



U.S. Fish & Wildlife Service - Midwest Region

Fisheries & Aquatic Resources Program

Fish Lines



Heads Up!
Asian Carp Abundance
Grows in Illinois Waterway

Spring Viremia of Carp
Disease Surveillance

PIT Tags Track Coaster
Brook Trout Movement

Invasive Ruffe Range
Expands in Green Bay



Fish Lines

Fisheries & Aquatic Resources Program - Midwest 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.

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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-USFWS

Tomah Middle School students, Fisheries staff and volunteers assist veterans at the Tomah Veterans Administration Hospital Fishing Day.

To view other issues of "Fish Lines," visit our website at:
<http://www.fws.gov/midwest/Fisheries/library/fishlines.htm>

Fish Lines

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A girl poses with her prize catch during Neosho National Fish Hatchery's Kids Fishing Day.

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Heads Up! Asian Carp Abundance Grows in Illinois Waterway

BY MARK STEINGRAEBER, LA CROSSE NFWCO

Treacherous currents, a flotilla of swift boats, periodic ‘missile’ attacks, deadly microbes, ultrasonic transmitters, personal protective equipment, and a lurking alligator ... amidst this intriguing mix of seemingly unrelated subjects, what possible mission is an armada of Fish and Wildlife Service biologists going to accomplish in uncomfortably steamy and electrically charged surroundings? The answer - working with partners and dedicated volunteers to safely conduct annual invasive species surveillance for round goby, Asian carps, and fish disease pathogens in the Illinois Waterway System.



-Owen Johnson

Biologists use an electrofishing boat to capture Asian carp for the 7th Annual Carp Corral on the Illinois waterway.

Canal, and Des Plaines and Illinois Rivers. Designed to estimate the downstream leading edge and relative abundance of round goby, as well as the upstream distribution and relative abundance of Asian carps, these and several other species of fish collected here were also tested by biologists from the La Crosse Fish Health Center (FHC) for the presence of a variety of deadly fish disease pathogens as part of the Wild Fish Health Survey (<http://www.fws.gov/wildfishsurvey/>).



-Owen Johnson

Biologist Eric Leis peers through a fish shield, made of chicken wire, to help protect him from collisions with leaping Asian carps while he pilots a survey boat on the Illinois River.

Organized and outfitted with supplies by the La Crosse National Fish and Wildlife Conservation Office (NFWCO), a total of 40 individuals representing nine government (Federal, state and local) agencies, two educational institutions, and two private businesses participated in the 13th Annual Goby Round-Up and the 7th Annual Carp Corral, held June 17-20, 2008. This year's effort spanned a distance of nearly 100 miles of Illinois waters from Alsip downstream to Peru and included portions of the Calumet-Sag Channel, Chicago Sanitary and Ship

As in recent years, the numbers of round goby captured in minnow traps suggested a continued decline in the upstream relative abundance of this species since it peaked here nearly a decade ago. Meanwhile, flood conditions in the Lower Illinois River forced the postponement of surveillance efforts for round goby at sites downstream of Peoria (the leading edge of its dispersal into the Mississippi River basin). Results of all laboratory tests to detect fish disease pathogens are pending, but because the often deadly viral hemorrhagic septicemia virus was identified earlier this year in round goby that washed ashore from Lake Michigan in Milwaukee (less than 100 miles from Chicago and the Great Lakes connection to the Mississippi River basin), there is heightened interest in the outcome of these latest tests.

Surveillance activities this year did not detect Asian carps any farther upstream than the Des Plaines River location (river mile 281.5) where a bighead carp was collected in the Dresden Island Pool last year. Two bighead carp were captured here this year and one was surgically implanted with an ultrasonic transmitter to closely monitor its movements. Thus far, the documented upstream range of bighead carp remains about 15 miles below an electrical fish barrier in Romeoville and 45 miles from Lake Michigan in Chicago.

The relative abundance of Asian carps increased markedly during the past year in adjoining navigation pools located downstream. A crew that surveyed the same portion of the Marseilles Pool with similar gears and levels of effort captured an annual total of five bighead carp while sampling here during June in both 2006 and 2007. Under similar circumstances this year they caught a total of 41 bighead carp in this reach, as well as nine silver carp. Likewise, a single 150-ft trammel net set further downstream for just one night captured a surveillance record total of 57 Asian carps (32 silver, 17 grass and 8 bighead) in the Starved Rock area of the Peoria pool. The number of silver carp that leaped out of the water here, rocketing about the boat like slimy missiles, was unexplainably (and fortunately) reduced this year. This apparent lull in activity is not expected to persist though, as flood waters this summer have increased the size of shallow water nursery habitats that are eventually expected to produce a very large 2008 year class of Asian carps.



-Owen Johnson photos

Crew members for the 7th Annual Asian Carp Corral have their hands full with these invasive bighead carp.

Surveillance findings were reported to the Asian Carp Rapid Response Team and the Chicago Barrier Advisory Task Force to help guide upcoming actions to limit the continued dispersal of these invasive fish and fish disease pathogens. This information also attracted the interest of reporters and photographers from many media outlets, due in no small part to outreach efforts coordinated by the Shedd Aquarium, a partner in this surveillance program for several years now. Garnering other media attention at this time was the capture of a five-foot alligator, thought to be a discarded pet, which was recovered by local authorities from the south branch of the Chicago River. As a consequence of these surveillance efforts and media reports, the public is better informed about the current distribution of these aquatic invasive species and the impacts they have on the Great Lakes and Mississippi River ecosystems.

For further info about the La Crosse NFWCO: <http://www.fws.gov/midwest/lacrossefisheries/>

Spring Viremia of Carp Disease Surveillance

BY COREY PUZACH, LA CROSSE FHC

The La Crosse Fish Health Center (FHC) has completed its third year of surveillance for Spring Viremia of Carp virus (SVCv) with 1,040 carp (common, silver, grass and big head) sampled from the Upper Midwest Region. SVCv was not detected in 2008 visits.

SVCv is an invasive viral disease commonly found in Europe, Asia and the Middle East. In 2002, SVCv was discovered in the United States when it was isolated from a Koi farm in North Carolina and from wild carp in Cedar Lake, Wis. Since 2002, the La Crosse FHC has also isolated the virus from the Calumet Sag Channel (2003), and Pool 8 on the Mississippi River (2007).

SVCv is caused by the virus *Rhabdovirus carpio*, which is a bullet shaped RNA virus. Signs of SVCv are darkening of the skin, pop-eye, excess fluid in the body cavity and/or organs (called ascites fluid), and swollen spleen and protruding vent. There is also hemorrhaging in the skin, eyes, gills, swim bladder, liver, and spleen. The virus is active when water temperatures range from 12 to 22 °C, typically in spring and fall. All of the invasive carp species located in United States waters are susceptible to the virus. It is unknown how many native species are affected by this invasive virus.

This year, the La Crosse and Columbia National Fish and Wildlife Conservation Office's (NFWCO) played an important role in the surveillance program. La Crosse NFWCO captured fish from locations along the Mississippi, Illinois and Wisconsin Rivers. The fish were then transported back to La Crosse to be processed by the La Crosse FHC. Dave Wedan from the La Crosse NFWCO assisted in coordinating the sampling plan.



-USFWS

Members of the La Crosse Fish Health Center train Columbia National Fish and Wildlife Conservation Office staff on fish health sampling techniques for spring viremia of carp virus testing.

Columbia NFWCO also electro-shocked and netted fish for the survey. They also collected health samples for the program. La Crosse FHC staff trained Columbia NFWCO personnel on proper fish health sampling techniques, aseptic sampling protocols, and sample preparation for transport. Columbia NFWCO sampled grass, bighead, silver and common carps from six sites on the Missouri and Mississippi Rivers. Wyatt Doyle from the Columbia NFWCO assisted in coordinating this sampling plan.

For further info about the La Crosse FHC: <http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/lacrosse-fhc.pdf>

PIT Tags Track Coaster Brook Trout Movement

BY KURT SCHILLING, IRON RIVER NFH

In an effort to effectively monitor coaster brook trout movements in Lake Superior and its watershed, the Ashland National Fish and Wildlife Conservation Office (NFWCO) and Iron River National Fish Hatchery (NFH) recently began passive integrated transponder (PIT) tagging coaster brook trout. The PIT tags are implanted into the abdomen of the fish with a syringe or scalpel. PIT tags emit a numbered code that is picked up by a receiver as a fish passes by. Each tag has a unique number so individual fish can be tagged and tracked from their release point to a monitoring point that is either mobile or stationary.



Some of the first fish to be PIT tagged were 2,000 yearling coaster brook trout being reared at the Iron River NFH. The tagged fish were stocked into Whittlesey Creek near Ashland, Wis. They will be tracked as they move within the creek, and hopefully out into Lake Superior.

