collect goby. Final efforts were completed in October. A report summarizing the survey and findings will be prepared in early 2004.

The Fish and Wildlife Service has been conducting lake trout restoration in the Great Lakes through stocking and various strain and fish quality studies and has partnered with state, provincial and tribal management agencies, and universities to restore the once abundant lake trout. An estimate of goby predation on lake trout eggs will assist with calculation of lake trout mortality in Lake Huron. For more information on the invasive round goby or Alpena FRO reports, access our website at: http://midwest.fws.gov/alpena.
Anjanette Bowen, Alpena FRO

-USFWS

Minnow traps are used as sampling gear for invasive round goby. Alpena Fishery Resources Office staff have completed field work for a two year study to examine goby predation on native lake trout eggs.

La Crosse Fishery Resources Office and Rydell National Wildlife Refuge 2003 Walleye Harvest

Seventy acre Clifford Lake on Rydell National Wildlife Refuge (NWR) in northwest Minnesota yielded a record 83,750 7-10" juvenile walleyes in October to La Crosse Fishery Resources Office (FRO), Genoa National Fish Hatchery (NFH), and Rydell NWR crews.

Genoa NFH stocks Clifford Lake with walleye fry each spring. After thriving and growing naturally all summer, Dave Wedan from the La Crosse FRO sets "trap or "fyke" nets around the shoreline daily, pulling the net and transferring the lively walleyes to Genoa NFH's distribution trucks. Genoa crews then distribute and "stock" the walleyes into federal and tribal waters. Genoa's crew consisted of Roger Gordon and Jeff Lockington, along with Rydell NWR's Bob Hiltner, JuanCarlos Giese, and Dave Bennett. This year, because of the high numbers of walleyes netted, White Earth Tribal Biologists Randy Zortman and Technician Will Bement also provided assistance with the netting, distribution, and stocking efforts.
Dave Wedan, La Crosse FRO

Snip! Clipping begins at Iron River National Fish Hatchery

Fin clipping began again on October 6 at Iron River National Fish Hatchery (NFH). Although it seems like we just finished this from last spring, it is time again for fall fingerling plants. Iron River NFH produces about 200,000 fingerlings every fall to increase total lake trout production, as required by the U.S. vs Michigan Consent Decree. The employees hired to perform this work, commonly referred to as fin clippers, clipped approximately 240,000 lake trout fingerlings to be planted in Lake Michigan. The clip allows resource biologists to determine that these fish originated at a hatchery and also identifies the year stocked. 115,000 fish were then trucked to Fisherman's Island, Michigan, to be shore stocked on Monday, November 3rd by John Shuman and Steve Redman. On Wednesday, November 5th, 75,000 fish were shore stocked at Bender Park in Milwaukee, Wisconsin, by John Johnston and Nick Grueneis. The final load of 75,000 fish was delivered to North Point Park in Sheboygan, Wisconsin, on Friday November 7th by John Antilla and volunteer Jim DeGraf. Pendills Creek NFH assisted by providing a large distribution truck and driver, John Shuman.
Angela Baran, Iron River NFH

Fish Health Inspection at Jordan River and Neosho National Fish Hatcheries

Staff from the La Crosse Fish Health Center (FHC) completed semi-annual fall fish health inspections at Jordan River National Fish Hatchery (NFH) and Neosho NFH. At Jordan River, La Crosse FHC staff observed facilities and collected tissue samples from the 6 lots (strains) of 2003 year-class lake trout. The tissue samples will be screened for bacterial (Aeromonas salmonicida, Renibacterium salmoninarum, Yersinia ruckeri), viral (infectious pancreatic necrosis virus, infectious hematopoietic necrosis virus, viral hemorrhagic septicemia), and parasitic (Myxobolus cerebralis) pathogens at the FHC's laboratory facilities in Onalaska, Wisconsin. Jordan River NFH raises lake trout as part of the Fish and Wildlife Service's rehabilitation efforts in Lake Huron and Lake Michigan. The 2003 year-class fish will be stocked during the spring and early summer of 2004.

A fish health inspection and health assessment was also conduced at Neosho NFH by Project Leader Rick Nelson on three lots of rainbow trout and one lot of pallid sturgeon. Rainbow trout underwent a similar inspection as fish at Jordan River NFH. Pallid sturgeon tissue samples will be checked histologically for virus by Region 6 staff at the Bozeman FHC in Montana.

The trout were being raised at Neosho NFH for mitigation stocking in Lake Taneycomo, Missouri. The pallid sturgeon are part of the Pallid Sturgeon Recovery Plan, a joint effort between Regions 3 and 6 of the Fish and Wildlife Service, other federal agencies, state partners, utility companies, and non-governmental organizations (NGO's). The La Crosse FHC provides fish health inspection, diagnostic services, and technical assistance to federal and tribal fish hatcheries located in the Great Lakes-Big Rivers Region.
Rick Nelson, La Crosse FHC

-USFWS

Maintaining a disease history of fish in our hatcheries is crucial for recovery and restoration programs. Corey Puzach and Rick Nelson of the La Crosse Fish Health Center are performing a fish health inspection on-site.

