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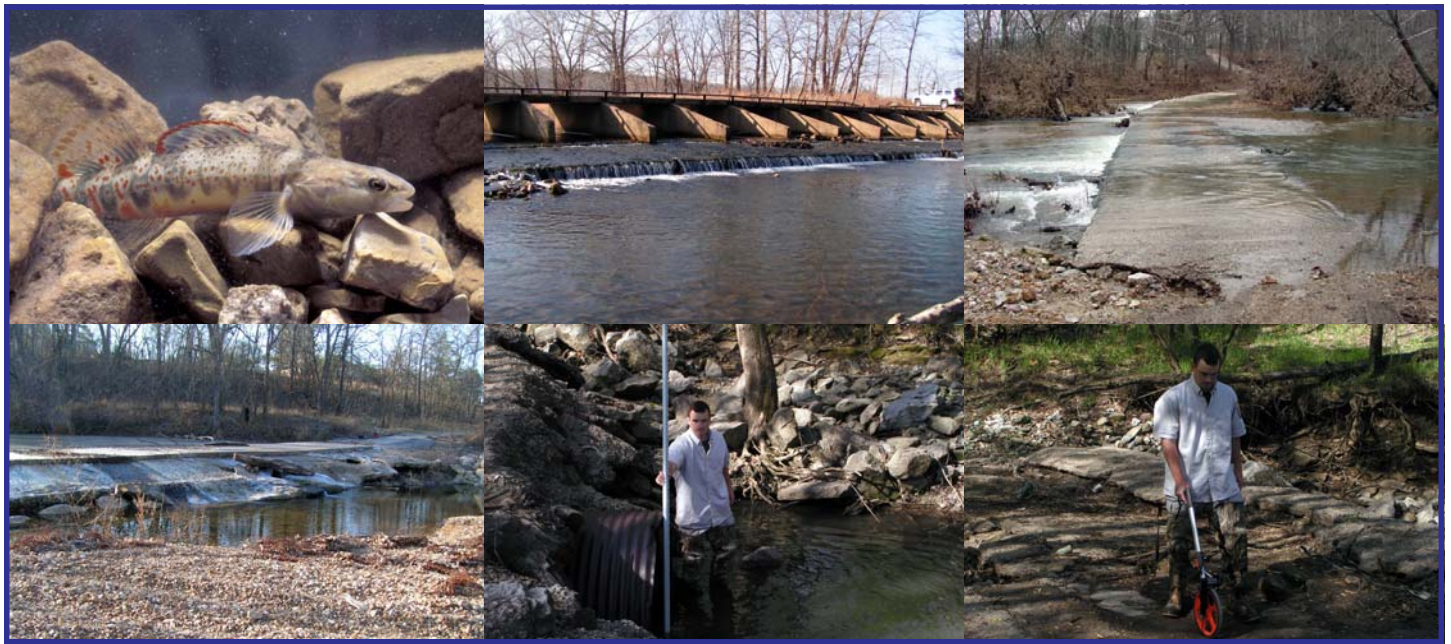
Fish Lines

Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems

Beauty is Skin Deep: Missouri's Threatened Niangua Darter

(See the "Feature Story" on Page 5)



-(Top Row, Lt. to Rt.) Missouri Department of Conservation photo by Jim Rathert, USFWS photo by Nick Frohnauer, Missouri Department of Conservation photo by Craig Fuller; (Bottom Row) USFWS photo by Nick Frohnauer; (Last two photos) USFWS photos by Casey Bergthold
Series of photos depicting Fish and Wildlife Service involvement with Niangua darter recovery: (Top Row, Lt. to Rt) Niangua darter; The concrete bottom of this bridge has created a drop which Niangua darters cannot pass over; Mule Shoe Crossing in Hickory County, Missouri, also has a drop that darters can not pass; (Bottom Row) A low crossing barrier prevents upward movement of Niangua darters; (Last two photos) Columbia FRO biologist Nick Frohnauer takes measurements at road crossing sites for the Niangua Darter Crossing Inventory.

Scott Yess Selected as New Upper Mississippi River Conservation Coordinator

(See the "Feature Story" on Page 8)

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



Region 3 - Great Lakes/Big Rivers Region

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

Region 3 Focus Areas

1. Partnerships and Accountability

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

2. Aquatic Species Conservation and Management

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

3. Aquatic Invasive Species

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

4. Public Use

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

5. Cooperation with Native Americans

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

6. Leadership in Science and Technology

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

7. Aquatic Habitat Conservation and Management

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

8. Workforce Management

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

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

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

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Click here to visit our Fisheries Web Site

Great Lakes - Big Rivers Region Fisheries Field Offices

National Fish Hatcheries

The Region's National Fish Hatcheries primarily focus on native fish restoration/rehabilitation by stocking fish and eggs, such as pallid and lake sturgeon and by developing and maintaining brood stocks of selected fish strains, such as lake trout and brook trout. Hatcheries also provide technical assistance to other agencies, provide fish and eggs for research, stock rainbow trout in fulfillment of federal mitigation obligations and assist with recovery of native mussels and other native aquatic species.

Sea Lamprey Control Stations

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

Fishery Resources Offices

Fishery Resources Offices conduct assessments of fish populations to guide management decisions, perform key monitoring and control activities related to invasive, aquatic species; survey and evaluate aquatic habitats to identify restoration/rehabilitation opportu-

nities; play a key role in targeting and implementing native fish and habitat restoration programs; work with private land owners, states, local governments and watershed organizations to complete aquatic habitat restoration projects under the Service's Partners for Fish and Wildlife and the Great Lakes Coastal Programs; provide coordination and technical assistance toward the management of interjurisdictional fisheries; maintain and operate several key interagency fisheries databases; provide technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and re-licensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments and treaty authorities. In other Regions of the Service, FRO's are also referred to as Fish and Wildlife Management Assistance Offices.

Fish Health Center

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

Great Lakes - Big Rivers Region Fisheries Field Offices



List of Acronyms

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

Feature Story - *Beauty is Skin Deep: Missouri's Threatened Niangua Darter*

It isn't as ancient as the pallid sturgeon, as dowdy as the Topeka shiner or as inquisitive as the Ozark cavefish. It isn't "angry" like the Neosho madtom.

But among Missouri's "top billing" of threatened and endangered fish, the Niangua darter is undoubtedly the prettiest. It brandishes a rainbow of hues — blues, yellows and greens, red, orange, and black. Unlike its other uncommon counterparts, the Niangua darter appeals to us on beauty alone.

Unfortunately, its history isn't nearly as pretty as its scales. The Fish and Wildlife Service listed the Niangua darter as a threatened species in 1985, when reservoir construction—which destroyed stream habitat and stopped upstream movement of fish—led to the Niangua darter's initial decline.

Since then, destabilization of stream channels because of sand and gravel removal, stream fragmentation because of low-water road crossings, loss of stream-side vegetation, fertilizer and pesticide run-off, and human and livestock waste have further threatened the darter's habitat. Once occurring widely in the southern portion of the Osage River watershed, Big Tavern Creek, and the Maries, Sac, Pomme de Terre and Niangua rivers, the Niangua darter is now found only in a few fragmented remnant populations.

The Fish and Wildlife Service and its partners in Missouri are working to ensure that this colorful fish does not disappear forever – but it is not easy.

The nature of the Niangua darter is as curious as its coloration. They use the riffle pool complex of clear upland creeks and small rivers in the Osage River basin and rely on continuously flowing streams with silt-free gravel and rock bottoms. Males congregate to spawn in riffles when spring stream temperatures reach a tender temperature of 65°F. Their bellies turn bright orange and red as they engage in combat and other threatening displays of courtship in attempts to attract spawning females.

The female responds to her suitor with a head bob of approval and commences to bury herself in the substrate. The male vibrates over the buried female and fertilizes the eggs that have been deposited safely from predators in the substrate.



-Missouri Department of Conservation photo by Jim Rathert
The Fish and Wildlife Service listed the Niangua darter as a threatened species in 1985, when reservoir construction, which destroyed stream habitat and stopped upstream movement of fish, led to the Niangua darter's initial decline.

The current Niangua darter population is made up of isolated subpopulations. One cause of fragmentation is poorly designed low-water road crossings that block Niangua darter movement. This lack of movement may have two detrimental effects:

First, movement is crucial for maintaining populations in streams where local extirpation occurs as a result of environmental extremes — primarily drought. A 1972 study indicated that repeated local extinction, followed by dispersal and recolonization from other inhabited areas, is characteristic of all species—such as the Niangua darter—that occur in discontinuous or fragmented habitats.

Second, isolation of subpopulations reduces or prevents gene flow and genetic diversity. Frequently, these isolated populations face problems because of their size that may lead to their eventual disappearance.

Small populations such as those of the Niangua darter may run into three potential problems affecting genetic variation: population bottlenecks, genetic drift, and inbreeding.

Population bottlenecks are time periods when a population is reduced to a few individuals. These bottlenecks reduce genetic variation to that found in the few surviving individuals. Variety; however, is key to maintaining genetic diversity and healthy populations, which allows species to adapt to a changing environment.