Additional wild fish will be tagged and new monitoring sites established as equipment and tags are acquired. This

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Ashland National Fish and Wildlife Conservation Office biologists passive integrated transponder (PIT) tag yearling coaster brook trout at the Iron River National Fish Hatchery.

effort is an important first step to improve coaster brook trout monitoring. Tracking the tagged fish will help biologists address the habitat use, home range, movement patterns, residence times, survival and growth of these important native fish.



-USFWS

Fish and Wildlife Service staff enjoy tagging fish!

For further info about the Iron River NFH: <http://www.fws.gov/midwest/ironriver/>

Invasive Ruffe Range Expands in Green Bay

BY GARY CZYPINSKI, ASHLAND NFWCO

The Wisconsin Department of Natural Resources (DNR) reported that a commercial fisherman captured a ruffe off Peshtigo Harbor, Wis., in Green Bay of Lake Michigan on May 28, 2008. The capture was made at a depth of 12 meters, and it confirms a range expansion of 15 kilometers south from a previous capture site near Marinette Harbor, Wis., in 2007. Commercial fishing operators as well as sport anglers continue to be a valuable source of aquatic invasive species early detection.

Impossible to eliminate from the open waters of the Great Lakes, efforts concentrated on delaying ruffe range expansion by controlling the pathways of introduction, with the exception of natural migration, and by population reduction where feasible. The result has been and continues to be a successful delay in ruffe range expansion. Limiting the spread of ruffe to natural migration, combined with exposure of ruffe to areas of unpreferred habitat resulted in a time span of 20 years (1986-2006) before the ruffe reached Eastern Lake Superior. Likewise, ruffe have never been detected outside of the Thunder Bay River and Thunder Bay in Lake Huron, and no ruffe have been captured there or anywhere in Lake Huron since 2003. In the Thunder Bay River, population reduction was feasible, and likely contributed to stop the further spread of ruffe there. In Lake Michigan, ruffe remained confined to Northern Green Bay for five years (2002-2007) before likely migrating south naturally. In the Lower Great Lakes, ruffe remain undetected, as well as in all inland lakes and streams in the Great Lakes Basin.



For further info about the Ashland NFWCO: <http://www.fws.gov/midwest/ashland/>

Fish and Wildlife Service Helps Rebuild Iowa Hatchery Production after Flood

BY DOUG ALOISI, GENOA NFH

With rainfalls exceeding 9 inches in 24 hours, whole towns were inundated with floodwaters throughout the Midwest. More than 100 counties in central and eastern Iowa and southwestern Wisconsin were declared Federal disaster areas during the June flood of 2008. Two



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Jim Luoma of the Genoa National Fish Hatchery passes a net-full of rainbow trout to Iowa Department of Natural Resources (DNR) manager Brian Lacey. Genoa provided the Iowa DNR with rainbow trout to replace hatchery fish lost during a recent flood.

helping hand by sending 10,000 3.75 inch rainbow trout up north. Through neighbors helping neighbors, recreational fishing opportunities in eastern Iowa have the chance to recover and abound.

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.

Iowa Department of Natural Resources (DNR) hatcheries in eastern Iowa were not spared from the flood waters.

The Manchester and Big Springs State Fish Hatcheries of northeastern Iowa were swept up in the flood, causing the loss of 140,000 catchable-size rainbow trout. Flood waters covered the outside raceways and filled the hatchery building and offices during the worst flooding seen since the early 1990s. This loss sets back the recreational stocking program in northeastern Iowa for about a year.

The Fish and Wildlife Service has a long and storied history of cooperating with the Iowa DNR to recover and restore fish and freshwater mussel populations. A cry for help was put out by Iowa to the Midwest fish and wildlife agencies in hopes that other facilities may have eggs or fish to help replace the lost production.

The Genoa National Fish Hatchery (NFH) in Wisconsin currently raises more than 20,000 catchable rainbow trout annually to stock in tribal or Department of Defense waters to help bolster sport fishing opportunities, and also raises rainbow trout fingerlings as a disease-free source of forage for captive brood programs that support the restoration of freshwater mussel populations. With a neighbor in need, Genoa rerouted 15,000 (3.75 inch) rainbows from the ongoing forage program to the two flood damaged hatcheries to help jump-start their programs. The Neosho NFH in Missouri also lent a

For further info about the Genoa NFH: <http://www.fws.gov/midwest/genoa/>

Happy Anniversary! Tons of Success for Medical Disposal Partnership

BY MARK STEINGRAEBER, LA CROSSE NFWCO

Due largely to media reports earlier this year of the common occurrence of medications in surface waters that supply drinking water to millions of Americans, a growing number of residents in the Upper Midwest have become aware of the need to

properly dispose of unwanted medications in order to better protect human and environmental safety. Perceiving a need to provide the public with safe and legitimate options for the disposal of unwanted medications in the communities they commonly serve, an

informal partnership of Wisconsin representatives from the La Crosse National Fish and Wildlife Conservation Office (NFWCO), Franciscan-Skemp Healthcare, and La Crosse County was formed early in 2007. These partners later demonstrated the need and support for an organizational structure for a year-round, county-administered program that would collect and dispose of unwanted medications to improve human and environmental safety. This information was formally presented to the La Crosse County Board of Supervisors which voted unanimously to authorize the Solid Waste Department's Household Hazardous Materials (HHM) staff, in cooperation with the sheriff's department, to "develop and implement a medication collection and disposal program that meets local, state, and Federal regulations, that uses an environmentally sound means of disposing of collected medications, and that operates on a permanent basis."

The La Crosse County sheriff deputized members of the HHM staff with the authority to collect and destroy unwanted medications, including controlled substances. The program officially began operating on June 1, 2007 at the HHM drive-through facility in La Crosse. This is one of only a handful of programs in the nation that collects unwanted medications for disposal. Unused pharmaceutical products (e.g., pills, patches, liquids, aerosols, lotions, creams) are accepted here four days a week. The program accepts unwanted medications from businesses as well as individuals and provides this service free-of-charge to La Crosse County residents. With its mobile collec-

tion trailer and deputized HHM staff, the La Crosse County Solid Waste Department is also contracted by many other counties in Wisconsin and nearby states to collect unwanted medications, as well as other household hazardous materials, for safe disposal.

The county administered collection and disposal program for unwanted medications recently observed its one year anniversary. Milestone achievements during this successful period included the collection of 4.1 tons of unwanted medications, including one ton of ciprofloxacin antibiotic from a healthcare provider, service to 36 counties in Wisconsin and Minnesota, a new source of revenue for La Crosse County, two new employees hired to support the HHM program, implicit approval of the program by the U.S. Drug Enforcement Administration, and recipient of the North American Hazardous Materials Management Association's Program Innovation Award in 2007. La Crosse County special waste manager Jeff Gloyd was named the 2008 recipient of the prestigious Lloyd D. Gladfelter Award, administered by the University of Wisconsin-Madison Department of Political Science to recognize his actions on behalf of the program that have improved public services in Wisconsin. This program represents the first permanent means for the collection-disposal of unwanted medications in Wisconsin and serves as a model for the development of similar programs in other communities around the country that want to help protect the integrity of local watersheds.

For further info about the La Crosse NFWCO: <http://www.fws.gov/midwest/lacrossefisheries/>

Lake Sturgeon Featured in Natural History Lecture Series

BY ROBERT ELLIOTT, GREEN BAY NFWCO

Lake sturgeon have an important history in north-east Wisconsin, and they continue to capture the interest and imagination of people from this region today. Many of these people came out to learn more about this unusual fish earlier this summer at two lectures presented by biologist Rob Elliott of the Green Bay National Fish and Wildlife Conservation Office (NFWCO). Elliott was invited by two area educational institutions - the Neville Public Museum and Cross Roads at Big Creek - to provide guest lectures on lake sturgeon as part of each organization's public Natural History Lecture Series programs. Cross Roads at Big Creek is an environmental education center located in Sturgeon Bay, Wis., and the Neville Museum is a prominent natural history museum in Green Bay.

Elliott has been working with lake sturgeon in area waters of Green Bay and Lake Michigan for the past 10 years in coordination with other biologists and researchers around the Great Lakes. His talks covered the current status of this species in local waters and he explored some of the unusual life history characteristics that have sustained this species in the Great Lakes for thousands of years. But as was discussed, some of these same characteristics are also what makes sturgeon susceptible to extirpation in today's world. Elliott answered many questions and shared with attendees several new findings and initiatives that are important to restoration efforts. As he explained, the future for lake sturgeon in our area waters may be looking brighter, as long as people maintain their growing involvement.