Fall Harvest, A Bumper Crop at the Genoa National Fish Hatchery

It has been a long dry summer as far as the farmers in Wisconsin, Iowa, and Missouri are concerned, but the fish at the Genoa National Fish Hatchery (NFH) like it just fine, thank you! Every fall, as fish metabolism slows with colder temperatures, rearing ponds at the hatchery are drained and the fish are brought to holding tanks for inventory. This year has been a good one for extended growth fingerling survival and growth. Over 95,000 6 inch walleye, 15,000 4-6 inch smallmouth bass, and 12,000 4-6 inch largemouth bass were harvested. As icing on the cake, a large pond at the station that is now used to raise disease free minnows for forage fish production, was stocked with 50 gallons of broodstock minnows in the spring. At last count, over 1700 gallons of minnows were harvested. These minnows will be used to feed the bass and walleye that will be carried over through the winter. These "host fish" will be used to propagate the Endangered Higgins' eye pearlymussel in the spring. Walleye and bass that are not used in mussel recovery are stocked in National Wildlife Refuge and tribal waters to support ongoing fishery management programs.
Doug Aloisi, Genoa NFH

-USFWS

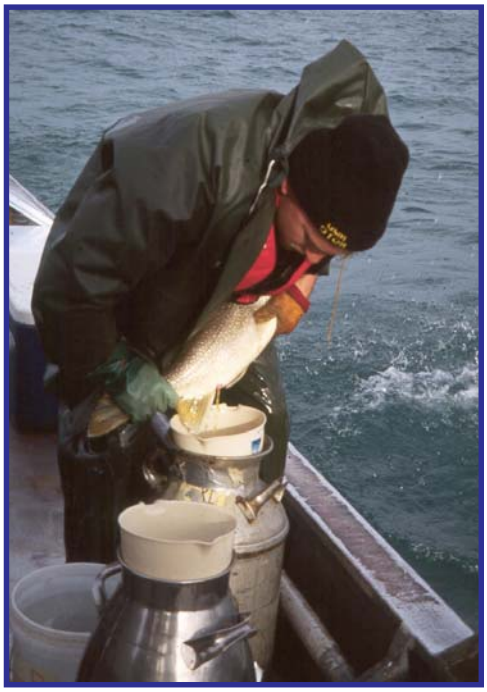
Walleyes produced at the Genoa National Fish Hatchery serve as "host" fish to recover endangered Higgins' eye pearlymussels.

Green Bay Fishery Resources Office completes Annual Lake Trout Assessments in Western Lake Michigan

The Fish and Wildlife Service's Green Bay Fishery Resources Office (FRO) recently completed their annual fall spawning surveys on three reefs along the Wisconsin shore of Lake Michigan that have historically been stocked by the Fish and Wildlife Service with juvenile lake trout.

Graded-mesh gill nets were set multiple times over a three week period to sample lake trout that congregate over these reefs to spawn each fall. The catch from these annual surveys provides

biologists with an estimate of lake trout relative abundance over time and it is also used to monitor progress towards lake trout restoration. For example, all captured lake trout are examined for lamprey wounds and fin clips. The number of lake trout exhibiting "fresh" lamprey wounds is useful to estimate relative mortality rates due to attack by invasive sea lamprey. Fin clips are checked to determine the proportion of lake trout derived from natural spawning events in the lake. The Fish and Wildlife Service marks all hatchery stocked lake trout with a unique fin clip, and therefore lake trout exhibiting no fin clips are naturally spawned.



-USFWS

A Fish and Wildlife Service biologist collects egg samples from a lake trout captured during the annual fall spawning survey on a reef along the Wisconsin shore of Lake Michigan.The eggs are used in research projects for contaminant and egg survival studies.

Age, length, maturational state, and sex of the fish are also recorded during the surveys to examine the reproductive potential of the lake trout population and its overall health. Finally, the annual surveys allow the Fish and Wildlife Service to assist scientists in outside agencies by providing them with valuable biological samples. Staff assisted with agency and partner research projects this year by providing lake trout collections for contaminant and egg survival studies.

Dale Hanson, Green Bay FRO

Lake Trout Restoration Activities in Region 3 received a Valuable "Upgrade"

Personnel from Genoa National Fish Hatchery (NFH) traveled to the Finger Lakes area of New York (Region 5) recently to assist State of New York fishery biologists in their annual collection of wild lake trout gametes (eggs and milt). Biologists are extremely interested in these particular populations of lake trout as a valuable key to Fish and Wildlife Service rehabilitation efforts in the Great Lakes. Recent studies have shown higher survival of Finger Lakes strains of lake trout in some areas of Lake Huron where invasive sea lamprey infestations are a recognized limiting factor in rehabilitation.

Several thousand progeny resulted from over 100 pairs of fish spawned and will be raised at the Genoa NFH Isolation Unit for 18 months. They will be subjected to a series of rigorous disease inspections by the La Crosse Fish Health Center before they are transferred to Regional lake trout hatcheries to begin their lives as broodstock for the production of millions of eggs annually needed for fish production. It is hoped that these fish, with their unique characteristics, will aid in the long term successful rehabilitation of this nationally significant native fish species.

Roger Gordon, Genoa NFH

-USFWS

Genoa National Fish Hatchery employee, Jeff Lockington, traveled to the Finger Lakes of New York to assist State crews with their annual collection of wild lake trout gametes (eggs and milt). A small sample of eggs was taken from each of 100 paired matings which will be used to develop a geneticly diverse captive brood stock for the Great Lakes/Big Rivers Region.

Sea Lampreys are marked with Coded Wire Tags

Metamorphosing and parasitic-phase invasive sea lampreys were marked with coded wire tags and released into the Great Lakes to assess the population. The Fish and Wildlife Service and the Department of Fisheries and Oceans Canada (DFO) are cooperating to develop population estimates of these life phases of sea lampreys in Lakes Superior and Huron. The agencies are contracted by the Great Lakes Fishery Commission to deliver an integrated program of sea lamprey management.

Metamorphosing sea lampreys were collected from streams prior to scheduled lampricide treatments by electrofishing, fyke netting, and other methods. Parasitic-phase animals were collected from a network of commercial fishermen with help from the Chippewa Ottawa Resource Authority and the U.S. Geological Survey. Coded wire tags were inserted into the animals before they were released. About 800 of the metamorphosing sea lampreys were released into Lake Superior tributaries during

October, and about 350 parasitic-phase animals were released into northern Lake Huron. Collection of animals, tagging, and releases will continue in the United States and Canada into December.