Genetic drift is a random change in gene frequencies in populations. The genes can become fixed as a result of this random chance. It has a higher probability in smaller populations by reducing genetic variation even more.

Finally, the probability of inbreeding increases with a decreased population size. Inbreeding decreases the ability of a species to reproduce, increases mortality in young, and has detrimental affects on growth. Gene flow among populations such as the Niangua darter is key to helping prevent population declines.



-USFWS photo by Nick Frohnauer

This low water crossing is a barrier to upstream movement of Niangua darters and fragments populations.

Despite these biological challenges affecting the Niangua darter, the Fish and Wildlife Service and its partners are working to protect and eventually increase populations. Modifying or replacing stream crossings in Niangua darter range is important for this threatened species, providing immediate help to existing populations by opening potential, new habitat and connecting them to other populations.

The Columbia Fishery Resources Office (FRO) and Missouri Department of Conservation (MDC) have worked with county governments to replace crossings within known Niangua darter territory. Crossing replacements are expensive endeavors in Missouri. The climate causes rotting problems, termites are common, and the river systems are very flashy with high gravel loads. These problems limit replacement options to higher cost structures.

The current replacement structure of choice is known as a free span, comprising of 30-foot concrete beams resting on footings. Free spans are built to be over-topped during high flows, and they are not made of wood, eliminating rotting and termite problems. Spans are designed to allow sufficient flow capacity to allow stream sediments to pass.

Projects in Dallas and Hickory counties have been great successes and are serving as models for other projects in the area.

Additionally, the Columbia FRO and the MDC are currently inventorying stream crossings within Niangua darter range and will be developing a system to rank them to prioritize modification efforts. Surveys involve measurements on the crossing as well as characterizing the adjacent stream.



-USFWS photo by Casey Berghold

Columbia Fishery Resources Office biologist Nick Frohnauer takes measurements at a crossing site for the Niangua Darter Crossing Inventory.

Columbia FRO biologist Nick Frohnauer began surveying high priority Tier One sites in December. He has completed survey work on 54 sites, and will visit 25 more. Tier One sites are located within the current range of the Niangua darter.

Future survey work will include Tier Two crossings. These crossings occur in areas where darters occurred historically or where MDC biologists have determined stream conditions could benefit the darter.

Remediating fish passage issues is only part of the work going on to help the Niangua darter. MDC, Columbia FRO, the Fish and Wildlife Service's Missouri Ecological Service Office and Missouri Private Lands Office, and other organizations are working with landowners to address other problems that have led to the species decline. They include sand and gravel mining, loss of streamside vegetation, fertilizer and pesticide runoff, and animal waste runoff.

To date, 16 Fish and Wildlife Service projects addressing these issues have been completed within watersheds that support Niangua darter. The majority of these are a result of cooperative efforts with the Partners for Fish and Wildlife Program. Projects include developing and/or improving riparian areas, installing hard points in highly eroded streams, and constructing alternative watering sources for livestock.

We must ensure future generations may enjoy the splendor of the Niangua darter. It is our duty and our honor to uphold the Fish and Wildlife Service's mission and goals for aquatic species conservation and management, specifically those that fall under the *Endangered Species Act*. We are committed to continue building a long-term relationship with the MDC in restoring populations of the Niangua darter.



-Missouri Department of Conservation photo by Craig Fuller

Mule Shoe Crossing before fish passage improvement (above) and the same crossing with a new structure (below) that provides uninhibited passage for Niangua darters and other aquatic species. This type of free span road crossing is built to be overtopped during high flows.



-USFWS

For additional information about this article and the the Columbia Fishery Resources Office, contact Jeff Finley or Nick Frohnauer at:

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Feature Story - Scott Yess Selected as New Upper Mississippi River Conservation Coordinator

Assistant Project Leader Scott Yess of the La Crosse FRO was recently selected as the coordinator for the Upper Mississippi River Resource Conservation Committee (UMRCC). Former coordinator Jon Duyvejonck of the Rock Island Field Office passed the baton to Yess after the March annual meeting of the organization. Duyvejonck brought his skills and energies to this highly regarded position for 13 years.



Upper Mississippi River Conservation Committee

The states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin joined forces to form the committee in 1943, and have been an active voice in cooperative conservation in the Midwest ever since. The committee's major objective is to promote preservation and sensible use of the natural and recreational resources of the Upper Mississippi River. A chairman, executive board, and committee coordinator administer its activities. Subcommittees of state and cooperating agency representatives comprise technical work groups for fisheries, water quality, wildlife, recreation and water use, and law enforcement.



-USFWS

Scott Yess loves his job at the La Crosse Fishery Resources Office, especially when he can dive for native mussels. Scott was recently selected as the coordinator for the Upper Mississippi River Resource Conservation Committee.

Scott's experience, talents, and demeanor are a natural fit for his new coordinator role with other dedicated "river rats." He has been with the Fish and Wildlife Service for nearly 25 years, 16 of them on the Upper Mississippi River system. He has also worked on river issues in the Colorado and Red river basins. Yess has worked effectively with states, tribes, other Federal agencies, private sector groups, and the public for the benefit of the natural resources.

Scott's desire to work with and for others comes from a long list of life experiences. He was a Fish Culture Extension Agent for the Peace Corps in Zaire. He is a Big Brother with the Big Brothers-Big Sisters. He recently volunteered for a detail with the Federal Emergency Management Agency to assist with the restoration of the Gulf Coast in Pass Christian, Mississippi, and joined one of his daughters in a civic volunteer effort on the Gulf Coast over her spring break. Yess is an asset to any group and will be a valued member of the UMRCC team.

For additional information about the Upper Mississippi River Resource Conservation Committee (UMRCC), contact Scott Yess at:

Phone 608/783-8432 or E-mail Scott_Yess@fws.gov or visit the UMRCC website at:

<http://www.mississippi-river.com/umrcc/>

Partnerships and Accountability

Sea Lamprey Control Activities Discussed at Great Lakes Annual Meetings

Biologist Cheryl Kaye of the Marquette Biological Station presented a Sea Lamprey Control barrier program update during the Lake Michigan meeting at the Combined Upper and Lower Great Lakes Annual Meetings in March, covering such topics as construction of new sea lamprey barriers, operation and maintenance of existing sea lamprey barriers, and ensuring blockage at existing *de facto* barriers. "De facto" barriers are built for reasons other than blocking sea lamprey, such as power generation.

Several staff biologists from Marquette and Ludington Biological Stations also attended this meeting, which is important in maintaining effective partnerships with other agencies. The sea lamprey management program continues to work closely with partners to control populations of sea lampreys in tributaries of the Great Lakes to protect the fishery and related economic activities in the basin, an estimated annual benefit of \$4 to \$6 billion per year to the region. The Fish and Wildlife Service delivers a program of integrated sea lamprey control in the United States waters of the Great Lakes as a contracted agent of the Great Lakes Fishery Commission.

Jessica Doemel, Marquette Biological Station



-GLFC
Sea Lamprey Control representatives reported on sea lamprey control activities at the March 2006 Combined Upper and Lower Great Lakes Annual Meetings in Windsor, Ontario.

It's Official – Jordan River Has a Friends Group!

Tim Smigielski and Rick Westerhof met with some of Jordan River National Fish Hatchery's (NFH) new Friends on January 11, and the group decided to make it official. They are no longer just friends but are now a Friends group. Bob MacCord of McBain assumed the duties of president. Peg Myers of Charlevoix will be the treasurer. Dr. Dale Ackler of Mancelona will be vice president, and former volunteers Jim and Claire Wisman of Arkansas will also be members. Past volunteers Tim Moore and Dan Meyers are board members. The group is in the process of filing paperwork to become a 501(c) tax exempt non-profit organization, and the members are excited to begin projects at the hatchery. The first project may be to assist the local trails council to assess the trails surrounding the hatchery before the busy hiking season begins.

Tim Smigielski, Jordan River NFH

Genoa Mussel Conservation Efforts Featured at Workshop

Mussel Propagation Biologist Tony Brady of Genoa NFH was a presenter at a Propagation and Captive Care of Freshwater Mollusks workshop sponsored by the Freshwater Mollusk Conservation Society, the nation's largest professional society dedicated to freshwater mussel and snail conservation. Brady gave an overview of Genoa's Higgins' eye pearl mussel recovery effort and described in detail the culture cages that are key to the success of the program. One goal of the society is to bring mussel experts from around the country together to help disseminate research, information, and technologies to better serve mollusk conservation everywhere. With more than 100 people in attendance at the workshop, which was held at Ohio's Columbus Zoo, Brady was able to share the techniques used by Genoa NFH with biologists from coast to coast.