For further info about the Green Bay NFWCO: <http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/greenbay.pdf>

Spring Viremia of Carp Virus Surveillance in the Upper Mississippi River

BY DAVE WEDAN, LA CROSSE NFWCO

This past May and June, staff from the La Crosse National Fish and Wildlife Conservation Office (NFWCO), seven Friends of the Upper Mississippi Fisheries Services members, and several volunteers electro-



-USFWS
(Lt. to Rt.) Andy Flaten (Upper Mississippi River National Wildlife and Fish Refuge, Heidi Keuler (La Crosse National Fish and Wildlife Conservation Office), and Bob Huff (Friends of the Upper Mississippi Fisheries Services) pose for a picture during spring viremia of carp virus surveillance in the Upper Mississippi River.

For further info about the La Crosse NFWCO: <http://www.fws.gov/midwest/lacrossefisheries/>

They're Back!

BY JAIME COFFRAN, PENDILLS CREEK NFH

That's right! The lake trout are back at Pendill's Creek National Fish Hatchery (NFH) although the hatchery itself remains closed to the general public due to construction. Half of the raceways have been removed in preparation for a new set. In the mean time, the remaining raceways are being used for production fish provided by the Jordan River NFH.

Lake trout fingerlings will be held in the remaining eight raceways until the new rearing units are finished. Then the fish will be moved into their new abodes, while the last eight raceways are replaced. Pendills Creek NFH is getting a bit of an overhaul to improve their raceways and to make them more accessible to workers and visitors.



-USFWS
A biologist watches closely while a new group of lake trout are transferred to a rearing pond at the Pendills Creek National Fish Hatchery.

For further info about the Pendills Creek NFH/Sullivan Creek NFH: <http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/pendills.pdf>

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.

fished nearly 500 common carp for spring viremia of carp Virus (SVCv) testing by the La Crosse Fish Health Center (FHC). Carp were collected from four Upper Mississippi River pools, three locations on the Des Plaines/Illinois Rivers between Joliet and LaSalle-Peru, and two locations on the Wisconsin River below the Petenwell area. The SVCv is most active and detectable in the spring and fall when water temperatures range from 68 to 72 °F.

SVCv can afflict aquarium cyprinid species such as Koi and goldfish and wild cyprinid species such as common carp. This virus is very difficult to eradicate, and if it spreads and becomes widespread, substantial negative ecological effects could result.

A group of 79 common carp, collected for the La Crosse FHC by the La Crosse NFWCO fisheries crew, tested positive for SVCv in June 2007. As results from this past spring's testing are pending, tentative plans are being made for further fall 2008 and spring 2009 collections.

Iron River NFH Completes Annual Stocking

BY KURT SCHILLING, IRON RIVER NFH

Iron River National Fish Hatchery's (NFH) primary goals are focused around lake trout and coaster brook trout restoration. In an effort to restore naturally reproducing and self-sustaining populations, the Iron River NFH stocks trout of various sizes into the Upper Great Lakes and their watersheds annually.

During the fall of 2007, a total of 377,961 fingerling lake trout were stocked into Lake Michigan under a rehabilitation plan and 335 retired adult lake trout were stocked into two lakes in the Upper Peninsula of Michigan to provide recreational angling opportunities.

Spring 2008 began with 50,600 lake trout being stocked into Lake Superior and 1,151,629 and 102,922 yearling lake trout were stocked into Lakes Michigan and Huron respectively. Nearly 90 percent of the spring yearlings were stocked using the *M/V Spencer F. Baird*, which allows fish to be placed directly onto offshore reefs.

Early in the summer, 185,000 coaster brook trout fry were stocked into waters of the Grand Portage Indian Community along the north shore of Lake Superior. 30,000 coaster brook trout fry were stocked into waters managed by Keweenaw Bay Indian Community and 2,000 yearling coaster brook trout were stocked into Whittlesey Creek near Ashland, Wis. All in all this was a terrific year of fish production at Iron River NFH. We look forward to fall when we can stock more fish and continue to help restore native fish to the Upper Great Lakes.

For further info about the Iron River NFH: <http://www.fws.gov/midwest/ironriver/>

Northern Pike Surveyed at Shiawassee NWR

BY ANJANETTE BOWEN, ALPENA NFWCO

The Shiawassee National Wildlife Refuge (NWR) and Alpena National Fish and Wildlife Conservation Office (NFWCO), in cooperation with volunteers, conducted a northern pike survey on the Shiawassee NWR in Saginaw, Mich. Northern pike is an inter-jurisdictional native species that is dependent on wetland vegetation for spawning and nursery habitat. Wetland habitat has been declining around the Great Lakes due to dredging, filling, draining and industrial use to the detriment of northern pike.

Due to the abundance of wetland habitat and the convergence of four rivers (Cass, Flint, Tittabawassee and Shiawassee) within the Shiawassee NWR, this location is an ideal area to study this fish. Recently, a spillway was built on the Refuge to replace a breach in the dike along the Cass River. According to a survey we conducted prior to the dike restoration, the breached area provided northern pike access to the wetland above the dike during high water, and fish were using the area for spawning and as a nursery. We were curious to know if the new spillway would continue to provide pike access to the wetland.

Surveys were conducted in April, May and June to document the presence of spawning and young-of-the-year northern pike at key locations on the Refuge. High water events were frequent this spring, and due to safety concerns and the ability to effectively sample, sampling was limited to four events from late March to early June. Trap nets were used to assess spawning northern pike (late March to late April), and a seine was used to assess young-of-the-year (April and early June). Before returning the northern pike to the water, we measured length and weight, took scales for aging, and noted the sex of each fish.

We found that fish continued to access the upland wetland near the Cass River after the construction of the spillway. Adult spawning phase northern pike were captured at the spillway during the spring spawning season, and young-of-the-year were captured upstream of the spillway in the pool near the marsh in June. Other areas of the Refuge that are only connected to river waters during flood events were also found to have northern pike. The high water likely provides pike access to these closed areas from the river.

For further info about the Alpena NFWCO: <http://www.fws.gov/midwest/alpena/index.htm>



-USFWS/Anjanette Bowen
Shiawassee National Wildlife Refuge manager Steve Kahl holds a young-of-the-year northern pike captured during a survey on the Refuge.

Fun Day Learning about Invasive Species

BY SCOTT KOPROSKI, ALPENA NFWCO

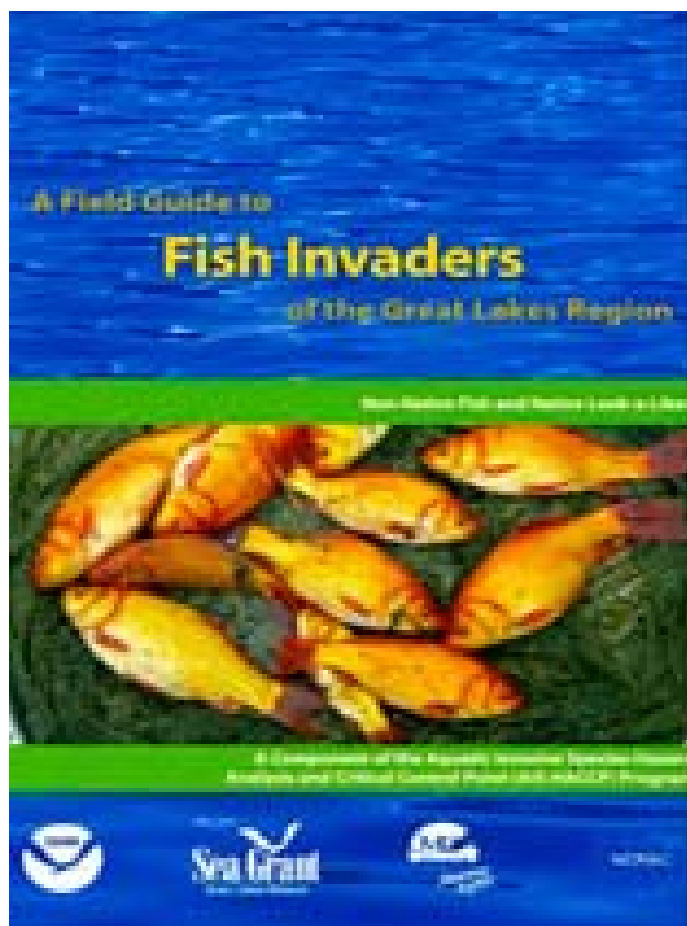
Michigan Sea Grant sponsored a workshop for fourth graders of Alcona Community Schools at the Sturgeon Point Lighthouse in Harrisville, Mich., on May 28, 2008. Biologist Scott Koproski of the Alpena National Fish and Wildlife Conservation Office (NFWCO) participated in the event, and his presentation focused on aquatic invasive species (AIS) in Lake Huron. Koproski used visual aids to show students the differences between native species and the various AIS that have invaded the Great Lakes. Round goby, Eurasian ruffe, zebra mussels and sea lamprey were just a few species that were discussed. Students were quite interested in the plastic-mounts and preserved specimens.