Metal detectors will be used to identify the coded wire tagged lampreys that are re-captured in assessment traps during the spring spawning migration. Each tag contains a unique code that allows correlation of biological information specific for each animal. The tagged parasitic-phase animals will enter spawning streams in 2004, and the tagged metamorphosing animals will enter spawning streams in 2005. Similar assessments have been conducted intermittently since 1992. This data is helping to assess success of the lamprey control program in Lakes Superior and Huron, and provides valuable data about lamprey survival at various life stages.

Michael Twohey, Marquette Biological Station

Exploratory Surveys for Coaster Brook Trout conducted on North and South Shores of Isle Royale National Park

Electrofishing surveys for coaster brook trout on the north and south shores of Isle Royale, Michigan, were conducted during October 20-26, by the Ashland Fishery Resources Office (FRO) and the U.S. Geological Survey's (USGS) Lake Superior Biological Station. The USGS vessel RV/KIYI and crew along with the Ashland FRO hoisted the 20 foot Fish and Wildlife Service electrofishing boat onto the deck of the KIYI. On Monday, October 20 the KIYI proceeded to her first destination, Washington Harbor, on Isle Royale. From there the crew from the two agencies conducted electrofishing surveys at night for coaster brook trout and conducted habitat surveys during the day at selected sites. The electrofishing crew was not able to get into Chippewa Harbor due to wave and wind action on Lake Superior. A total of 43 kilometers of shoreline was electrofished and 79 habitat surveys were conducted along the areas electrofished. Unfortunately, no coaster brook trout were found on this survey.

This survey is part of a study to assess coaster brook trout at Isle Royale National Park. This multi–agency cooperative assessment includes five objectives: 1) Document presence or absence of coaster brook trout at Isle Royale harbors and streams; 2) Estimate coaster brook trout population age, size, and sex in all known or identified populations; 3) Compare the Isle Royale populations with each other, and to other Lake Superior populations (including Canada) through the use of genetic analysis and morphological characteristics; 4) Identify and describe coaster spawning sites and determine spawning habitat requirements which will enable site specific protection of these critical areas; 5) Initiate standardized coaster surveys in Tobin Harbor to survey adult/juvenile populations and predict natural recruitment into the population.

Glenn Miller, Ashland FRO

Lake Trout Expected to Benefit from Sea Lamprey Treatment of Largest Drainage to Lake Michigan

The Manistique River, the largest drainage to Lake Michigan, was successfully treated for sea lampreys during October 6-15. The Manistique River was last treated in 1974 and was considered to be the largest untreated source of sea lampreys to Lake Michigan. The river's area of drainage exceeded 2000 square miles and the area of infested stream was over 275 stream miles. Because of the size and complexity of this treatment, treatment personnel from the Fish and Wildlife Service's Marquette and Ludington Biological Stations were joined by treatment personnel from the Department of Fisheries and Oceans, Canada to conduct the treatment. In total, 45 treatment personnel were involved in the operation. The success of this treatment should reduce the sea lamprey induced mortality on fish populations in northern Lake Michigan over the next few years.

Terry Morse, Marquette Biological Station

-GLFC photo by Joseph Genovese

This is one of 48 application sites required for sea lamprey treatment on the Manistique River. Quantities of lampricide are carefully monitored to minimize impacts on other aquatic life.

Public Use

New Name, New Face, Same Hatchery

After forty-five years of work for the Fish and Wildlife Service, a National Fish Hatchery is finally getting the credit it deserves. The Hiawatha Forest National Fish Hatchery (NFH), a substation of Pendill's Creek NFH, is announcing that it is now to be called Sullivan Creek NFH.

Why, after all this time, is this facility getting a name change? There are many reasons, but the most important one is to prevent confusion between the hatchery and the Hiawatha National Forest, which surrounds it. For years, the public has assumed that because they have the same name, they were run by the same agency. However, the hatchery is run by the Fish and Wildlife Service while the Hiawatha National Forest is managed by the U.S. Forest Service, under the Department of Agriculture.

Also, the road the hatchery is located on and the creek that supplies the facility's water are both called Sullivan Creek. This will put it more in line with most other National Fish Hatcheries since they are mostly named after their water sources. The staff is also hoping that the name change will prevent phone calls from people wanting forest campground reservations, hunting information, and timber cutting questions. Finally, this hatchery was built in 1934, and at that time it was known as the Sullivan Creek Rearing Ponds. Although the hatchery has gone through several name changes and agencies since then, it seems only right to give this piece of history its original name.

On top of a new name, the hatchery is also sporting a new look in the form of a building over all sixteen of its raceways. Since this facility converted to a lake trout brood stock (adult fish) hatchery in 1994, it has provided an annual production of at least five million disease free eggs. These important brood stock will now have more protection from predators and the staff will have unlimited access to the fish despite the weather. If you would like more information on Sullivan Creek NFH or Pendill's Creek NFH, please call (906) 437-5231. *Tracy Roessner, Pendills Creek NFH*

-USFWS

In October, the Hiawatha Forest National Fish Hatchery (NFH) changed its name to Sullivan Creek NFH. Along with a name change this Upper Peninsula of Michigan hatchery finally has a new building that protects valuable captive, native lake trout adults (brood stock).