Tony Brady, Genoa NFH

Talking Asian Carp with Fisheries Administrators

Biologist Greg Conover of the Carterville FRO attended the American Fisheries Society's Fisheries Administrators Section meeting in Columbus, Ohio, to discuss the management and control of Asian carps in the United States. Conover has led the collaborative development of a national management and control plan for Asian carps, a draft of which was recently submitted to the Aquatic Nuisance Species Task Force. He provided the group with an overview of the issues addressed in the draft plan, as well

as the strategies and recommendations identified by the Asian Carp Working Group for managing and controlling these invasive species.
Greg Conover, Carterville FRO

March is Truly Madness for the Fisheries Program

Project leaders and staff from Region 3 Fisheries and Ecological Services visited as many congressional offices as could be scheduled during the week of March 6 to 10 as part of Fisheries and Habitat Conservation's annual "March Madness" event in Washington, D.C. Also packed into the week were meetings with Fish and Wildlife Service Director Dale Hall, award presentations, and a project leaders meeting. The week was punctuated with a get together that included non-governmental organizations, Congressional staffers, other project leaders, and management from the Washington office and other regional offices. This is the third year Fisheries staff from around the nation have made similar visits, but this is the first year that we joined forces with Ecological Services. A large number of Friends groups actively participated this year as well.

Some highlights of the week were:

- Project Leader Rick Nelson visited six Congressional offices, participated in discussions with two Congressmen, one Senator, and six staffers. Topics of conversation included the President's 2007 budget, National Fish Habitat Initiative, and Spring Viremia of Carp Virus.
- Ken Visger, President of the Friends of the Upper Mississippi Fisheries Services, and his wife Terri,

attended the first National Fisheries Friends Conference in Washington, D.C., on March 6. Fisheries Friends groups from across the country gathered to encourage and inform one another on how to get started and maximize their group's effectiveness. The conference was also an opportunity to unveil the new Fisheries Friends Initiative, a plan to use existing Friends group expertise, mentoring skills, and synergy in order to jumpstart new groups. Keynote speaker Mamie Parker, Assistant Director for Fisheries and Habitat Conservation, emphasized her belief that on the ground local support groups can and must play a role in helping the Fish and Wildlife Service achieve its goal of conserving and protecting the nation's fish and wildlife resources. The following day, the Visgers advocated for the Upper Mississippi River and its resources by visiting staff from Wisconsin's Congressional delegations.

- Rob Simmonds, project leader for the Carterville FRO, met with staff to Illinois Senators Durbin and Obama, and Illinois Representatives Hastert, Evans, LaHood, Manzullo, Biggert, Costello, as well as Missouri Congressmen Hulshof and Carnahan. While each visit was unique, Simmonds generally keyed in on one or more of the following topics: National Fish Habitat Initiative, Asian carps, Navigation and Ecosystem Sustainability Program, fish

passage, and/or excerpts from the President's 2007 budget.

- A total of 13 Congressional offices were briefed on Fish and Wildlife Service activities in Michigan. Offices visited were those of Senators Carl Levin and Debbie Stabenow, and Representatives Peter Hoekstra, Dave Camp, Joe Schwartz, Bart Stupak, Dave Kildee, Mike Rogers, Sander Levin, John Dingell, Vernon Ehlers, Joe Knollenberg, and Carolyn Kilpatrick. Fish and Wildlife Service employees who gave briefings were Curt Friez of Pendills Creek NFH, Mark Holey of Green Bay FRO, Jerry McClain of Alpena FRO, Bob Adair, Great Lakes Program Supervisor, and Rick Westerhof of Jordan River NFH.

Rick Westerhof, Jordan River NFH

Rick Nelson, La Crosse FHC

Doug Aloisi, Genoa NFH

Mark Dryer, Ashland FRO

Rob Simmonds, Carterville FRO



-USFWS

Ken Visger proudly displays the plaque he received for his service as Friends group president for the Friends of the Upper Mississippi River Fisheries Services.

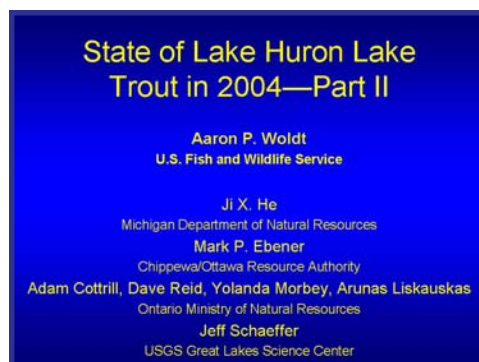
Alpena Biologist Discusses State of Lake Trout

Biologist Aaron Woldt of the Alpena FRO and Ji He of the Michigan Department of Natural Resources (DNR) made a presentation on the state of Lake Huron lake trout at the Great Lakes Fishery Commission Combined Lake Committee Meeting in March in Windsor, Ontario. During the two-part presentation, Woldt summarized fall spawning survey data from nine sites around the lake relative to stated milestones in the *Lake Huron Lake Trout Rehabilitation Guide* and showed documented progress toward those milestones since the last State of Lake Huron meeting in 1999. He's presentation described current lake trout population dynamics using statistical-catch-at-age modeling and showed recent increases in biomass and spawning stock biomass in the main basin of Lake Huron because of improved sea lamprey control, continued stocking, and reduced fishery induced mortality since 2000.

Woldt and He stressed that evidence indicates that Lake Huron may have turned a corner in its progress toward lake trout rehabilitation. Improved sea lamprey control and treatment of the St. Mary's River, strong harvest control, and continued stocking have led to increases in spawning stock and expansion of the lake trout population age structure in all main basin units in United States waters. Since 1999, biologists have seen growing evidence of natural reproduction in agency sampling efforts, and Woldt stressed that agencies need to turn their attention to investigating impediments to successful wild reproduction (e.g. invasive species predation, Early Mortality Syndrome, contaminants, lack of

forage, habitat degradation, and spawning habitat selection) of Lake Huron lake trout stocks for rehabilitation efforts to progress. The Fish and Wildlife Service, State of Michigan, and other partner resource agencies around the lake have participated in lake trout rehabilitation efforts in Lake Huron since the 1970s.

Aaron Woldt, Alpena FRO



-USFWS Screenshot by Aaron Woldt

Aaron Woldt and Ji He (Michigan Department of Natural Resources) provided a presentation titled *State of Lake Trout in Lake Huron* at the State of the Lake Conference.

Jordan River Participates at Technical Committee Meetings for Lakes Huron

At the recent Lake Huron Technical Committee meeting, Jordan River NFH manager Rick Westerhof gave an update on the Lake Huron Lake Trout Task Group's latest efforts, including 2005 Fall Sampling Spawning Lake Trout; Parry Sound Evaluation Plan; Study Plan Revisions; Juvenile Lake Trout Monitoring Plan; Early Mortality Syndrome Sampling Plan; Southern Lake Huron Modeling and Status; 2006 Lake Trout Stocking Sites; 2005 Lake Trout Stocking Data; and M/V Spencer F. Baird Update.

The group made progress on several tasks, while others will be completed at the summer meeting. Members of the task group include Jim Johnson and Ji He (Michigan DNR); Lloyd Mohr (Ontario Minis-

try of Natural Resources); Stephen Riley (U.S. Geological Survey); Mark Ebener (Chippewa Ottawa Resource Authority); and Jerry McClain, Aaron Woldt, and Rick Westerhof (Fish and Wildlife Service).

Biologist Tim Smigielski attended the Lake Michigan Technical Committee meeting in Milwaukee and provided an update on the progress of the wild lake trout spawning project that took place last fall at Parry Sound, Ontario, Canada. Jordan River NFH biologist John Johnston was part of the crew that collected eggs from feral lake trout for a new brood stock strain to be held at Sullivan Creek NFH near Brimley, Michigan. Smigielski also participated in the Lake Michigan Lake Trout Task Group session.

Rick Westerhof and Tim Smigielski, Jordan River NFH

Lake Sturgeon Brochure Is Hot

The Ashland FRO has distributed its 4,000th copy of the brochure *Lake Sturgeon – Giant of the Great Lakes*. Developed by the Fish and Wildlife Service Great Lakes Lake Sturgeon Committee, this brochure educates the general public, school children, anglers, environmental organizations, elected officials, and the media about cooperative efforts to rehabilitate lake sturgeon in the Great Lakes.

The brochures are distributed to groups such as Sturgeon for Tomorrow – Black Lake Chapter, U.S. Army Corps of Engineers, Ontario Ministry of Natural Resources, local school groups, angling organizations, and the Great Lakes Aquarium in Duluth, Minnesota. It is available online at <http://training.fws.gov/library/pubs/LSturgeon.pdf>.

Henry Quinlan, Ashland FRO

Aquatic Species Conservation and Management

Wild Fish Health Survey

On March 30 and April 3, the La Crosse FHC, Genoa NFH, and University of Wisconsin-La Crosse Microbiology program conducted a large wild fish health survey, sampling 356 fish, representing 11 species from the Mississippi River. The fish were sampled for certain pathogens as mandated in the National Wild Fish Survey protocols. The samples are being processed and will be finished in May and entered into the Wild Fish Health Survey database. The public may visit the database by going to the web site at <http://www.fws.gov/wildfishsurvey/>. Thanks to those who cooperated in the survey; without their assistance, this project would not have been completed on schedule.

Rick Nelson, La Crosse FHC



-USFWS
La Crosse Fish Health Center biologist Becky Lasee monitors health sampling by a University of Wisconsin student as part of the Wild Fish Health Survey.