Students were very inquisitive regarding how invasive species entered the Great Lakes, and Koproski gave suggestions on how to prevent the unintentional spread of these animals. He explained how important it is for recreational fishermen not to release unused minnows (i.e. accidental bait bucket transfer which may include invasive fish) and how proper boat cleaning can prevent the spread of AIS. A total of 75 students and 16 adults attended the Alpena NFWCO presentation.

For further info about the Alpena NFWCO: <http://www.fws.gov/midwest/alpena/index.htm>

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.



A Field Guide to Fish Invaders of the Great lakes Region can be viewed at the following website:

http://www.fws.gov/midwest/ashland/documents/Fish_Invaders.pdf

Rod and Reel

BY KAY HIVELEY, NEOSHO NFH

Hello from Roderick May of the Neosho National Fish Hatchery (NFH). How've you been? I've been doing pretty fair myself. I can't complain. Complaining doesn't help much anyhow. Everybody has a hard luck story these days. So you might as well take whatever lemon life sends you and suck it on down and move on. You're much better off not dwelling on the sour notes, and besides, we've all been blessed more than we could ever repay.

Speaking of sour notes, heavy rains caused us to cancel the Elderly and Handicap fishing derby, but have no fear, we didn't leave anyone hanging. We had it on the following Tuesday. And believe it or not, it looked like the rain would cause a problem again, but good weather prevailed and we were able to go ahead with it.

Like I just mentioned, it was looking really blustery to the west first thing that morning, but it cleared off and turned into the most gorgeous day I've ever seen. I'm talking perfect fishing weather, well, perfect for anything not just fishing, really. We actually had some people that still showed up the morning that it was originally planned in all that rain. They were dressed in raincoats and ready to go. I'll have to admit, I'm impressed, real impressed. Now those are some serious fishermen.

Fishing derby day was a wonderful day. There were a lot of fish caught that day, and I think everyone had a blast, including myself. I wouldn't miss this derby for anything. In fact, I delayed the start of some vacation time so I could be there and I'm glad I did. I met the most delightful little elderly couple. As fate would have it, I just happened to be helping out with a three-way line tangle over there when the gentleman asked if I could get a fishing pole for his wife. She had never fished before and wanted to try it out. I showed her how to cast it out there a couple of times, and the next thing you know, she was fishing up a storm, casting like a pro, and was catching fish! I kid you not.

About mid morning he asked me where the restrooms were, and of course they were a long way from the pond. He was in a wheelchair, so I volunteered to get him over there. His wife volunteered to take him, but he insisted she stay and enjoy her fishing.

On our trip over I found out that he used to farm but he lived in a nursing home now. He had injured his ankle a few months earlier and, for some reason, it just wasn't healing like it should and he was going to have surgery soon.

He thanked me I don't know how many times for having this event, because this was the first time he had been outside or even done something fun in quite a while. And he was tickled pink about getting to fish again, too. He said he used to fish all the time. He didn't want to stay gone too long though. He wanted to get back to the pond, not only for the fishing, but to spend time fishing with his wife. He doesn't get a chance to see her like he wants because she still lives in their house. He talked about how sweet she was, and how they had known each other since they were three years old.

He said he didn't have very much fun in his life now, but this was the first fun thing he had done in months. Even though he used to be an avid fisherman, he wasn't too concerned about catching fish himself, but he wanted his wife to catch some and have some fun. You wanna hear something deep? When we got back, she wasn't fishing; she was sitting down quietly waiting on him to return. I guess fishing wasn't as fun without him. Now isn't that a beautiful thing.

Till next time. Keep your lines wet.

For further info about the Neosho NFH: <http://www.fws.gov/midwest/neosho/>

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.

Southern Bluffs Elementary Visits Genoa NFH Outdoor Classroom

BY JENNY WALKER AND DARLA WENGER, GENOA NFH

Outdoor classrooms are important for creating a lasting connection with nature for students studying ecology, nature conservation and scientific theory. Being in nature and experiencing its processes first-hand is how fifth grade teacher Susan Houlihan believes her students learn best.

On May 15, Ms. Houlihan and 22 Southern Bluffs Elementary fifth graders visited the outdoor classroom in Genoa National Fish Hatchery's "Sense of Wonder Discovery Wetland" to learn about wetlands, get in touch with nature, and make a lasting impression on students. The outdoor classroom at Genoa developed from a partnership between the Southern Bluffs Elementary and Genoa NFH to get kids out in nature and make experiencing nature part of daily life for students.



-USFWS/Darla Wenger

Great Discovery! A shy garter snake was captured and released at Genoa National Fish Hatchery's Outdoor Classroom.

NFH staff Darla Wenger and Jenny Walker were able to enjoy the Sense of Wonder Discovery Wetland with students while teaching conservation ethics, stewardship, and different ways to make nature discoveries. Students kept a species list of wildlife discoveries, went on a scavenger hunt for native and exotic species, saw how humans can affect wetland processes, and discovered how we can enjoy and appreciate nature. The field day was a hit with both students and teachers, and Ms. Houlihan plans to bring her class back next year for four visits throughout the year.

This collaborative effort with Ms. Houlihan and the fifth graders at the Southern Bluffs Elementary School was established as a pilot project in January 2008, to allow fifth graders to experience the natural cycle of a marsh and to get children outside. When students come back in the fall, there will be additional changes to the wetland that will enhance the capabilities of the outdoor classroom area due to a visitor services enhancement allocation. With this dedicated money, staff at the Genoa NFH will construct a handicap accessible boardwalk with observation decks leading into the discovery area. Each deck will feature seating and plenty of space for explorers to watch for wildlife. The main observation deck will double as the main stage for the classroom.

For further info about the Genoa NFH: <http://www.fws.gov/midwest/genoa/>

Tomah Veterans Hospital Fishing Day

BY DAVE WEDAN, LA CROSSE NFWCO

May 21 marked the eighteenth consecutive year of the La Crosse National Fish and Wildlife Conservation Office (NFWCO) co-sponsorship of and participation in the Tomah Veteran's Administration (VA) Hospital's Fishing Day. A well-stocked, spring-fed fishing pond maintained through a partnership of the VA staff, Genoa National Fish Hatchery (NFH), Tomah American Legion Post, and La Crosse NFWCO provided great fishing action for the veterans, many disabled and in wheelchairs. Each veteran was met by two or more Tomah Middle School escorts and helpers. They caught beautiful rainbow trout, largemouth bass, and bluegills, and then proceeded to the Legion booth for brats, hotdogs, coffee and soda. The day was complete with deep fried catfish and fixings prepared and served by Genoa NFH, La Crosse NFWCO and a pair of awesome volunteer fish cookers from Iowa. The smiles and sincere "thank-yous" from so many of our disabled military heroes said it all that day, and makes it one event that I, a Vietnam veteran, look forward to every year!

For further info about the La Crosse NFWCO: <http://www.fws.gov/midwest/lacrossefisheries/>

Genoa NFH Produces Walleyes for Tribes and Partners

BY NICK STARZL, GENOA NFH

Every June, the Genoa National Fish Hatchery (NFH) staff drains a portion of the station's outdoor rearing ponds in order to harvest walleye which were stocked only a month and a half prior as hatched fry. Why so soon? By maximizing the production in the ponds, the small fish eat themselves out of house and home.

A timely harvest is a key to having many healthy walleyes which are also large enough to survive in the wild. This year, four hatchery ponds were stocked with a total of 475,000 walleye fry in early May. The fry came from the hatchery's April spawning operation carried out on the Upper Mississippi River. In addition to the Upper Mississippi River strain of walleye, the Genoa NFH also reared strain-specific walleyes for the Lac Courte Oreilles tribe near Spooner, Wisconsin, for the first time this year. After 44 days of growth in the facilities cool-water production ponds, the walleye grew to approximately 1.5 inches.

The ponds were drained in mid-June with a total harvested number of 163,290 fish, indicating a 34 percent survival rate. Approximately 30,000 were stocked into Iowa waters; 58,080 went to Legend Lake for the Menominee Indian Reservation; and 3,000 were given to the Upper Mississippi River Science Center for studies. In addition, Lac Courte Oreilles received 36,800 fingerlings and the remaining fish (35,400) were returned to a culture pond for further growth to supply requests for advanced fingerlings (6-inch fish) for several tribal governments and to provide yearling host fish for endangered Higgins' eye pearl mussels as well as other state listed mussel species.