Coaster Brook Trout Rehabilitation in Lake Superior presented to a Local Sportfishermans Association from Ashland, Wisconsin

Members of the Apostle Island Sportfishermans Association were given presentations on coaster brook trout in Lake Superior by Henry Quinlan and Lee Newman. Newman presented an overview of the history of the coaster fishery, a summary of known biology facts about coasters, and described current lake-wide management activities for Lake Superior. Quinlan described current status and management activities in Wisconsin waters of Lake Superior with particular emphasis on projects of local interest. Those include the Whittlesey Creek coaster management plan and ongoing telemetry study and the development of a coaster management plan for the Apostle Islands National Lakeshore waters. Henry Quinlan and Lee Newman are staff from the Ashland Fishery Resources Office (FRO) in Ashland, Wisconsin. *Lee Newman, Ashland FRO*

Genoa Staff assists at Masters Walleye Championship

October 15th through the 18th marked the date for the Cabela's sponsored walleye tournament located at the Cabela's retail store in Prairie du Chien, Wisconsin. The public was invited to attend and the admission was free. The tournament brought together 50 teams from throughout the country all competing for the largest three day combined weight to win the grand prize… $26,000. A program event preceded the championship competition on October 15th. An

amateur angler was assigned to each of the 50 teams, providing them a once in a lifetime fishing tutorial from the best of the best in walleye tournament angling. The boats departed from the St. Feriole Island at 7:30 a.m. daily. Weigh-ins began at 3:00 p.m. The largest walleye brought to the scale weighed in at over nine pounds!

The Genoa National Fish Hatchery (NFH) participated in the event by transporting walleye back to the Mississippi River with their 450 gallon fish distribution truck. Cabela's employees and members of the local Falling Rock Walleye Club assisted the Masters Walleye Championship staff with boat inspections, launching, and the weigh-ins. Mild weather each day contributed to a successful event. A booth and an aquarium were set up at the event as well. Attendees were able to stop, look at the fish, and browse over many Fish and Wildlife Service brochures on the table. The Genoa NFH releases 2–8 million walleye fry each year into the Mississippi River, which continually benefits the river to be a great place to fish, even if you don't win $26,000!

Nick Starzl, Genoa NFH

-USFWS

Fish and Wildlife Service biologist Doug Aloisi loads a walleye caught during the Masters Walleye Championship. Genoa National Fish Hatchery staff assisted at the tournament by having a fish distribution truck on-site to make sure walleyes were safely returned to the Mississippi River.

Green Bay Fishery Resources Office assists Marinette County, Wisconsin with an Environmental Field Day

The Green Bay Fishery Resources Office (FRO) assisted the Marinette Land and Water Conservation Department with an annual Environmental Field Day. This event is held each fall for fourth graders from over 13 public and private schools in Marinette County, Wisconsin. A total of 300 kids participated in the event. The field day was held over two days in late September at three sites to accommodate student travel and included an agricultural impacted area, a large lake, and an upland forest area.

At each location a total of seven stations were set up for each topic including recycling, forestry, fire control, insects, soils, fish, and water quality. The Green Bay FRO led the fish session which included a brief overview of basic fish biology, displaying gear used for assessments, a short discussion about biologist's job activities, and at the end an electroshocking or fyke netting demonstration. One gear item that had high interest among the students was the Remotely Operated Vehicle. Other highlights included working the fire hose, holding aquatic insects, touching a fish, and feeling different soils. At the end of sessions at each location a treat of apples and lemonade was provided for all the students.

Stewart Cogswell, Green Bay FRO

Seek Hidden Treasure On Line! New Internet Web Site on Native Mussels of the Upper Mississippi River

A new web site on Freshwater Mussels of the Upper Mississippi River System, http://midwest.fws.gov/mussel, is now available on the Internet. The site was created by biologists and webmasters from the U.S. Geological Survey and Fish and Wildlife Service and contains a wealth of information on identification, threatened and endangered mussels, life history, ecology, history of harvest, current threats, conservation activities, and ongoing studies and projects. Also included are a multimedia section with numerous photos, videos, and graphics on freshwater mussels, and an education section for teachers. The site also highlights activities to save the federally endangered Higgins' eye pearlymussel from extinction including propagation at Genoa National Fish Hatchery, cage culture, relocation of adults and juvenile mussels, survey and monitoring results, and information on exotic, invasive zebra mussels.

Gary Wege, Twin Cities FO

Great Lakes Lighthouse Festival in Alpena, Michigan

The 2003 Annual Great Lakes Lighthouse Festival was held in Alpena, Michigan on October 10, 11, and 12. Lighthouses around the Great Lakes were showcased along with the aquatic resources associated with them. Fish and Wildlife Service representatives from Alpena Fishery Resources Office (FRO) and Jordan River National Fish Hatchery (NFH) participated in this event. The Fish and Wildlife Service's lake trout stocking and assessment vessel M/V Togue was present and staffed with personnel from the Jordan River NFH to give tours and describe the operation of the boat. Over the three day event, 150 people toured the vessel.

A booth was staffed by Alpena FRO personnel to answer questions concerning Fish and Wildlife Service programs and aquatic resources. The booth was enlarged from past years to include more information and hands on activities. Biologist Susan Wells designed a children's activities display to go with the Conserving Americas Fisheries Display. The activities included puzzles that focused on the morphology of fish, a sturgeon jeopardy game that tested a person's knowledge of lake sturgeon, a salmon migration game teaching children about habitat requirements, and a family game which required people to group similar fish together in their corresponding families. The boat, booth, and games were a success with both children and adults. Approximately 3,000 people attended the festival.

Susan Wells, Alpena FRO
Rick Westerhof, Jordan River NFH

-USFWS

Fish and Wildlife Service employee, Bob Bergstrom, gave tours of the lake trout stocking and assessment vessel during the Alpena Lighthouse Festival. The annual festival in Alpena, Michigan attracted 3,000 people.