Fish Health Inspection at Iron River NFH

Fish health biologist Terrence Ott from La Crosse FHC conducted a spring semi-annual fish health inspection at Iron River NFH. This health inspection is mandated by Federal regulations (Fish Health Policy Guidelines) to prevent the escape of dangerous fish diseases associated with hatchery fish into the Great Lakes. Iron River NFH cultures five strains of lake trout and two strains of coaster brook trout for rehabilitation programs.

Inspection sampling at the hatchery is on a lot-by-lot basis, with samples from each lot distinctly marked, maintained, and processed separately. The inspection involved dissecting 600 production fish (ages 2 to 14 months) and 105 brood stock (2 to 10 years in age). This sampling number is required by Federal regulations to meet sampling guidelines of 95 percent confidence that at least one infected fish would be collected if the assumed minimum prevalence of infection equals or exceeds 5 percent.

The tissue samples were kept on ice and sent back to the La Crosse FHC for further processing. This screening process checks for four viral fish pathogens, three bacterial pathogens, and one parasite, and will take four to five weeks, depending on lab findings. Once all facets of the screening process are complete, a fish health certificate will be issued with the results indicated using a pathogen coding system.

The pathogen coding system is an important communication tool used to summarize the results of an inspection. A "Class A" designation is assigned to fish hatcher-

ies that have been inspected for the presence of pathogens listed in the Federal Fish Health Policy Guidelines and in which none of the listed pathogens have been detected. Hatcheries found positive for a listed pathogen are given pathogen designation codes as listed in the policy. A hatchery found positive for a listed pathogen can have the positive listing dropped from the certificate after one full year and two negative inspections.

The Iron River NFH has received a "Class A" designation code since March 2004. Prior to this designation, the hatchery had problems with *Renibacterium salmoninarum*, a bacterial organism that can cause kidney disease in salmon and trout. The extra effort the hatchery staff has placed on fish nutrition, genetics, and reducing stressors on the fish has resulted in healthy fish capable of repopulating the Great Lakes.

Terry Ott, La Crosse FHC

Neosho NFH Awaits Results of Fish Health Inspection

Project Leader Rick Nelson of the La Crosse FHC recently completed a fish health inspection for the Neosho NFH, screening four lots of rainbow trout and two lots of pallid sturgeon for all certifiable fish pathogens. All lots of fish were sampled and results are still pending.

Pallid sturgeon require additional lab work to check for the presence of the new *Iridovirus*. Dorsal fin clips were taken from each fish sampled and preserved for histology sectioning to look for the virus. The pallid sturgeon are being reared as part of the Pallid Sturgeon Recovery Plan.

Rick Nelson, La Crosse FHC

Lake Sturgeon Rehabilitation Gets a Shot – But Not In the Arm

While passive integrated transponder (PIT) tags have become a principle tool for sturgeon assessment and management, many fishery agencies that target or encounter sturgeon lack the equipment needed to detect or implant PIT tags, missing opportunities to gather and exchange data. To help improve rehabilitation success, the Great Lakes Fishery Trust awarded a grant to the Fish and Wildlife Service to purchase PIT tag equipment for 16 fishery offices from 11 different agencies working on the Great Lakes that lack equipment or are in need of additional equipment. Agencies participating through this grant have committed to exchange tag data through the Lake Sturgeon Tag Identification Database, created by the Fish and Wildlife Service and posted on the Great Lakes Fishery Commission Web site at <http://www.glfc.org/sturgeon/tag/>.

A workshop to demonstrate tagging and detection of PIT tags will be held at the 2006 Great Lakes Lake Sturgeon Coordination Meeting.

Henry Quinlan, Ashland FRO



-USFWS
Through a Great Lakes Fishery Trust grant, 16 fishery offices from 11 different agencies will receive Passive Integrated Transponder (PIT) equipment to aid lake sturgeon rehabilitation efforts in the Great Lakes.

New Sturgeon Egg Incubation System Installed

A new egg incubation system recently installed in the sturgeon rearing building at the Genoa NFH is a welcome addition that will be primarily used for hatching lake sturgeon eggs. The new hatching system will allow staff to better manage the incubation process involving three different strains of sturgeon eggs they receive during April and May. Since its completion in 2004, the building has already been integral in the culture of more than 74,000 six-inch lake sturgeon, which are used to fulfill requests for management plans on Federal, state, and tribal lands in Wisconsin, Minnesota, and Missouri.

Nick Starzl, Genoa NFH



-USFWS
The new hatching battery at the Genoa National Fish Hatchery, for incubating lake sturgeon eggs, allows multiple hatching jar use as well as isolated hatching into individual tanks.

Jordan River Hatchery Gets Final Egg Delivery of the Year

The last lake trout egg shipment for the Jordan River NFH for the next rearing season was delivered on January 19, and the hatchery incubated about 5.4 million eggs. If survival is similar to that achieved in 2005, between 65 percent and 70 percent—roughly 3.5 million—will survive to the first feeding stage. We anticipate providing about one million

2.5 inch fish to the Pendills Creek NFH for grow out over the next year. The remainder will be kept at Jordan River and cultured until release in the spring of 2007. Lake trout eggs were transferred from Iron River, Saratoga, and Sullivan Creek NFH's. Following are the final statistics on numbers and strains received: 3,333,000 Lewis Lake strain, 580,000 Seneca Lake strain, and 1,548,000 Superior Apostle Island strain, for a total of about 5,461,000 eggs.

Wayne Talo, Jordan River NFH

Annual Fish Marking Activities Completed at Jordan River

In January, a team of volunteers and staff marked 120,000 lake trout yearlings (60,000 Seneca Lake strain and 60,000 Superior Traverse Island strain) with a coded-wire tag/adipose fin clip combination for use in the Drummond Island (Northern Lake Huron) study. The adipose fin is a fin made up of fatty tissue on the back of some fish. Adipose fin-clipping identifies the fish as carrying a coded-wire tag, a small piece of magnetic wire implanted in the nose cartilage of fish. These tags are laser-etched with a numeric code to differentiate between groups of fish. The purpose of this study is to compare survival of different strains of lake trout.

Fin clipping of the remaining 1.88 million production fish at the hatchery ran from February 7 through March 27. This year's general clip is a left pectoral clip (meaning the left pectoral fin is excised). All hatchery produced lake trout released in the Great Lakes are required to be readily identifiable by the presence of a fin clip. The clip pattern changes every year to aid researchers in making age determinations quickly in the field. This process is ex-

tremely labor intensive. Approximately 12 seasonal employees work 35 hours weekly, individually handling and clipping each fish — approximately 60,000 per day. The operation is supervised by a full-time biologist. A team of three or four employees are also required to load trucks with fish to bring to the fin clippers once or twice daily. *Wayne Talo, Jordan River NFH*



-USFWS

A coded-wire tag is being injected into the nose cartilage of an anesthetized and adipose fin clipped lake trout. The tags have a numeric code laser-etched on them to differentiate between groups of fish after stocking.

Alpena FRO Helps Graduate Student Age Lake Sturgeon

Biologist Adam Kowalski assisted Heidi Keuler, a graduate student at the University of Wisconsin-La Crosse and employee at the La Crosse FRO, age lake sturgeon fin rays for her graduate project. Keuler has been comparing age and growth between lake sturgeon in Wisconsin's Legend Lake and Lake Winnebago. She supplied images of cross-sectioned fin rays to Kowalski for aging. These ages will be compared with others, providing similar analysis for accuracy. Kowalski examined approximately 130 samples from Lake Winnebago and 150 samples from Legend Lake. Keuler will make a summary of this comparative analysis after completing the project.

Adam Kowalski, Alpena FRO

Partners Coordinate Prey Fish Collections for Predator Response Study

The Alpena FRO is assisting the Michigan DNR with a study funded by the Great Lakes Fishery Commission to examine the responses of lake trout and Chinook salmon to unprecedented declines in major prey fish abundance in Lake Huron. Alpena FRO collects prey samples for the study in the fall during scheduled aquatic invasive species surveillance activities at ports and rivers in United States waters of Lake Huron.

On March 28, Alpena FRO biologist Anjanette Bowen met with Michigan DNR biologist Ji He of the Alpena Great Lakes Fishery Station to transfer prey samples collected in 2005 and coordinate 2006 sample collection. In September 2005, samples of invasive round goby were collected from Port Dolomite, the Cheboygan River, and Thunder Bay. These samples were transferred to the DNR for processing and analysis. In 2006, up to 50 samples of all species captured will be needed from each Lake Huron location sampled. Whole fish will be separated by species and frozen.

The principal investigators and coordinators for this study are James Bence of Michigan State University and Ji He and James Johnson of the Michigan DNR Alpena Great Lakes Fishery Station. Partners include the U.S. Geological Survey Great Lakes Sciences Center, Ontario Ministry of Natural Resources, Chippewa/Ottawa Resource Authority, and the Fish and Wildlife Service. The study was initiated in October 2005 and will continue through fall 2008.