For further info about the Genoa NFH: <http://www.fws.gov/midwest/genoa/>

Fishery Surveys on the Keweenaw Bay and Lac Courte Oreilles Indian Reservations

BY FRANK STONE, ASHLAND NFWCO

Frank Stone assisted the Keweenaw Bay Natural Resources Department with three inland lake surveys. Using a boat electro fishing system, Light House Pond, Third Lake and Bishop Lake were surveyed to determine the species diversity and relative abundance of sport fish within those systems. Data collected included fish species, length, scale samples, catch per unit effort and management recommendations for each lake. The information gained from these surveys will be used by the Keweenaw Bay Indian Community to determine future fishery management needs within these areas.

Frank Stone, Mark Brouder and Katie Renschen assisted the Lac Courte Oreilles Natural Resources Department with four inland lake surveys. Green, Ashegon, Christner and Mudd Lakes were surveyed using a boat electro fishing system, to determine the species diversity and relative abundance of sport fish. Data collected included fish species, length, scale/spine samples, catch-per-unit-of-effort and management recommendations for each lake. The information gained from these surveys will be used by the Natural Resources Department to determine future fishery management needs for each lake.

For further info about the Ashland NFWCO: <http://www.fws.gov/midwest/ashland/>

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.



-USFWS
The Fish and Wildlife Service assisted Lac Courte Oreilles Indian Community with fishery surveys on four lakes.

Genoa NFH Mussels Used in Nutrition Study by USGS

BY TONY BRADY, GENOA NFH

Genoa National Fish Hatchery (NFH) and the Upper Midwest Environmental Science Center (UMESC) have had a long standing partnership that has resulted in successful conservation efforts and multiple research projects. The two offices are constantly targeting science support projects aimed at addressing critical research that will enhance the Hatchery's ability to rear



-USFWS
Michelle Bartsch displays an experimental basket that will be used to study the natural diets of freshwater mussels. This research may provide information needed to develop a commercial diet for mussel culture.

For further info about the Genoa NFH: <http://www.fws.gov/midwest/genoa/>

Reference Guide to Approved Drugs for Aquaculture

BY MARK STEINGRAEBER, LA CROSSE NFWCO

Public and private aquaculture in the United States has struggled for many years because of a severe shortage of U.S. Food and Drug Administration (FDA) approved drugs and therapeutants for use in aquatic species culture programs. Currently, only a handful of drugs are approved for use in aquatic species, and use of these compounds is restricted to only certain species and life stages. Improved health and fitness of released animals serves not only to conserve valuable aquatic resources, but also to enhance overall ecosystem diversity and fitness.

The Aquatic Animal Drug Approval Partnership (AADAP) program was established within the National Fish Hatchery System to ensure continued progress towards obtaining FDA-approved and U.S.

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.

healthier fish and mussels. At the same time, Genoa's ability to culture sub-adult mussels (length > 10 mm) has proven beneficial to UMESC to support several research projects.

UMESC's Michelle Bartsch is currently conducting a research project to determine the riverine diets of freshwater mussels, which will benefit Genoa's mussel culture program. The 120 mussels for this project were provided by the hatchery to UMESC after being cultured for three summers in cages. Bartsch plans to place multiple baskets containing mussels in the St. Croix River where she will allow the mussels to filter food from the river, and then compare tissue samples to water samples to narrow down the list of food items the mussels are consuming. As invasive zebra mussels continue to spread throughout the Mississippi River system and cause declines in native mussel populations, suitable mussel culture cage locations may become harder to find. The knowledge gained from Bartsch's study may help develop a commercial diet to produce healthy mussels in a controlled environment, such as a hatchery.

Environmental Protection Agency-compliant new animal drug approvals for use in Federal, state, tribal and private aquaculture programs throughout the United States. The AADAP program is located in Bozeman, Mont., and provides the means to assist all aquatic animal culturists to meet their animal disease management needs. The AADAP staff coordinates efforts to generate data, analyze results, compile final study reports, disseminate information and data, and manage all other aspects of requisite data submissions to the FDA in support of new animal drug approvals for aquatic species.

To better serve the needs of aquatic animal culturists, AADAP program staff recently developed a publication titled *A Quick Reference Guide to:*

Approved Drugs for Use in Aquaculture. Produced in cooperation with the Fish Culture and Fish Health Sections of the American Fisheries Society, 500 copies of this guide to the proper use of nine approved drugs were recently printed as one-page posters (34"width x 24"height) by the La Crosse National Fish and Wildlife Conservation Office (NFWCO). Following lamination to increase durability in wet environments, the AADAP program will make this informa-

For further info about the La Crosse NFWCO: <http://www.fws.gov/midwest/lacrossefisheries/>

tive poster available to anyone requesting a copy, free of charge, while supplies last. To request a laminated copy of this poster, contact Niccole Lawson at 406/994-9913 or via email at niccole_lawson@fws.gov. This poster publication will also be available to download and print from the "Drug-use/Guidance" page at the AADAP Internet website (<http://www.fws.gov/fisheries/aadap/home.htm>) in the near future.

Commercially Formulated Diets for Lake Sturgeon

BY JAMES LUOMA, GENOA NFH

The Genoa National Fish Hatchery (NFH) has been involved in lake sturgeon propagation since 1995 to support restoration efforts in Wisconsin, Minnesota and Missouri. In 2007, the Genoa NFH raised approximately 30,000 (7-inch) lake sturgeon using natural diets that cost many thousands of dollars.



-USFWS

Genoa National Fish Hatchery staff designed and constructed this experimental lake sturgeon rearing system to evaluate three commercial diets. Three tanks will be used for each diet which will provide an excellent analysis for each commercial diet.

For further info about the Genoa NFH: <http://www.fws.gov/midwest/genoa/>

Using natural diets for feeding sturgeon has several drawbacks including: decreasing supplies and increasing costs, labor intensive preparation and feeding requirements, potential chemical contamination in the feed, and possible disease transmission from the feed.

Genoa NFH biologist Nick Starzl and maintenance worker Jeff Lockington recently designed and constructed an experimental fish rearing system to evaluate the suitability of replacing natural food diets for rearing lake sturgeon with commercially formulated diets. The current study is evaluating a Rangen® semi-moist diet and an Otohime® larval fish food diet against the standard natural diet. The diets are being evaluated with three replicates each for a total of nine tanks. If a particular diet is found to be promising, future studies will refine its utility with the hope of converting it to production-scale use.

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.



NATIONAL
FISH HABITAT
ACTION PLAN



U.S. Fish & Wildlife Service - Midwest Region

Fisheries & Aquatic Resources Program

NFHAP News from the Midwest

A quarterly newsletter highlighting aquatic conservation in the Midwest in support of the National Fish Habitat Action Plan (NFHAP)

The National Fish Habitat Action Plan (NFHAP) News from the Midwest (Vol. 1 No. 2) is attached as an appendix to this issue of *Fish Lines*.

Service Mission Statement: Our mission is working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

NFHAP Mission Statement: Protect, restore and enhance the nation's fish and aquatic communities through partnerships that foster fish habitat conservation and improve the quality of life for the American people.

Vol. 1 No. 2

Finding Your Path to a Career in Biology

BY MARK STEINGRAEBER, LA CROSSE NFWCO

High schools students who enroll in an advanced placement (AP) level biology course often express interest in a biological science-related career as they consider options for post-secondary education. Such was



-USFWS

An experience with a big fish during a volunteer experience at a Fishery office may be turning point toward a career in the outdoors.

science profession a student may eventually select. Students were also encouraged to closely examine potential career choices by actively participating in job-shadow and volunteer opportunities offered to them in high school and college.

For further info about the La Crosse NFWCO: <http://www.fws.gov/midwest/lacrossefisheries/>

“Wet and Wild” Education is a Success

BY SARAH BAUER, LA CROSSE FHC

Sarah Bauer of the La Crosse Fish Health Center (FHC) attended Project WET and Project WILD training on May 20, 2008 at the Fish and Wildlife Service offices in Onalaska, Wis. Angler Education was offered in conjunction with Projects WET and WILD the next day at Pettibone Park. Jeff and Elizabeth Janvrin of the Wisconsin Department of Natural Resources (DNR) led the training. Also attending the training were staff of the U.S. Geological Survey, Fish and Wildlife Service, City of

La Crosse, Parks and Recreation Department, City of Sparta Parks and Recreation, and members of the Friends of the Upper Mississippi Fisheries Services.

Project WET, Project WILD, and various angler education programs are designed to assist students in developing awareness and knowledge of wildlife and aquatic resources. To accomplish this goal, Fish and Wildlife Service members, volunteers and educators are trained in preparing educational outreach materials, resource materials, and activities.