Genoa National Fish Hatchery presents at 4-H Field Days

Environmental Education Field Days were held by the 4-H on September 3rd and 4th at Sidie Hollow Park, near Viroqua, Wisconsin. The staff from Genoa National Fish Hatchery (NFH) participated in the event by setting up a display and presenting to approximately 100 students. This opportunity allowed us to share information to students about the operations of a National Fish Hatchery. While sport fish reared at the Genoa NFH dominated the discussion, many students were interested in our native mussel program and shared their mussel stories about their parents and grandparents "clamming" for pearl button shells. Mussel shells from the upper Mississippi River were on display for the students to look at and touch. However, our 100 gallon aquarium which contained a variety of fish including largemouth and smallmouth bass, crappie, perch, walleye, lake sturgeon, flathead and blue catfish, and brook trout, captivated the students most of all. The student's interest in the fish allowed for a great discussion on how the Genoa NFH staff collects adult fish for spawning, and with the use of a fyke net set up for the display, we were able to answer all questions in a way that sparked the students imagination. The Field Days are an annual event which is sponsored by the University of Wisconsin-Extension and is organized by the 4-H Youth Development Agent, Suzan Marino.

Nick Starzl, Genoa NFH

Long Rapids Elementary learn How Water Quality Effects Fish

On October 10, Biologists Susan Wells and Anjie Bowen conducted a water quality clinic with students from Long Rapids Elementary School in Alpena, Michigan. A group of 20 fourth graders and five adults visited the Alpena Fishery Resources Office (FRO) to conduct an hour and a half clinic on the water quality needs of fish species. Four stations were set up outside of the office with turbidity, pH, oxygen, and fish morphology. The students rotated every 15 minutes and compared water samples from different points in the Thunder Bay River.

Wells described the different requirements for different species of fish from bullheads to trout. Each station was equipped with a list of questions for the students to assist them with understanding the connection of water quality and fish health. At the beginning of the clinic, Bowen gave a short presentation on aquatic invasive species in the Great Lakes. She focused on invasive species found in the Alpena area. At the end of the clinic the students and accompanying parents were given a short tour of the Fish and Wildlife Service lake trout stocking and assessment vessel M/V Togue.

Susan Wells, Alpena FRO

Cooperation with Native Americans

First Coaster Brook Trout Plant in 2003 for Iron River National Fish Hatchery

Biologist Steve Redman stocked coaster brook trout with assistance from personnel of the Keweenaw Bay Tribal Resources Department. Three streams, which are tributaries to Lake Superior, located on Keweenaw Bay Tribal Community lands, were stocked with advanced brook trout fry that were reared at the Iron River National Fish Hatchery (NFH). Kelsey Creek and Zeba Creek received 15,000 fry each and the Silver River received 40,000 fry. All fry were marked with oxytetracycline at the hatchery before release. This allows biologists to monitor the status of the coasters in these habitats. Beginning in 1997, this multiple year event which is coordinated between the Keweenaw Bay Indian Community and the Fish and Wildlife Service, was established to fulfill the rehabilitation plan for Lake Superior brook trout. The combined efforts have led to continued monitoring of coaster brook trout status, distribution, movement, and abundance of re-introduced fish. Along with these accomplishments, the tribe has also acquired additional land, performed stream habitat improvements, and removed barriers that would impact coaster recovery. Coaster brook trout are a migratory form of lake dwelling brook trout that were historically widespread and common in the near-shore waters of Lake Superior.

Steve Redman, Iron River NFH

-USFWS

Fishery Biologist Steve Redman stocks coaster brook trout fry in a stream on Keweenaw Bay Tribal lands in the Upper Peninsula of Michigan. Iron River National Fish Hatchery provided a total of 70,000 fish to stock three Tribal streams.

Tribal Wildlife Grant Program provides $10 Million to Benefit Wildlife and Their Habitats

The Tribal Wildlife Grants program provides a total of $10 million to establish a competitive grant program for federally recognized Tribes, for the development and implementation of programs for the benefit of wildlife and their habitat, including species that are not hunted or fished. The Fish and Wildlife Service has also dedicated $4 million to the Landowner Incentive Program for Indian Tribes to provide technical and financial assistance, including habitat protection and restoration, for the protection and management of habitat to benefit federally listed, proposed, or candidate species, or other at-risk species.

Staff from Fishery Resources Offices (FRO) assisted in evaluating regional tribal grants that were submitted for funding. Project ranking was challenging but very interesting. Projects were well written with a wide variety of resource concerns ranging from wild rice to lake sturgeon. It was evident that the majority of the proposals were organized and thorough.

After regional ranking was completed, projects were forwarded to the National Ranking Panel. Our Regional representative, Frank Stone, Ashland Fishery Resources Office (FRO) participated in the Tribal Wildlife Grant (TWG) and Tribal Landowner Incentive Program (TLIP) National Ranking Panel held in Arlington, Virginia. Each Region had ranked their TWG and TLIP proposals based on a national scoring system and selected its top 4 and 2 ranked proposals (respectively) under the TWG and TLIP programs. The objective of the team was to discuss the final list of proposals to determine the project cut-off point with remaining funding and to prepare a list of project proposals for recommendation to Director Williams.