Anjanette Bowen, Alpena FRO

Gill Net Maintenance is an Important Part of Treaty Waters Surveys

Alpena FRO biologists Scott Koproski and Adam Kowalski completed repair of assessment gill nets used during the 2005 fishery independent lake whitefish survey in 1836 Treaty waters. Alpena FRO fished two styles of gill nets during this survey: traditional bottom style gill nets and experimental gill nets that fish higher in the water column. The difference between the two styles of nets is that traditional gill nets have the weights secured to the bottom part of the net frame and experimental gill nets have the weights secured to a three-foot dropper line attached to the bottom part of the net frame. This dropper line results in a "mesh-free" area in the bottom three feet of the water column. The experimental nets should help reduce lake trout by-catch during the survey since lake trout typically orient themselves on the lake bottom. Koproski and Kowalski repaired in excess of 14,600 feet of gill net this past winter.

Crews fished both standard and experimental gill nets simultaneously during the 2005 fishery independent lake whitefish survey. Preliminary results indicate that lake whitefish catch rates increased slightly using the experimental assessment nets and lake trout by-catch rates dropped significantly. Both types of assessment nets will be fished during the 2006 survey and results will again be analyzed.

Scott Koproski, Alpena FRO

Aquatic Invasive Species

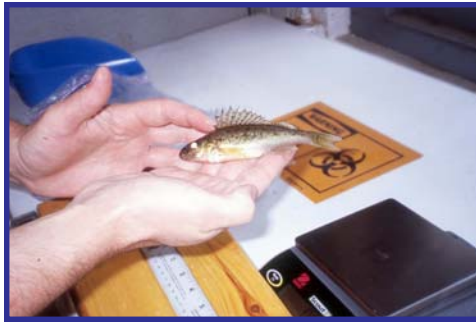
Invasive Species Tissue Samples Transferred to University for Genetics Studies

Biologist Anjanette Bowen of the Alpena FRO provided the University of Toledo - Lake Erie Center with aquatic invasive species tissue samples from Eurasian ruffe and zebra mussels in March. The samples will be used to gather information on the genetic origin of these invasives in the Great Lakes.

Ruffe were collected between 1998 and 2002 from the Thunder Bay River off Lake Huron during spring efforts to remove spawning adults and fall efforts to assess the young-of-the-year ruffe population. Ruffe were frozen following collection. Pectoral fin tissue samples were harvested in 2005 and placed in ethanol. Zebra mussels were collected in the fall of 2005 from the Thunder Bay River and preserved whole in ethanol for genetics studies.

Tissue samples were also collected from the native yellow perch spawning population in Thunder Bay in the spring of 2005. These samples will be used to examine wild spawning populations of native species from areas around the Great Lakes. Samples were sent to the University on March 22. In 2006, round gobies and zebra mussels will be collected from a number of ports and rivers in United States waters of Lake Huron and the St. Marys River during regular fall surveillance, and provided to the university for analysis.

Anjanette Bowen, Alpena FRO



-USFWS photo by Anjanette Bowen

Alpena Fishery Resources Office provided the University of Toledo- Lake Erie Center with tissue samples of invasive Eurasian ruffe and zebra mussels for genetics studies.

Invasive Species Sighting Information Helps Update Distribution Maps

In March, Alpena FRO biologist Anjanette Bowen provided information on aquatic invasive species sightings in Lake Huron to the U.S. Geological Survey's (USGS) Non-indigenous Aquatic Species Coordinator. The USGS Integrated Sciences Center in Gainesville, Florida, prepares and updates maps of confirmed aquatic invasive species sightings in the Great Lakes and throughout the United States. The sighting data will provide a more comprehensive map of the distribution of round goby in United States and Canadian waters of Lake Huron.

The new information Bowen provided include round goby sighting data collected by Alpena FRO during fall surveillance in United States waters of Lake Huron and the St. Marys River, and data collected by Lloyd Mohr of the Ontario Ministry of Natural Resources Lake Huron Management Unit.

Anjanette Bowen, Alpena FRO

No Ruffe Captures in Lake Huron Highlights 2005 Surveillance Report

The Ashland, Alpena, and Lower Great Lakes FRO's, along with the Ontario Ministry of Natural Resources (OMNR), collaborated on a report titled *Surveillance For Ruffe in the Great Lakes, 2005*. The perch-like ruffe received the stigma of "invasive species" in 1992, after it was implicated in declines of native forage fish in the Twin Ports harbor of Duluth, Minnesota, and Superior, Wisconsin. The report summarizes fish sampling activity in each of the Great Lakes that targets invasive ruffe, as well as some major sampling that does not target ruffe, but is capable of capturing ruffe incidentally. From this sampling data, new locations containing ruffe are identified, and the range of ruffe is updated annually. The report shows that no ruffe were captured in 2005 in Lake Huron.

Since 1992, the Fish and Wildlife Service and OMNR have been tracking ruffe in the Great Lakes to document its range and evaluate opportunities to delay ruffe range expansion. Cooperators include the U.S. Geological Survey, state DNR's bordering the Great Lakes, tribal Indian communities, Ontario Federation of Anglers and Hunters, Sea Grant, universities, and recreational anglers. The complete ruffe surveillance report is distributed to the Great Lakes Panel on Aquatic Nuisance Species and the National Aquatic Nuisance Species Task Force. The report is available on the Ashland FRO website at <http://www.fws.gov/midwest/ashland>.

Gary Czypinski, Ashland FRO

Public Use

Cooperative Effort Improves Fishing on Crab Orchard NWR

Crab Orchard Lake and other lakes and ponds on Crab Orchard NWR provide fishing opportunities for anglers in Southern Illinois and surrounding states. The Illinois DNR, Carterville FRO, and the refuge cooperatively manage these recreational fisheries. They recently reviewed data and management over the past year and discussed opportunities for the coming year. Overall, fishing is looking good with indications of success from management activities such as establishing a bass "spawning refuge," stocking young bass, and enforcing more restrictive fishing regulations.

Another successful and popular activity is the addition of brush piles to enhance habitat for crappie. This year 10 large brush piles were created from excess Christmas trees and from cedars removed from select areas on the refuge. About 20 people spent a cloudy Saturday morning bundling and weighing down trees, and then hauling them out to various spots on Crab Orchard Lake. The group was about half agency staff and half local volunteers. This event would not be nearly as successful without the cooperation and participation from everyone from prison crews who cut trees on the refuge to volunteers from the local fishing clubs to the great leadership of the effort by biologist Chris Bickers of the Illinois DNR, and everyone in between. Maps of the brush piles are provided to anyone interested, and this time of year, there's a lot of interest as the crappie fishing heats up.

Rob Simmonds, Carterville FRO



-Photo by Ken Roberts

Volunteers along with staff from the Illinois Department of Natural Resources, Carterville Fishery Resources Office, and Crab Orchard National Wildlife Refuge create crappie habitat from trees and cinder blocks, to be placed at key locations in Crab Orchard Lake.

Fish are More and More Fun at Jordan River NFH

The evening outreach program "Fish are Fun" held at the Jordan River NFH during the winter is so popular that staff have been offered a road show venue. The last program in the series held at the hatchery March 21, *Exotic Invaders*, attracted an entire Boy Scout troop.

Biologist Tim Smigielski puts on the programs and will likely be doing more programs for much larger crowds. Jon Sumner, the leader for Boy Scouts of America in Northern Michigan, was so impressed with the hatchery programs that he is willing to provide ushers, refreshments, and even an auditorium to put on interpretive programs for the public in a nearby community. This will be a new, innovative, and low cost way of advancing the mission, promoting Fish and Wildlife Service programs, and educating the public. The first pilot event is slated for this spring.

In addition, Rod Bragg, a teacher from St Mary's School in Gaylord, Michigan, was also impressed with the presentations and

immediately scheduled tours for two of his classes that very same day. Bragg, along with several interested parents and 24 eighth graders, toured the station, saw a fin clipping demonstration, and enjoyed a presentation about recreational fishing and its connection to the hatchery and the Great Lakes. The second group, an afternoon class of juniors and seniors from the high school, toured the hatchery and learned about careers in fisheries and the Fish and Wildlife Service.

Tim Smigielski, Jordan River NFH



-USFWS Screenshot by Tim Smigielski

The Tim Smigielski produced *Exotic Invaders* presentation has been a hit with children visiting the Jordan River National Fish Hatchery for the *Fish Are Fun* program.

Spring Outreach in Michigan

Fifteen fourth and fifth graders from Concord Academy in Antrim, Michigan, toured Jordan River NFH, and some tried their hand at fin clipping. A few volunteer students assisted with clipping the left pectoral fin from yearling lake trout while their classmates looked on. The students were also treated to a special showing of Tim Smigielski's classic *Exotic Invaders* presentation. Many of the visitors asked well-thought-out questions and provided interesting observations in regard

to aquatic invasive species, hatchery operations, and lake trout rehabilitation. The teachers and chaperones enjoyed the trip as well. Everyone learned a lot and had fun doing it.

Approximately a dozen seniors from the Mancelona Baptist Church also toured the hatchery and enjoyed observing the fin clipping project underway during their visit. Many of these folks commented that they had never been to the hatchery or had not visited for quite a few years. Biologist Tim Smigielski led the seniors on a tour, explaining the progress in lake trout rehabilitation, invasive sea lamprey control, and the expanded role of hatcheries in the region. Everyone enjoyed coffee and hot chocolate while rehashing the visit and asking questions.