For further info about the La Crosse FHC: <http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/lacrosse-fhc.pdf>

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 case for a dozen juniors and seniors in the AP biology class at Aquinas

High School in La Crosse, Wis. Wanting to compliment the many objective lessons, these students learned throughout the academic year with a variety of personal perspectives on paths to satisfying careers. Instructor Lisa Flottmeyer invited four locally employed biologists to meet with these students on May 14, 2008 to share their experiences and insights on how best to succeed in a biological science career. In addition to a food scientist, microbiologist, and limnologist, biologist Mark Steingraeber from the La Crosse National Fish and Wildlife Conservation Office (NFWCO) joined in this hour-long informal discussion session.

Steingraeber described the educational path and life-journey that led him to a satisfying natural resource career in service to the nation based on personal experiences dating back more than 30 years. The importance of chemistry and math, as well as communication, information technology, and interpersonal skills was stressed in whatever biological

Congressional Actions

S. 2907 (is) To establish uniform administrative and enforcement procedures and penalties for the enforcement of the High Seas Driftnet Fishing Moratorium Protection Act and similar statutes, and for other purposes. [Introduced in Senate]

H.R. 1495 (enr) To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. [Enrolled bill]

S. 1248 (pcs) To provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. [Placed on Calendar Senate]

H.R. 6316 (ih) To reduce global greenhouse gas emissions through the creation of a domestic carbon market and international trade measures, and to direct the revenue therefrom to public interests. [Introduced in House]

S. 3280 (is) To increase refining capacity and the supply of fuel, to open and preserve access to oil and gas, and for other purposes. [Introduced in Senate]

H.R. 4455 (ih) To authorize the Secretary of the Interior to provide international wildlife management and conservation programs through the Wildlife Without Borders Program in the United States Fish and Wildlife Service, and for other purposes. [Introduced in House]

H.R. 3891 (rh) To amend the National Fish and Wildlife Foundation Establishment Act to increase the number of Directors on the Board of Directors of the National Fish and Wildlife Foundation. [Reported in House]

S. 3366 (is) To protect, conserve, and restore native fish, wildlife, and their natural habitats at national wildlife refuges through cooperative, incentive-based grants to control, mitigate, and eradicate harmful nonnative plant species, and for other purposes. [Introduced in Senate]

S. 3213 (pcs) To designate certain land as components of the National Wilderness Preservation System, to authorize certain programs and activities in the Department of the Interior and the Department of Agriculture, and for other purposes. [Placed on Calendar Senate]

H.R. 6384 (ih) To provide a comprehensive plan for greater American energy independence. [Introduced in House]

H.R. 2764 (enr) Making appropriations for the Department of State, foreign operations, [Enrolled bill]

H.R. 2764 (eah) This Act may be cited as the "Consolidated Appropriations Act, 2008". [Engrossed Amendment House]

H.R. 6165 (ih) To amend the Internal Revenue Code of 1986 to assist individuals confronting high gasoline and diesel fuel costs in commuting to work by allowing a refundable credit against income tax based on the business standard mileage rate for commuting miles, and for other purposes. [Introduced in House]

S. 2758 (is) To authorize the exploration, leasing, development, production, and economically feasible and prudent transportation of oil and gas in and from the Coastal Plain in Alaska. [Introduced in Senate]

H.R. 3891 (eh) To amend the National Fish and Wildlife Foundation Establishment Act to increase the number of Directors on the Board

of Directors of the National Fish and Wildlife Foundation. [Engrossed in House]

H.R. 3891 (ih) To amend the National Fish and Wildlife Foundation Establishment Act to increase the number of Directors on the Board of Directors of the National Fish and Wildlife Foundation. [Introduced in House]

H.R. 767 (rh) To protect, conserve, and restore native fish, wildlife, and their natural habitats at national wildlife refuges through cooperative, incentive-based grants to control, mitigate, and eradicate harmful nonnative species, and for other purposes. [Reported in House]

H.R. 767 (ih) To protect, conserve, and restore native fish, wildlife, and their natural habitats at national wildlife refuges through cooperative, incentive-based grants to control, mitigate, and eradicate harmful nonnative species, and for other purposes. [Introduced in House]

H.R. 6001 (ih) To rebalance the United States energy portfolio, to increase and utilize the Nation's domestic energy resources and supply, to strengthen energy security and independence, and for other purposes. [Introduced in House]

H.R. 767 (eh) To protect, conserve, and restore native fish, wildlife, and their natural habitats at national wildlife refuges through cooperative, incentive-based grants to control, mitigate, and eradicate harmful nonnative species, and for other purposes. [Engrossed in House]

H.R. 3891 (rs) To amend the National Fish and Wildlife Foundation Establishment Act to increase the number of Directors on the Board of Directors of the National Fish and Wildlife Foundation. [Reported in Senate]

S. 3222 (is) To promote the energy security of the United States, and for other purposes. [Introduced in Senate]

H.R. 1533 (ih) To provide for the establishment of a national mercury monitoring program. [Introduced in House]

S. 2958 (is) To promote the energy security of the United States, and for other purposes. [Introduced in Senate]

S.J.Res. 17 (rs) Directing the United States to initiate international discussions and take necessary steps with other Nations to negotiate an agreement for managing migratory and transboundary fish stocks in the Arctic Ocean. [Reported in Senate]

S. 2973 (pcs) To promote the energy security of the United States, and for other purposes. [Placed on Calendar Senate]

S. 843 (is) To provide for the establishment of a national mercury monitoring program. [Introduced in Senate]

H.R. 767 (rfs) To protect, conserve, and restore native fish, wildlife, and their natural habitats at national wildlife refuges through cooperative, incentive-based grants to control, mitigate, and eradicate harmful nonnative species, and for other purposes. [Referred in Senate]

H.R. 767 (rcs) To protect, conserve, and restore native fish, wildlife, and their natural habitats at national wildlife refuges through cooperative, incentive-based grants to control, mitigate, and eradicate harmful nonnative species, and for other purposes. [Reference Change Senate]

Source is <http://www.gpoaccess.gov/bills/index.html>

Searched database by keyword = "fish"

Midwest Region Fisheries Divisions

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.

National Fish and Wildlife Conservation Offices

National Fish and Wildlife Conservation 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 opportunities; play a key role in targeting and implementing native fish and habitat restoration programs; work with private land owners, states, local governments and watershed organizations to complete aquatic habitat restoration projects under the Service's Partners for Fish and Wildlife and the Great Lakes Coastal Programs; provide coordination and technical assistance toward the management of interjurisdictional fisheries; maintain and operate several key interagency fisher-

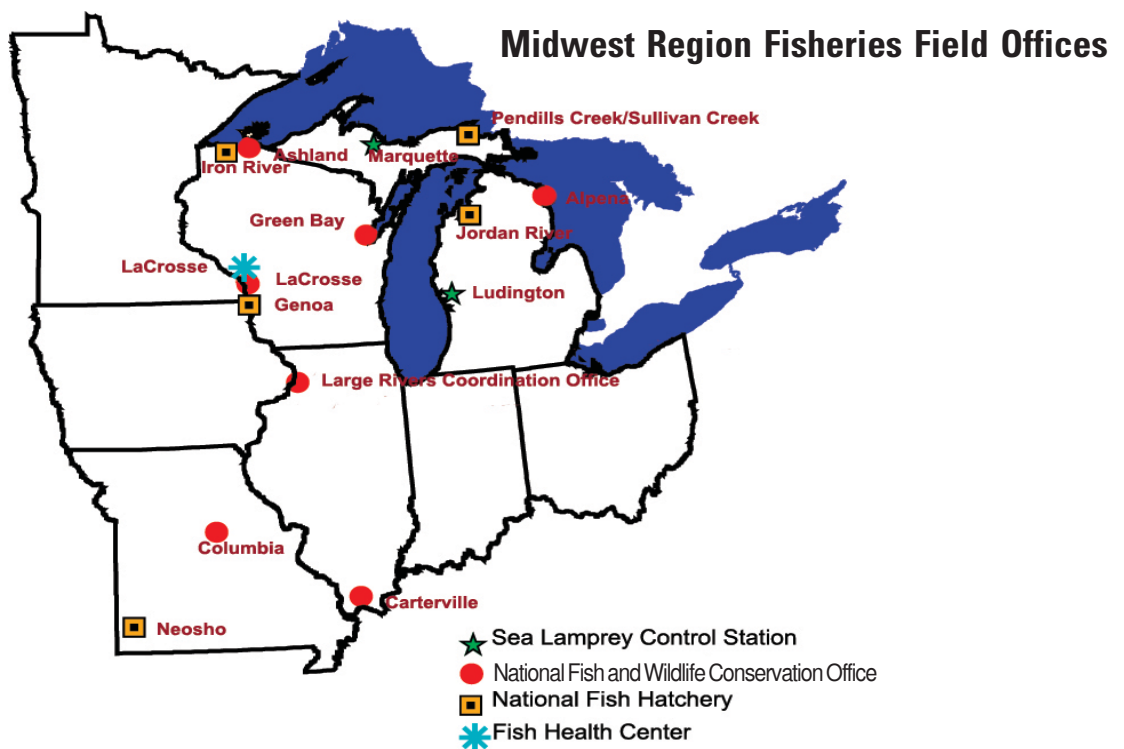
ies databases; provide technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydro-power operation and re-licensing; evaluate and manage fisheries on Service lands; and, provide technical support to 38 Native American tribal governments and treaty authorities.