Scott Yess , La Crosse FRO
Frank Stone, Ashland FRO

Ashland Fishery Resources Office assists Keweenaw Bay Indian Community with Fall Lake Trout Assessments

Ashland Fishery Resources Office (FRO) supplied a vessel, the RV Chub, and a skipper for the Keweenaw Bay Indian Community's fall lake trout assessment. Information collected during the assessment helps fisheries managers answer questions such as stocking success and population size and age structure. This information can then be used to help determine lake trout harvest allocations between tribal, commercial, and sport fishing interests while protecting against over harvesting. Information gathered is also used

to evaluate stocking success and to help monitor the lamprey population. The assessment was conducted on the Traverse Island reef where three 750' graded mesh (4.5", 5.0", and 5.5") gill nets were set for a total of 4 lifts (one night set). Captured lake trout were checked for spawning condition, measured, checked for lamprey wounds, tags and fin clips, and then tagged and released. Otoliths were removed from a small sample of fish for aging. A total of 115 lake trout were captured with 79 being tagged and released.
Jonathan Pyatskowit, Ashland FRO

-USFWS

Ashland Fishery Resources Office assisted the Keweenaw Bay Indian Community with their fall lake trout assessment by providing a vessel and operator. Information collected during the assessment helps biologists manage fish populations.

Lake Sturgeon Reintroduction on Menominee Indian Reservation

Fishery biologists from the La Crosse Fishery Resources Office (FRO) and Genoa National Fish Hatchery, along with the Menominee Indian Tribe of Wisconsin, Wisconsin Department of Natural Resources, and the U.S. Geological Survey, conducted efforts to restore a lake sturgeon population on the Menominee Indian Reservation in northeast Wisconsin on October 21 and 22. Lake sturgeon had been extirpated from this part of their range after construction of two dams in the early 1900s. Since 1995, the La Crosse FRO has taken the lead to restore this population of lake sturgeon and this year, as in years past, adult lake sturgeon were captured downstream from the dams, tagged with radio transmitters, and reintroduced to reservation waters of the Wolf River upstream from the dams. The fish were anesthetized to enable biologists to surgically implant transmitters that have a battery life of 4 years. The transmitters allow tribal biologists to track fish movements, habitat use, and determine whether or not individuals migrate back downstream through the dams. Although over half the 151 fish reintroduced since the first reintroduction effort in 1995 have migrated downstream, biologists are hopeful that enough fish may be present to support some natural reproduction in the abundant, high quality spawning habitat that exists in the reintroduction area. Adequate natural reproduction will hopefully someday lead to the overall goal of the project, another self-sustaining lake sturgeon population.
Ann Runstrom, La Crosse FRO

-USFWS

Tribal, State, and Federal biologists relocate lake sturgeon to restore an extirpated population on the Menominee Indian Reservation in northeast Wisconsin. Dam construction on the Wolf River had eventually eliminated the upstream population.

Fall "Ceded Territory" Walleye Electrofishing Surveys

Walleye from 28 northern Wisconsin ceded territory lakes as well as Mille Lacs and Green Lakes in Minnesota were measured, aged and recorded by the Fish and Wildlife Service and Great Lakes Indian Fish and Wildlife Commission (GLIFWC). Electrofishing crews from the Ashland and La Crosse Fishery Resources Offices (FRO) successfully aided the GLIFWC in completing an eight week fall juvenile walleye survey. The objectives of these surveys were to estimate relative abundance of young-of-the-year walleye in several lakes of northern Wisconsin. The data from these surveys will be used in conjunction with spring population estimates to set safe harvest levels of walleye for the tribes. The sampling effort takes place at night, when walleye activity is the highest and catch efficiency is maximized. Using a boat electrofishing system, fish collection is relatively fast and efficient. Both length data and scale samples are collected. Catch per unit effort values are calculated by dividing the number of fish collected by the total minutes of effort. These data reflect the lake's recruitment values and are combined with the spring population surveys to yield the information needed to help determine the number of adult walleye that can be safely harvested.
Frank Stone, Ashland FRO
Dave Wedan, La Crosse FRO

Leadership in Science and Technology

Native Mussel Restoration Efforts are a Success for Black Sandshell

During the spring of 2003, using monies for native mussel restoration from the Refuge challenge grant program, the staff from Genoa National Fish Hatchery (NFH) and Minnesota Department of Natural Resources (DNR) attempted to culture native Black Sandshell mussels in cages at Lake Pepin, Minnesota on the upper Mississippi River. Twenty walleyes were used as host fish, infected with mussel larva (glochidia), and placed in a mussel culture cage in Lake Pepin last spring. Fish were released from the cage in July after a representative sample of walleye kept at Genoa NFH had finished transforming juveniles. The cages were checked on September 30 to reveal 96 black sandshell juveniles. These mussels were returned to their cage and placed back in Lake Pepin for another growing season. To our knowledge, this is the first known successful propagation and culture of black sandshell. These juveniles will be used to begin the recovery of declining populations of black sandshell in the upper Mississippi River drainage.

On the heels of our black sandshell success and a very successful season of producing Higgins' eye pearlymussels in cages, Genoa NFH and the Minnesota DNR teamed up in October to attempt the culture of washboard mussels, a Minnesota state listed species. Divers from Minnesota DNR collected washboards from pool 3 of the Mississippi River, while a mussel biologist from Genoa NFH determined if the washboards were gravid (larva-bearing). After 4 gravid individuals were collected, they were transported to the Minnesota DNR office in Lake City where the glochidia were tested for viability. Two of the four individuals contained viable glochidia. Glochidia from these individuals were used to infest 7 channel catfish. These catfish will be held over winter in Lake Pepin. The reason for holding the fish over winter is to mimic the natural temperature regime that the washboard glochidia would experience in the wild. The goal of this project is to determine if washboards can be cultured in similar fashion and with similar success as the Higgins' eye pearlymussel.

Tony Brady, Genoa NFH

-USFWS

These native black sandshell mussels were successfully cultured in cages in the upper Mississippi River using walleye as an intermediate host. They will be left in the cage for another growing season to monitor survival.