Maintenance Mechanic Bob Petersen provided a display at a new National Wild Turkey Federation event in Petoskey, Michigan. The display introduced visitors to Great Lakes lake trout rehabilitation and fish culture. Thanks to Bob for his efforts in expanding our partners and outreach opportunities.

Tim Smigielski, Jordan River NFH

Carterville FRO Educates and Entertains Local Scouts

Carterville FRO biologist Colby Wrasse and Illinois DNR biologist Chris Bickers recently made a presentation to a group of approximately 30 Cub Scouts and Boy Scouts. Held at Crab Orchard NWR, the presentation covered such topics as the importance of fish to the ecosystem and people, fish diversity, fish management practices, and conservation ethics. Pictures of large, unique fish fascinated the scouts and generated many excellent questions. The

highlight of the day was a live fish demonstration. Scouts were able to get a close up view of 15 fish common to Crab Orchard NWR as Bickers and Wrasse described fish physiology and the unique characteristics of each. The scouts appreciated the opportunity to hold and touch the fish, many of which they had never seen before. The day culminated as the scouts happily released the fish back to the lake. All the participants seemed to enjoy the presentation and hopefully learned a little in the process. Events such as this tend to increase young peoples' interests in our natural resources and will lead to a conservation-minded society.

Colby Wrasse, Carterville FRO

Anglers Catch Current Information at Fishing Expo

Staff from the La Crosse FRO, La Crosse FHC, and Genoa NFH hosted a booth featuring a variety of Fisheries program informational exhibits at the third annual Mississippi Valley Fishing Expo, held March 17-19 at the Omni Center in Onalaska, Wisconsin. Several thousand anglers stopped by the booth to talk with Fish and Wildlife Service staff about topics from invasive species to lake sturgeon biology, the "flying carp" (silver carp), mussels, and fish diseases in hatchery environments. A large plastic model of a fish with the internal organs exposed was a big draw for the kids. They enjoyed looking and touching the various internal organs and asking questions about them.

Members of the Friends of the Upper Mississippi River Fishery Services also helped to staff the booth during the weekend and recruited prospective members. Highlighted fishery resource topics at the booth this year included

invasive Asian carps; freshwater mussels; migratory species such as American eel, paddlefish, and lake sturgeon; diseases of fish; and the Habitattitude™ awareness campaign to prevent the release of aquarium fish and aquatic plants.

And what would a fishing show be without a display of live fish in a large aquarium! The staff from Genoa NFH set up a tank containing coaster brook trout, lake sturgeon, walleye, largemouth bass, and channel catfish. The juvenile lake sturgeon with their dinosaur-like appearance baffled many of the onlookers and produced the most questions than any of the other species of fish. Some of the younger spectators thought the aquarium was a trout fishing pond and wanted to take the fish home!

Two new volunteers and one new Friends group member were recruited to help these Fish and Wildlife Service offices as a result of this outreach activity. The opportunity to personally exchange fisheries information with outdoors enthusiasts that attend the exposition makes participation here a valuable outreach tool for area Fishery offices.

*Mark Steingraeber, La Crosse FRO
Terry Ott, La Crosse FHC
Doug Aloisi, Genoa NFH*

Cooperation with Native Americans

Fisheries Society Recognizes Red Lake Technical Committee

The Ashland FRO continues to work with the Red Lake Band of Chippewa, Minnesota DNR, Bureau of Indian Affairs, and University of Minnesota to restore a naturally spawning population of walleye in Red Lake. During a March 8 meeting with the Red Lake Fisheries Technical Committee to discuss the walleye restoration program and performance indicators of this long-term restoration effort, the Minnesota Chapter of the American Fisheries Society, represented by Jack Wingate of the Minnesota DNR, presented special recognition awards to each resource agency on the committee. The award letter read in part:

"... for the work this group has done through the Red Lake Fisheries Technical Committee on rehabilitating the walleye fishery on Red Lakes, Minnesota. In 1997 the Red Lake Fisheries Technical Committee was created for the purpose of fostering discussions on the health of the lake, particularly the walleye population. The ultimate goals of the Committee were to recover the walleye population to fishable levels and to agree to cooperative management of the resource to prevent future collapses of a rehabilitated walleye population.

"...This nomination is to recognize the jurisdictions involved in the walleye recovery in the Red Lakes, the use of the Committee to lead to improved communications and working relationships, and the use of public groups by the MN DNR and the Band to inform and invite active partici-

pation in rehabilitation stocking and regulation setting. The joint efforts of the two management jurisdictions have resulted in the rehabilitation of the walleye population in a 275,000-acre natural walleye lake, one of the largest lakes in the United States..."

The walleye fry restocking effort has successfully re-established a harvestable stock of fish! The technical committee approved the harvest plan that will now clear the way to open both Upper and Lower Red Lake for tribal and sport anglers. This walleye fishery, opening in May, will allow sport anglers to harvest two walleye per day and tribal anglers on the reservation to harvest 10 walleye per day by hook and line. A conservative plan has been adopted that will protect walleye between 17 and 26 inches. During 2006, if the state harvest quota of 108,000 pounds or the tribal harvest of 414,000 is reached, the walleye fishery will be closed down for that user group.

Several additional topics were also discussed at this meeting, at which Frank Stone of the Ashland FRO represented the Fish and Wildlife Service. Topics discussed included a review of an informational brochure for anglers, confirmation that the Ashland FRO will assist with a summer forage fish assessment, approval of a buffer zone that separates the state and tribal boundary in Upper Red Lake, harvest limits by state and tribal anglers, law enforcement updates and planned activities for 2006, and population and harvest monitoring.

Historically, the Red Lakes have provided food, recreation, cultural pursuits, and income to

many people. Government leadership, cooperation, and coordination have been paramount throughout this process. All parties have demonstrated a willingness to provide leadership by example to achieve the community support and involvement required to reach the goals of the Red Lake Fisheries Technical Committee.

Frank Stone, Ashland FRO



A Special Recognition Award was presented to the Fish and Wildlife Service for their part in restoring walleye in the Red Lakes of Minnesota.

Cranberry Marsh Wetland Project Underway

Planning is underway to convert the Lac Courte Oreilles (LCO) tribe's cranberry marsh to wild rice wetlands. The cranberry marsh site is located in Sawyer County, Wisconsin, and consists of 65 acres, of which 30 or more may be suitable for wetland and wild rice restoration. No intensive propagation of wild rice is planned, but the site will be managed as a more natural wetland community benefiting waterfowl and other wildlife while also providing for tribal rice harvest opportunities. Partners on the project include the LCO Conservation Department, LCO Ojibwe College, Bureau of Indian Affairs, Natural Resources Conservation Service, and Ashland FRO.

Ted Koehler, Ashland FRO

Ashland FRO Assists with National Scoring of 2006 Tribal Grants

Frank Stone assisted Regional Tribal Liaison John Leonard with scoring the Fish and Wildlife Service's 2006 Tribal Wildlife Grant (TWG) and Tribal Landowner Incentive Program (TLIP) grants. This was a national scoring process of project proposals submitted by tribes throughout the United States. They reviewed 40 grant proposals — 28 TWG's and 12 TLIP's.

Each region first had a review team score all proposals submitted to that region. The regions then forwarded their proposals to the national panel. Proposals reviewed at the national level included regionally ranked proposals that scored at or above the top 50 percent. Although the list of accepted grants has yet to be finalized, tribal resource programs throughout the United States will soon be receiving the financial help they need to initiate projects ranging from base line data collection and habitat restoration to the control of invasive plant species.

The tribal grant programs provide new funding opportunities to tribes for activities that protect and restore habitats that will benefit fish and wildlife species of tribal significance. These grant programs also support the efforts of tribal governments to develop or augment the capacity to manage, conserve, or protect fish and wildlife species of concern through the provision of additional funding and technical support.

Frank Stone, Ashland FRO

Biologist Chairs Modeling Subcommittee Meeting for 1836 Treaty Waters

Biologist Aaron Woldt of the Alpena FRO chaired the March 14 to 16 meeting of the Modeling Subcommittee of the Technical Fisheries Committee for the 1836 Treaty Waters of lakes Huron, Michigan, and Superior. The primary focus of this meeting was to generate preliminary 2006 harvest limits for lake trout in Treaty waters, although other technical matters were discussed. As stipulated in the 2000 Consent Decree, preliminary lake trout harvest numbers must be calculated by the Modeling Subcommittee, reviewed by the Technical Fisheries Committee, and presented to the parties to the decree by March 31 each year. The subcommittee will complete final lake trout harvest numbers and present them to the TFC for review at the committee's May 3 meeting.

Woldt and Ji He of the Michigan DNR presented an update of the status of Northern Lake Huron (MH-1 and MH-2) lake trout stock assessment models, model diagnostic output, and preliminary 2006 lake trout harvest limits. In MH-1, the 2006 preliminary lake trout harvest limit increased from 2005 levels because of continued lower than target total mortality rates and increases in stock and fishable biomass. In MH-2, preliminary harvest limits dropped from 2005 levels as a result of a change in the way survey selectivity was modeled in 2006. This change results in a better model fit to the observed index of abundance from the graded mesh lake trout survey and more accurate model estimates of abundance. The 2006 preliminary harvest limit for MH-2 is still well above recent harvest levels for this unit.