Sea Lamprey Biological Stations

The Fish and Wildlife Service is the United States Agent for sea lamprey control, with two Biological Stations assessing and managing sea lamprey populations throughout the Great Lakes. The Great Lakes Fishery Commission administers the Sea Lamprey Management Program, with funding provided through the U.S. Department of State, U.S. Department of the Interior, and Fisheries and Oceans Canada.

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; 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.



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Fish Tails

“Fish Tails” includes articles that are included in field station reports that are not published in the “Conservation Briefs.” These articles are categorized by focus area and includes the article title, author and field station. The website link, where the full article can be viewed, is highlighted in blue type.

Partnerships and Accountability

- Welcome Pollinators!
 - Jenny Walker, Genoa NFH
- [Alpena NFWCO Assists with Habitat Day at the 4-H Great Lakes Aquatic Academy](#)
 - Anjanette Bowen, Alpena NFWCO
- [Friends of the Upper Mississippi Fisheries Services Meeting held at Genoa National Fish Hatchery](#)
 - Sarah Bauer, La Crosse FHC
- [Aquaculture Field Day Workshop](#)
 - Frank Stone, Ashland NFWCO

Aquatic Species Conservation and Management

- [Alpena NFWCO Conducts Assessments at Michigan Islands National Wildlife Refuge](#)
 - Scott Koproski, Alpena NFWCO
- [Laboratory Testing Services](#)
 - Becky Lasee, La Crosse FHC
- [Pumping Fish Stomachs allows Diet Identification](#)
 - Kurt Schilling, Iron River NFH
- [Lake Trout Stocking Season 2008!](#)
 - Jaime Coffran, Sullivan Creek NFH

Aquatic Invasive Species

Public Use

- [Friday Night Downtown! in Alpena](#)
 - Aaron Woldt, Alpena NFWCO
- [Inland Lake Community Schools Tour the M/V Spencer F. Baird](#)
 - Scott Koproski, Alpena NFWCO
- [Alpena NFWCO Visits Bingham Arts Academy](#)
 - Scott Koproski, Alpena NFWCO
- [If Each One Could Reach a Class Room.... Educating Educators to Get Kids in Nature](#)
 - Tony Brady, Genoa NFH
- [Who's Your Mother?](#)
 - Pam Thiel, La Crosse NFWCO
- [LFHC Staff Participate in Genoa National Fish Hatchery's Annual Fishing Clinic](#)
 - Sarah Bauer, La Crosse FHC

Cooperation with Native Americans

Leadership in Science and Technology

Aquatic Habitat Conservation and Management

Workforce Management

- [First Coastal Environments Workshop Held at Great Lakes Water Studies Institute](#)
 - Andrea Ania, Alpena NFWCO
- [Looking for a Summer Job?](#)
 - Darla Wenger, Genoa NFH
- [Biologist Attends Project Leader Academy](#)
 - Aaron Woldt, Alpena NFWCO
- [La Crosse Fish Health Center Welcomes New Student Trainee Experience Program \(STEP\) Employee](#)
 - Sarah Bauer, La Crosse FHC
- [She's baaack!](#)
 - Kay Hively, Neosho NFH



-Jerry French Postcard Collection; U.S. Salmon and Trout Hatchery at Rangeley Lakes, Maine.

Water Under the Bridge

A Glimpse into our Proud Past

There is no official record of a U.S. Fish Hatchery at Rangeley Lakes. This may have been a temporary egg taking facility. Rangeley Lakes is located in Franklin County in west central Maine. This post card was printed before 1907, making the photograph over 100 years old.



NATIONAL FISH HABITAT ACTION PLAN



NFHAP News from the Midwest

A quarterly newsletter highlighting aquatic conservation in the Midwest in support of the National Fish Habitat Action Plan (NFHAP)

Midwest Fish Habitat Partnerships Receive \$50,000 More Fish Grant from the National Fish and Wildlife Foundation

The National Fish and Wildlife Foundation continues to show support for the National Fish Habitat Action Plan through fund-raising and using some of these funds to assist strategic planning efforts of the Fish Habitat Partnerships (FHPs) through the More Fish Campaign. The grant will supply seed funds to five FHPs (Driftless Area Restoration Effort, Great Lakes Habitat Partnership, Ohio River Basin Habitat Partnership, Midwest Glacial Lakes Partnership, and Fishers and Farmers Partnership of the Upper Mississippi River Basin) to support the regional scale strategic planning necessary to guide aquatic habitat restoration and preservation efforts to improve sportfish such as walleye, lake sturgeon, bass, and trout as well as imperiled species such as Topeka shiner, the green floater mussel, hellbenders and other aquatic species.



Photo Courtesy USEWS

The More Fish Campaign is a five-year initiative launched by the National Fish and Wildlife Foundation to raise awareness and funding to protect, conserve and enhance the nation's fish populations and their habitat. The More Fish Campaign aims to improve aquatic habitat in rivers, lakes, reservoirs, estuaries, coastal and marine zones. The grant was made possible through partner contributions from the B.A.S.S. Federation Nation, ESPN-Outdoors, and U.S. Fish and Wildlife Service. To find more information on the More Fish Campaign, or to make a donation go to www.nfwf.org/morefish/.



Service Mission Statement: Our mission is working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

NFHAP Mission Statement: Protect, restore and enhance the nation's fish and aquatic communities through partnerships that foster fish habitat conservation and improve the quality of life for the American people.

National Spotlight Shines on Big Spring Branch, Wisconsin and Trout Run, Minnesota

At the annual Congressional Casting Call held on the Potomac River in late April, the nation's leading authorities on aquatic resources announced the 2008 *Ten Waters to Watch* list. Big Spring Branch in Wisconsin and Trout Run in Minnesota have both been recognized as two of the top 10 stream and riparian habitat restoration ventures in the nation. Both projects have been supported by NFHAP through the Driftless Area Restoration Effort. The *Ten Waters to Watch* list celebrates the improvements to fishery habitat and water quality being made by local communities every day in this country. Local grassroots partnerships have raised the funds, designed the restoration, and have begun implementing these projects with the assistance of state and federal fisheries biologists.

Trout Run is situated in a narrow valley where the stream and associated floodplain are often confined by bedrock outcroppings. The landscape in this focus watershed is dominated by row crops and grazing cattle—contributing to land erosion and sedimentation in the streambed. As a consequence, several reaches of Trout Run are non-characteristically wide and shallow, with stream velocities insufficient to scour fine sediments. These areas lack sufficient habitat for spawning, feeding, and resting, as well as overhead cover, which provides security for adult trout. The Hiawatha Chapter of Trout Unlimited, the Minnesota Department of Natural Resources, and the Fillmore County Soil and Water Conservation District are helping landowners implement best management practices within the watershed to reduce soil loss and runoff to Trout Run Creek.

Trout Unlimited, the Wisconsin Department of Natural Resources, and several other partners are engaged in a multiple year endeavor aimed at stabilizing eroding banks and installing natural in-stream structures to create scour pools, increase stream velocity, and enhance sinuosity at Big Spring Branch. The work will restore a diversity of healthy habitats for trout, amphibians, and reptiles. Boxelder is also being removed where it is a problem and native prairie seed is being replanted in the riparian corridor. Project partners are working with landowners to install stream fords, restrict livestock access by fencing, and incorporate other best management practices in the watershed to complement instream enhancement efforts. Nearby wetland scrapes are also being created as a part of this project, to increase breeding habitat for amphibians and other wetland-dependent species. For more information contact Louise Mauldin at louise_mauldin@fws.gov.



Preconstruction at Big Spring Branch -Lack of flow in stream section. Riparian zone is full of invasive boxelder. Photo courtesy H.&L. Nohr Chapter TU.



Post construction -Improved stream velocity. Weirs were installed to create pools. Boxelder was removed. Photo courtesy H.&L. Nohr Chapter TU.

NFHAP Mission Has Local Connection

The Bad River watershed culvert assessment program in the Lake Superior Basin is an excellent example of embracing the NFHAP mission at the local level. It is a model of how improving an exceptional fishery resource is important to numerous local, tribal and grassroots organizations.