Trap Net Modifications for Lake Whitefish Distribution Study

The Alpena Fishery Resources Office (FRO) is participating in a Lake Huron, lake-wide distribution study for lake whitefish. The project begins in 2004 and continues through 2006, with a pilot year in 2003 to assess gear effectiveness and sampling locations. Whitefish will be tagged at 8 known spawning locations for this study. The Alpena FRO is responsible for capturing, tagging, and releasing 1,500-2,000 lake whitefish annually from the Alpena, Michigan area from 2004 to 2006. Michigan Department of Natural Resources (DNR) will tag and release an additional 1,500-2,000 lake whitefish per year near Alpena as well.

Small trap nets with 4-6' pots are scheduled to be fished for the duration of this project. Prior to fishing these nets, Scott Koproski and Michigan DNR Vessel Captain Jeff Diemond modified the throat opening of each net. Since these nets are primarily used by the DNR for inland sampling projects, the throat openings were too small (6 in by 6 in) to allow whitefish to enter the pots. Commercial whitefish fishers recommended throat openings of no less than 15 in by 15 in. Biologist Koproski and Captain Diemond modified 6 trap net throat openings to the larger recommended size to allow lake whitefish to enter the traps. The trap nets were then divided equally between the two cooperating agencies to be tested this fall. This project is an example of Alpena FRO's commitment to forming partnerships with other resource agencies to enhance native fish species. Lake whitefish are native to the Great Lakes and are a commercially and recreationally important fish species. Understanding distribution patterns of lake whitefish will allow resource agencies to better manage this valuable species.

Scott Koproski, Alpena FRO

Aquatic Habitat Conservation and Management

Clute Road Timber Bridge Completed

Native brook trout in McMasters Creek, a tributary of the Black River in northern, lower Michigan, now have improved in-stream habitat and easier passage to an additional 12 river-miles of habitat, much of it high quality spawning habitat. Construction began on August 25 at the Clute Road Crossing of McMasters Creek in Cheboygan County to remove two culverts and replace them with a timber bridge. The culverts were not large enough to pass water during precipitation events. Water collected on the upstream side of the culverts, warmed, and eroded the riverbanks. Due to lack of proper ditches and sediment basins, storm water ran down the road and directly into the river carrying with it sediments and other forms of habitat-altering contamination. Construction of the bridge and hardening of the road surface (Afton stone) alleviated water quality issues at the crossing. Ditches and sediment basins were constructed on both sides of the crossing. Timber for the bridge was harvested from the Pigeon Country State Forest (in close proximity to the site), and was milled and treated locally. The timber bridge has enough clearance to accommodate a 100-year flood event. The National Fish and Wildlife Foundation and the Fish and Wildlife Service's Partners for Fish and Wildlife Program contributed funding towards this project.
Heather Enterline, Alpena FRO

Before

For this project, culverts were replaced with a bridge structure to accomodate flood events and enhance fish passage. Brook trout in McMasters Creek in Cheboygan County, Michigan now have uninhibited passage to an additional 12 river miles containing much high quality spawning habitat. The National Fish and Wildlife Foundation and the Partners for Fish and Wildlife Program contributed funding for this project.

After

-USFWS photos

No Paddlefish Found Near Pool 8 Habitat Rehabilitation and Enhancement Project

Starting the week of May 5th, the La Crosse Fishery Resources Office (FRO) launched a project on the upper Mississippi River to determine paddlefish usage of Navigation Pool 8 Island Habitat Rehabilitation and Enhancement Project (HREP) area across from the Stoddard, Wisconsin boat landing. From studies carried out by U.S. Geological Survey employees, Steve Zigler and Brent Knights, it has been determined that paddlefish prefer sites with a depth of > 2 m and tranquil flows ranging from 0.1-0.3 m/s. Success of paddlefish utilizing sites with these characteristics has also been found near the Pool 5A, Polander Lake, HREP Islands by Fish and Wildlife Service employees. During both HREP projects, deep holes were dredged to supply borrow material for the construction of the islands. Paddlefish were successfully caught in and around the deep holes created in Pool 5A. Since both HREP projects were so similar, it was predicted that paddlefish may be utilizing the area near the newly created Pool 8 HREP islands.

Mark Steingraeber from La Crosse FRO led the 5 month, Pool 8 study. Fish and Wildlife Service employees from the Upper Mississippi River Wildlife and Fish Refuge, La Crosse FRO, and 12 volunteers sampled 10 days using 300' long, 24' deep, 5" bar gill nets. The greatest depth in the dredged holes was 39' and current flows ranged from 0.01 – 0.50 m/s. Species of fish caught were: bigmouth buffalo, sauger, northern pike, longnose gar, freshwater drum, common carp, walleye, and lake sturgeon. A spiny softshell turtle was even caught in the net one day. One of the most noted items netted and recovered during the survey was a historic (pre-lock and dam system) refuge sign from the 1920s or 1930s. It will be sent to the National Conservation Training Center in West Virginia for preservation. Since no paddlefish were caught during the study, it is doubtful that the study will carry on next year.
Heidi Keuler, La Crosse FRO

Johnson's Crossing Road Crossing Fish Passage Improvement

On October 24, The Otsego County Road Commission completed replacement of a culvert on Johnson's Crossing Road located in northern, lower Michigan in the headwaters of the Black River. The project identified two undersized failing culverts that negatively impacted fish passage for native brook trout. The aging and perched culverts did not allow for the passage of fish and the inadequate size of the culverts contributed to large amounts of sediment entering the system. Sedimentation occurred during high water events when the water was backed up by the small culverts and would flood the gravel road. The project was completed by replacing the failing culverts with a bottomless culvert. This allows unimpeded fish access to upstream habitat and decreases in the sediment load entering the system. Oversight for the project, during construction, was provided by Biologists Susan Wells and Heather Enterline from the Alpena Fishery Resources Office (FRO). Funding for this project was provided by the Fish Passage Program, Partners for Fish and Wildlife Program, Black River Restoration Committee, and numerous local non profit organizations. This is an example of collaboration between federal, state and local governments, and watershed groups to enhance aquatic habitat which will benefit fish and wildlife resources. The project is a benefit to native brook trout.