Harvest limits produced at this meeting, when reviewed by the parties and finalized, will become binding 2006 lake trout harvest limits for 1836 Treaty waters. These harvest limits will allow lake trout fisheries to be executed while still protecting the biological integrity of the lake trout stocks.

Aaron Woldt, Alpena FRO



-USFWS

An Alpena Fishery Resources Office biologist chairs the Modeling Subcommittee of the Technical Fisheries Committee for 1836 Treaty waters with a primary focus to generate preliminary 2006 harvest limits for lake trout.

Fish Health Inspection Performed at Tribal Hatchery

La Crosse FHC Project Leader Rick Nelson performed a fish health inspection under a cooperative agreement with the Keweenaw Bay Indian Tribal Fish Hatchery in L'Anse, Michigan, during the week of April 10. The groups (lots) being reared were of the Jumbo River strain of brook trout in several year classes including brood stock and fry. Also on station were a strain of lake trout that was transferred from a Fish and Wildlife Service facility and a new group of wild coaster brook trout collected in Lake Superior.

Rick Nelson, La Crosse FHC

Leadership in Science and Technology

Juvenile Lake Sturgeon Marked

On March 10, fish health biologist Terrence Ott from the La Crosse FHC assisted La Crosse FRO biologists Mark Steingraeber and Ann Runstrom in micro-tagging 1,200 juvenile lake sturgeon at Genoa NFH. U.S. Geological Survey biologist Jim Louma from the Upper Midwest Environmental Science Center and Genoa NFH biologists Roger Gordon and Nick Starzl also participated. The juvenile lake sturgeon originated from a spawning stock of adult wild lake sturgeon in Legend Lake (Wolf River system) on the Menominee Indian Reservation in Wisconsin. They were collected as eggs from female sturgeon during the spring of 2005 when they left Legend Lake and entered the Wolf River to spawn in swift water.

The fertile lake sturgeon eggs were incubated in hatching jars at the hatchery; at water temperatures of 60 to 64 degrees Fahrenheit, all eggs hatched in about eight days. The young are then nourished by a large yolk sac for 9 to 18 days. In two weeks the young sturgeon are miniatures of the adult. Then they are moved to inside concrete raceways supplied with cool pond water for optimal growth and survival. This spring the entire lot of micro-tagged sturgeon will be released into Legend Lake and monitored for growth and survival by the La Crosse FRO.

Rick Nelson, La Crosse FHC



-USFWS

A biologist injects a young lake sturgeon with a micro tag prior to stocking into Legend Lake on the Menominee Indian Reservation.

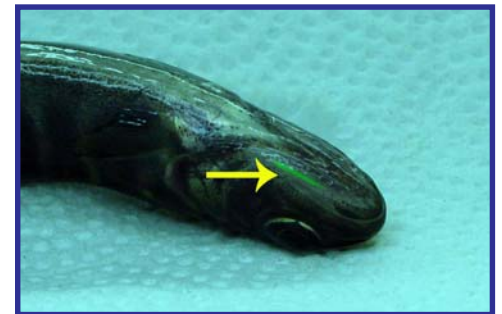
Coaster Brook Trout Receive Implants

During the first week of March, coaster brook trout yearlings destined for Whittlesey Creek near Ashland, Wisconsin, were implanted with Northwest Marine Technology, Inc.'s Visual Implant Elastomer (VIE) tags. VIE tags are implanted beneath transparent tissues but remain externally visible. VIE is a biocompatible, two part material that is mixed before use and then injected as a liquid that cures to a solid. This technology has been around for many years, but had not yet been used at the Iron River NFH. Staff from Whittlesey Creek NWR and Ashland FRO joined Iron River NFH staff to learn about VIE tags and then participate in the tagging.

They tagged a total of 2,200 coaster brook trout, including 1,100 Tobin Harbor strain, which received red tags, and 1,100 Siskiwit strain, which got green tags. All of the tagged yearling brook trout will be stocked into Whittlesey Creek this spring as part of an ongoing fish evaluation. We are hopeful that the tags will help biologists easily recognize these fish as coming from the Iron River NFH, and since we were

able to use a unique color tag for each strain of fish, there will be no need to do an expensive genetic analysis to determine the strain of fish captured. In addition, the strain determination will be immediate, saving time in the field. We will continue to work with the Whittlesey Creek NWR and the Ashland FRO to evaluate the retention success of the VIE tags in coaster brook trout, and are hopeful that we will be able to use them in other evaluations in the future.

Kurt Schilling, Iron River NFH



-USFWS

The arrow marks a green Visual Implant Elastomer tag. This technology is being applied at the Iron River National Fish Hatchery on brook trout that will be stocked into Whittlesey Creek near Ashland, Wisconsin.

Aquatic Habitat Conservation and Management

La Crosse FRO Hosts Internal Meeting on the Driftless Area

The La Crosse FRO hosted a meeting for field programs of the Fish and Wildlife Service to discuss the new Midwest Driftless Area Restoration Effort (MDARE), a partnership of the National Fish Habitat Initiative (NFHI). "Driftless Area" is a geologic term used to describe the area of Minnesota, Wisconsin, Iowa, and Illinois where glaciers were absent and which hence remained "drift-less." The landscape is characterized by craggy limestone and sandstone valleys, steep hillsides, and abundant coldwater springs.

The purpose of the meeting was to discuss how Region 3 programs can work closer together on aquatic resource efforts. A similar meeting was held in December for Regional Office staff. Mike Oetker provided an overview of the National Fish Habitat Initiative and Pam Thiel followed with a presentation specifically on MDARE. Tim Patronski rounded out the formal presentations by providing information on the conservation status of native fish, crayfish, and mussels in Region 3.

Staff from various Fish and Wildlife Service programs provided updates on their projects and activities, including those in the Driftless Area, and discussed how we can collaborate to help achieve resource goals in the Driftless Area. Project updates were provided by the Upper Mississippi River National Wildlife and Fish Refuge, Driftless Area NWR, Private Lands, Ecological Services (private lands and contaminants), Biological Monitoring Team, and External Affairs. Information was also provided on the North Ameri-

can Waterfowl Management Program Joint Venture Office and the National Fish and Wildlife Foundation. The group then brainstormed on Fish and Wildlife Service priorities in the Driftless area, potential funding sources, and focus areas. The potential of working together for the greater whole is boundless!
Pam Thiel, La Crosse FRO



-USFWS

The Driftless Area is characterized by craggy limestone and sandstone valleys, steep hillsides, and abundant coldwater springs. "Driftless Area" is a geologic term used to describe the area of Minnesota, Wisconsin, Iowa, and Illinois where glaciers were absent and which hence remained "drift-less."

Future of the Chesaning Dam Discussed

On February 13, Alpena FRO biologist Susan Wells attended a meeting with stakeholders to discuss a fish passage retrofit of the Chesaning Dam in Chesaning, Michigan. The dam is located within a city park on the Shiawassee River and is in danger of failing due to structural compromises at the base and along the shoreline. Local residents are concerned that complete removal would have an adverse economic impact on the community as summer activities associated with the pond created by the dam include a popular showboat attraction. The stakeholders proposed a project design entailing the use of a rock ramp to allow for fish passage and

restore the structural integrity of the dam.

Representatives from the Michigan DNR, U.S. Army Corps of Engineers, Saginaw Bay Watershed Initiative Network, Public Sector Consultants, Michigan Department of Environmental Quality, and Wade-Trim attended the meeting. Each attendee gave a brief overview of grant opportunities their organization may have available for this project. The city has successfully begun to solicit private funds that could be used as a match towards various grants. This project has strong community support and the representatives involved with the meeting expressed support for the project and a desire to move forward.

This is an example of collaboration between government, watershed groups, and other nongovernmental organizations to enhance aquatic habitat which will benefit fish and wildlife resources. This project has the potential to restore fish passage to 37 miles of mainstream and tributary habitat.
Susan Wells, Alpena FRO

Carterville FRO Discusses National Fish Habitat Initiative with Illinois River Coordinating Council

Project Leader Rob Simmonds from the Carterville FRO gave an introductory presentation on the National Fish Habitat Initiative (NFHI) to the Illinois River Coordinating Council. A partnership based initiative being developed to address fish habitat needs nationally, the NFHI is still in the formative stages but is strongly supported at state and Federal levels and has received congressional funding for the past two years. The council is a partnership led by Illinois Lieutenant Governor Pat Quinn and comprises citizen, state, and Federal representatives covering everything from natural resources to industry to transportation, and more. This group oversees planning and funding for preservation and restoration of the Illinois River Watershed.

Following a brief overview of the Initiative and currently recognized partnerships under the Initiative, the council voted to pursue becoming a recognized partnership. The Illinois River watershed covers 30,000 square miles, provides drinking water to a million people, is home to numerous plants and wildlife, is enjoyed for a wide range of outdoor activities, and is an important shipping corridor for many products. Enhancing aquatic habitat in the watershed will certainly advance many of the council's goals.