The watershed is a largely undeveloped, largely forested area that covers nearly 700,000 acres in Northern Wisconsin. With over 1,100 miles of perennial streams, and 390 miles of cold or cool-water habitat, the Bad River Watershed supports one of the most diverse fish assemblages in the Lake Superior Basin. There are many reasons why so many people care about the watershed. It spawns and nurses brook trout and lake sturgeon and it forms the Bad River/Kakagon Sloughs at its mouth - the largest pristine estuary in the upper Great Lakes (almost 10,000 acres). Several state listed threatened and endangered species inhabit the watershed, including the state endangered wood turtle. The Bad River Band of Lake Superior Chippewa reservation is located in the lower one-third of the watershed. Sturgeon, and the wild rice that grows in the streams and sloughs are important culturally and as a staple part of the Bad River Chippewa diet.

A network of roads and their stream crossings at 1,122 locations in the watershed is one of the largest threats to stream and fishery health in the watershed. Most of these streams drain under these roads through culverts that pose barriers to fish, deliver excess sediment into the streams, and too often are replaced with little or no consideration for fish or their habitat.

To assess the magnitude of the threat, the Bad River Watershed Association (BRWA) and the USFWS have, over the last 4 years, inventoried and evaluated these crossings to determine if sites pose fish passage barriers or excessive sedimentation. Over half of the 1,122 sites in the watershed have been evaluated. The data shows that 26% of culverts have significant erosion at the site, 94% of culverts are not embedded, 20% are perched, and 19% are velocity barriers for juvenile fish. To begin addressing these problems, the BRWA also developed criteria for identifying the crossings that had the most problems and met with local road crews and town boards for their feedback. From this, priority sites for fish passage, habitat restoration and town road needs were identified.

Several partners in the watershed have been working steadily to deal with four to six problem sites each year. Piece by piece these dedicated partners are restoring this watershed, with the goal of healthier fish populations and high quality habitats downstream for other aquatic species. Local partnership efforts, such as this, are where NFHAP goals connect with dirt for better habitat, more fish and hope to future generations. For more information contact Pam Dryer at pam-dryer@fws.gov.



A culvert on Trout Brook in the Bad River Watershed. The inventory identified several fish passage and other problems: it is perched approximately 1.5 feet, the culvert bottom is rusting away, the cover over the culvert is less than 1 foot and it is not embedded. (photo taken looking downstream)



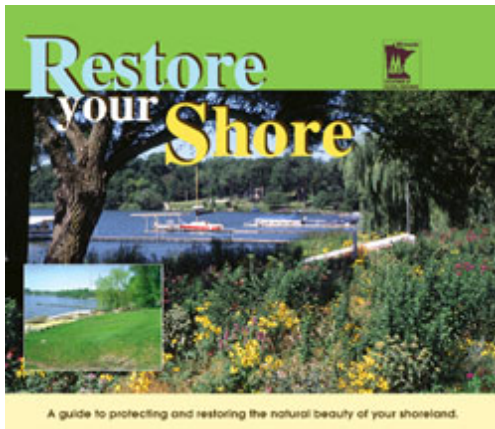
View of a perched culvert creating a fish barrier on Billy Creek in the Bad River Watershed. The old culvert was also failing structurally and erosion was occurring on both the downside and upstream side of culvert.

Wishing for More Fish - Granted!



location will host a partnership workshop that will focus on the Fish Habitat Partnership, with one location also hosting a shoreline restoration project and another focusing on shoreland restoration outreach to lake associations.

The shoreline restoration effort will take place on Lower Whitefish Lake in Crow Wing County, MN, one of The Nature Conservancy's priority lakes and a popular fishing lake. It is also home to walleye that provide spawn for the Minnesota DNR's Pine River egg take operation each spring. The landowner is interested in restoring 200 feet or more of his shoreline, which is prone to erosion. To partner with this property owner, we turned to the local lake association (Whitefish Area Property Owners Association) and they



agreed to help with the restoration work and donated \$1,000 to the cause. The Minnesota B.A.S.S. Federation Nation also pledged to donate work hours on this project. We anticipate completing this restoration project in mid-summer.

The outreach component of this grant is truly in the spirit of Fish Habitat Partnerships. As mentioned in the last *Highlights*, Minnesota developed a successful shoreline restoration program and published a book and interactive CD to help lakeshore owners restore their shoreline. This grant will allow us to distribute copies of *Lakescaping for Wildlife and Water Quality* and *Restore Your Shore* CD ROM to lake associations in Indiana. We will develop an addendum to include information specific to the landscapes and regulations of Indiana (e.g. plant lists, native plant nurseries and information on state resources available for shoreland restoration). Curriculum is being developed for a pilot half-day workshop for shoreland property owners, with the goal of introducing lakescaping concepts, presenting the tools to develop lakescaping plans on individual properties, and visiting successful examples in the field. As part of the workshop, participants will receive a copy of the book, Indiana addendum, and CD, and will subsequently be eligible for state grant funding for local lakeshore restoration projects. Working together, we are able to adapt a successful program in one state for use in another, saving the time, money and energy.

We look forward to using this opportunity to show what our partnership, working with others, can do to benefit fish and fish habitats. For more information, please contact Pat Rivers at pat.rivers@dnr.state.mn.us.

Ohio River Partners Find Their Identity

The first major gathering of the Ohio River Basin Habitat Partnership, held in Frankfort, KY in mid-April, was attended by over 40 people representing 22 organizations committed to aquatic habitat conservation in the Ohio River Basin. The purpose for the gathering was to introduce everyone to the National Fish Habitat Action Plan and to identify how we can come together as a group to move aquatic habitat conservation and restoration efforts in the Ohio River Basin forward in a strategic manner. The group developed a draft 'identity' statement from which we will further develop a mission and vision.

Draft Identity Statement
"The Ohio River Basin Habitat Partnership will focus our conservation, restoration, and enhancement efforts on habitat for fish and mussels in the watersheds of the Ohio River Basin where priority habitat can be protected and in watersheds where habitat restoration is feasible, especially when they connect to watersheds with priority habitat. For the benefit of..."



Ohio River Basin Photo courtesy of Karl Musser

An interim governance structure including a governing body with a partnership coordinator, and a number technical committees were identified as follows. Rob Simmonds of the U.S. Fish and Wildlife Service Cartersville National Fish and Wildlife Conservation Office was elected to be the Partnership Coordinator.

- Steering Committee (8 people)
- Partnership Development/Maintenance Committee (4)
- Strategic Planning Committee (7)
- Science/Monitoring Committee (12)
- Outreach Committee (3)
- Implementation Committee (2)

It is truly an exciting time for the Ohio River Basin Habitat Partnership as we look forward to a very productive rest of 2008! For more information or if you are interested in a committee assignment, please contact Rob Simmonds at rob_simmonds@fws.gov.

U.S. Fish and Wildlife Service to Host NFHAP Workshop

From June 3-4, the Fish and Wildlife Service will host a workshop at the Great Rivers Museum in East Alton, IL given by the five recognized Fish Habitat Partnerships (FHP) for the five Candidate FHPs that are operating all or in part in the Midwest Region. The purpose of the workshop is to bring the individuals who pioneered the original 5 pilot partnerships in developing governing structures, habitat assessments, strategic plans, and outreach materials to help meet the goals and objectives of NFHAP. The core work groups from the Great Lakes Basin Habitat Partnership, Midwest Glacial Lakes Partnership, Ohio River Basin Habitat Partnership, Fishers and Farmers Partnership of the Upper Mississippi River Basin, and the Great Plains Prairie Partnership will have two days to learn what worked and what didn't as those that have gone before them explain the details of how they approached many of the challenges that FHPs face. A combination of formal presentations, panel discussions, and personal one-on-one contact with those that designed the assessments and prepared the planning documents coach the next generation to accept the FHP challenge to lead our nation in aquatic conservation. For more information contact Maureen Gallagher at maureen_gallagher@fws.gov.



Paddlewheel on the Mississippi River

**NATIONAL
FISH HABITAT
ACTION PLAN**



National Highlights

- Ten Waters to Watch List released in April (www.fishhabitat.org)
- NFHAP Board expected to endorse Demonstration Projects for Candidate FHPs at the May Board meeting (www.fishhabitat.org under the Action Plan tab then scroll down to “Tab 11”)
- New NFHAP Communications Committee Coordinator, Ryan Roberts, selected
- U.S. Geological Survey releases a draft list of research needs to support NFHAP (www.fishhabitat.org under the Action Plan tab then scroll down to “Tab 10”)

Upcoming Events

May
13-14 NFHAP Board meeting, Arlington VA

June
3-4 Midwest Regional NFHAP Workshop, East Alton, IL

July
TBD Multi-State Conservation Grant Applications Due

USFWS NFHAP Contact Information

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