Susan Wells, Alpena FRO

Before

Two undersized, failing culverts were replaced by a new bottomless culvert on Johnson's Crossing Road located in Otsego County, Michigan. This project, on the headwaters of the Black River , enhances fish passage for native brook trout. Project funding was through the Fish Passage Program, Partners for Fish and Wildlife Program, Black River Restoration Committee, and numerous local non-profit organizations.

After

-USFWS photos

Whittlesey Creek Habitat Assessment 2003

Stream habitat assessment work was conducted on Whittlesey Creek, within the Whittlesey Creek National Wildlife Refuge (NWR) boundaries by staff from the Ashland Fishery Resources Office (FRO). Historical landscape changes in Whittlesey Creek and its watershed have degraded fish and wildlife habitat. Coaster brook trout, large anadromous cousins of smaller inland brookies, have been particularly impacted by these changes. The work performed during these assessments will be used to help protect and restore habitat within refuge lands as well as neighboring property in order to restore coaster brook trout stocks and benefit the area's fish and wildlife.

The information gathered builds on the initial data collected in 1999. Dan Everson, stream habitat expert from the National Conservation Training Center, traveled to Ashland, Wisconsin for a week in August to review prior habitat assessments as well as collect additional data. Fluvial geomorphic information was collected and existing habitat conditions were described. Permanent cross sections were established, longitudinal profiles were mapped, and other classification information collected. Bank pins were placed at strategic locations on the stream banks in order to monitor erosion. The information will be used to develop recommendations for management and restoration of Whittlesey Creek.

Ted Koehler, Ashland FRO

-USFWS

Dan Everson, stream habitat expert from the National Conservation Training Center, and Glenn Miller, Ashland Fishery Resources Office, are conducting stream habitat assessments on Whittlesey Creek near Ashland, Wisconsin.

Workforce Management

Jump in and get Your Hands Wet!

Twenty students from the Agricultural Food Sciences Academy trekked up to "The Northland" for a three-day field trip. They arrived at Iron River National Fish Hatchery (NFH) on Tuesday, October 28. This charter school from Little Canada, Minnesota, focuses on the sciences and gears their students toward agricultural based careers. To get some hands on experience, the students were split into groups and rotated through work assignments on several different projects with hatchery staff. Projects included spawning lake and brook trout, sample counting fingerlings, conducting a health evaluation called the Goede's Index, hand picking eggs, taking length and weight data on fish from brood to production, and stocking retired lake trout brood stock. This opportunity introduced the students to a different career option. There were a wide range of opinions regarding handling of fish, from loving it, to shying away from any physical contact! On the whole, the entire group enjoyed the experience and heartily thanked the hatchery staff.
Angela Baran, Iron River NFH

-USFWS

Students from the Agricultural Food Sciences Academy gained some hands-on experience sorting lake and brook trout broodstock to determine if they are ready to spawn.

1,500 High School Students Learn About Careers at the La Crosse Center's Career Expo

Approximately 1,500 high school students from 22 school districts in the La Crosse, Wisconsin area attended the La Crosse Center's Career Expo on October 2. The Career Expo was a joint effort of the Greater La Crosse Area Chamber of Commerce, Western Wisconsin Technical College, the Wisconsin Education Fair, and 22 area high schools. There were 50 different booths which focused on six career clusters including: Agri-Business Science Technology & Natural Resources; Arts, Humanities & Communication; Business Management, Administration & Marketing; Health Care; Human Services & Education; and Industrial Science & Manufacturing Technologies.

About 150 students visited the Fish and Wildlife Service Career Booth where they learned about being a wildlife biologist, special agent, refuge manager, a fishery biologist, and many other careers. Heidi Keuler from the La Crosse Fishery Resources Office (FRO) spoke to a diverse group of students on the career of a fishery biologist. Students were able to ask questions during an informal discussion and gain insight from photos taken of field work. Many students were very interested in the Student Temporary Employment Program, Student Career Experience Program, and volunteer programs. The booth at the Career Expo was a great opportunity for the students to not only learn about the careers in the Fish and Wildlife Service, but also how we help manage natural resources.
Heidi Keuler, La Crosse FRO

Flotation Accessories, Safety First!

During the month of October, Fishery Biologist Adam Kowalski organized the purchase of safety accessories to outfit office personnel's flotation vests, float coats, and Mustang work suits. Kowalski ordered signaling mirrors, strobe lights, glow sticks, whistles, knives, and garbage bags. These items are recommended by the Motorboat Operation Certification Course to aid survival in case of an overboard situation. Along with personal flotation accessories, Kowalski also put together two rapid ditch bags for use on Alpena Fishery Resources Office (FRO) vessels. These bags are designed to float to the surface if the vessel sinks and contain 3 large parachute flares, waterproof first aid kit, hand held marine radio, fresh batteries, flash light, strobe light, glow sticks, signaling mirror, whistle, and garbage bags. Rapid ditch bags are not required but are recommend to help ensure the safety of the vessel crew in an emergency situation. Alpena FRO personnel spend significant time on the Great Lakes in inclement weather. Because of these potential poor working conditions, the staff is committed to securing the equipment needed to effectively, efficiently, and safely perform their jobs consistent with Fish and Wildlife Service goals.
Adam Kowalski, Alpena FRO

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Windows in time

A Glimpse into our Proud Past

Employee Bill Lynch, attendant, observes fish in one of the tanks at the aquarium at Gavin's Pt. National Fish Hatchery near Yankton, South Dakota; 1968

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