Rob Simmonds, Carterville FRO

Streams Rising for Ashland FRO Partners Program

Partners for Fish and Wildlife Program private lands stream projects are on the rise at the Ashland FRO. Twelve are planned for the 2006 field season and will benefit brook trout, lake sturgeon, and other native fish. Stream projects are leading the way this year followed by ten wetland projects, two invasive species projects, and one upland project.

Wetland projects, primarily benefiting migratory birds, are planned in the Lake Superior basin, and within Wisconsin's upper reaches of the Mississippi River watershed. Wetlands also function as sediment catch basins, benefiting the area's streams, rivers, and lakes. Tree planting to provide wildlife habitat and slow the flow of sediment laden runoff will occur in the Fish Creek watershed, and buckthorn removal will take place in the Bay City Creek and Whittlesey Creek watersheds.

Ted Koehler, Ashland FRO



-USFWS

Stream projects like this one on private land are important for the Partners for Fish and Wildlife program conducted at the Ashland Fishery Resources Office. This project requires bank stabilization to minimize erosion.

Partners for Fish and Wildlife Program Holds Tri-State Meeting

Project Leader Jerry McClain and biologist Heather Rawlings of the Alpena FRO participated in the first Tri-State Partners for Fish and Wildlife meeting in Angola, Michigan. This meeting allowed biologists and supervisors from Michigan, Indiana, and Ohio to share ideas and compare strategies to make agency programs more consistent regionally, and possibly find new and better ways to achieve habitat restoration goals on private lands. Jeffrey Kiefer, State Coordinator of the Indiana Partners for Fish and Wildlife Program, hosted the meeting at the Potawatomi Inn in Pokagon State Park. Rawlings moderated and presented a discussion about watershed restoration. Topics for the session included fish passage, stream bank restoration, large woody debris placement, and the science of stream restoration. Approximately 60 natural resources professionals attended the meeting, including Fish and Wildlife Service personnel from both the Regional and Washington offices.

As part of the meeting agenda, McClain provided the group an overview of the National Fish Habitat Initiative, which stimulated discussion on how the Fish and Wildlife Service's numerous habitat restoration programs can be better coordinated to enhance the overall effort.

Heather Rawlings and Jerry McClain, Alpena FRO

Workforce Management

2005 Volunteer Banquet Goes Mardi Gras Style

The Annual Volunteer Banquet was held for the La Crosse FRO and the La Crosse District of the Upper Mississippi River National Wildlife and Fish Refuge on February 24. Mardi Gras was this year's theme and everyone enjoyed the grilled catfish and chicken, cornbread, and pecan pie; it truly had a southern flavor. Volunteers Sylvia and John Allen and FRO biologist Scott Yess discussed their experiences in the South working with Red Cross and the Federal government to assist hurricane victims.

Fishery volunteers contributed more than 1,000 hours to the La Crosse FRO in 2005 by assisting on outreach activities, endangered mussel propagation, invasive species monitoring, lake sturgeon tagging, fish collections for the wild fish health survey, and several general fishery surveys. A total of 47 individuals contributed to this volunteer effort and La Crosse FRO recognizes Don Schroeder from Onalaska, Wisconsin, as the volunteer who contributed the most hours, a total of 205. He assists on almost every type of project the office is involved in and is a huge asset to our program. Not only is Don experienced with field work, but he has fantastic shop skills and was instrumental in construction of our new native mussel display. Schroeder has been the recipient of the *Volunteer of the Year* award twice in the past, and this year reached the 1,500 hour club for volunteer service with La Crosse FRO.

La Crosse FRO also recognizes John Allen from La Crescent, Minnesota, as our 2005 *Volunteer of the Year*. John has been a volun-

teer and member of the Friends group for several years. With great enthusiasm and energy, John contributed 110 hours working on invasive species, native mussels, lake sturgeon, and several outreach projects. Other special awards went to Ken Visger from La Crescent, Minnesota, the current President of the Friends group. Visger has been instrumental in recruiting over 30 new members to the Friends group and has supported the river fishery offices by writing advocacy documents on invasive species, outsourcing, and other issues. He has also attended and contributed greatly to the National Friends meetings.

Scott Yess, La Crosse FRO



-USFWS

Ann Blankenship (rt.) and Scott Yess (lt.) present a Department of the Interior award to Don Schroeder for 3,000 hours of volunteer time at the La Crosse Fishery Resources Office and Upper Mississippi River National Wildlife and Fish Refuge.

Student Completes Internship at the Jordan River NFH

Devin Tiell of Tiffin, Ohio, interned at the Jordan River NFH from January 3 through March 9. He is enrolled in the Hocking College Aquaculture Program in Ohio, which requires 40 hours of hatchery intern work in addition to the standard coursework. Tiell is interested in building his own hatchery to raise freshwater prawn for market.

Tiell was a great addition to the workforce, a quick study, and a pleasure to have around. He participated in and enjoyed all the aspects of cold water fish culture. His allegiance to the Ohio State University "Buckeyes" was his only shortcoming. Thanks and good luck Devin!

Tim Smigielski, Jordan River NFH



-USFWS photo by Tim Smigielski

Devin Tiell and Katie Harriger pass hatched lake trout sac fry through a screen to remove egg shells and other foreign material. Devin interned at the Jordan River National Fish Hatchery from January 3 through March 9 and is enrolled in the Hocking College (Ohio) Aquaculture Program.

Volunteer at Jordan River NFH is a "Real Miracle"

Andy Pavelek, a 32-year-old from Shelby Township, Michigan, began work as a volunteer at Jordan River NFH on February 14. Andy holds a Bachelor of Science degree in Environmental Science from Adrian College and was formerly a successful territory sales manager for a business in Southeast Michigan. Nearly four years ago, Andy was assaulted while visiting his brother in Chicago. He sustained a life-altering brain injury. Thankfully, Andy survived, but he was left with a major uphill battle as he could not walk or talk after the attack. Andy's story is a remarkable demonstration of courage, family support, and an incredibly strong will.

As a result of his long rehabilitation and recovery, his career ended, and he lost his home and finances because of medical expenses. Through the support of his family and many friends, he was able to take full advantage of medical advances and treatments. He beat the odds! As part of his rehabilitation process, Andy has diversified his learning experiences at schools, hospitals, businesses, and fitness centers, and now has wound up here at Jordan River.

Andy is in great physical shape; he exercises regularly and loves the outdoor lifestyle. His positive attitude is contagious. He ran a marathon, participated in a cancer benefit mountain bike event, and most recently, ran a 5k with his brother in Chicago. Plus, he is just poison to his opponents on the pool and ping pong tables. Andy is assisting with fish culture and some maintenance tasks at the hatchery. He is living on station and loves the area. Andy is doing a super job, and unless you were told, you would never, ever, guess

that he couldn't walk or talk just three years ago.

Tim Smigielski, Jordan River NFH



-USFWS photo by Tim Smigielski
Volunteer Andy Pavelek cleans the screen of a raceway at the Jordan River National Fish Hatchery.

Hatchery Volunteer Receives Honors

At one of the family-style potluck luncheons, which are standard at the Jordan River NFH, local resident and long time volunteer Dan Sutherland of Mancelona, Michigan, was recognized for contributing more than 4,000 hours of volunteer service to the Federal government. Sutherland, who began volunteer work at the hatchery in 1996 after a serious work related injury left him in need of rehabilitation, received the Secretarial and Presidential awards for his dedicated service. "Dan has become a very important part of our crew and he is a joy to be around because of his upbeat and positive attitude. His contributions are well respected by the entire staff," explained hatchery manager Rick Westerhof. Sutherland's favorite duty is assisting with the loading and delivery of lake trout in preparation for their release into lakes Huron and Michigan.

Tim Smigielski, Jordan River NFH



-USFWS photo by Wayne Talo
Hatchery manager Rick Westerhof presents Dan Sutherland with awards for completing 4,000 hours of volunteer service at the Jordan River National Fish Hatchery.

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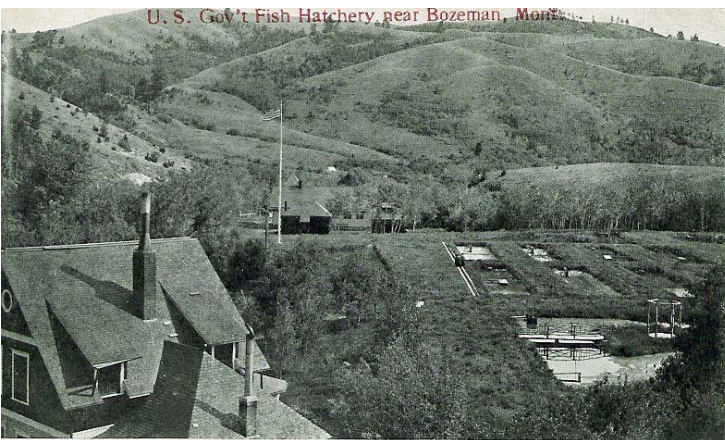
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-Jerry French Postcard Collection; Bozeman Fish Hatchery - circa 1905

Windows in time

A Glimpse into our Proud Past

The Bozeman Fish Hatchery is located near the city of Bozeman, Gallatin County, in south central Montana. The hatchery was established in 1893 and continues operations today.

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