



U.S. Fish & Wildlife Service - Midwest Region

Fisheries & Aquatic Resources Program

Fish Lines

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Improvement

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Fish Habitat Improvement

The Black River in Northern Michigan is renowned throughout the state as an excellent brook trout fishery...[Read More](#)



Fish Habitat Improvement



A Risk to Great Lakes Fisheries



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Fish Tails

"[Fish Tails](#)" refers to articles that are submitted by field staff that do not appear as a feature in the current edition of Fish Lines. These articles provide examples of the diverse work that the Service's Midwest Fisheries Program and partners perform on behalf of our aquatic resources and for the benefit of the American public.

Field Notes

"[Field Notes](#)" is an online searchable database that showcases hundreds of employee-written summaries of field activities and accomplishments of the U.S. Fish and Wildlife Service from across the nation.



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Partners for Fish and Wildlife Program Funds Fish Habitat Improvement in the Black River

BY HEATHER RAWLINGS, ALPENA FWCO



Before the addition of large woody debris this section of the river was sandy and shallow with little structure for fish. Credit: Montmorency County Conservation District.

Sediment is captured in sand traps located downstream of the sites and maintained by the Michigan Department of Natural Resources (MDNR) and Canada Creek Ranch. Funding from the Partners for Fish and Wildlife Program (PFW) provided for labor (work crew) and a minimal amount of materials. The large woody debris benefits brook trout and cold-water aquatic habitat in the Black River for approximately five river-miles.

All structures placed were subject to approval (both design and placement site) by the Michigan Department of Environmental Quality (MDEQ) permit process and the PFW coordinator. A MDEQ permit was received for the 2013 field work season. The 2013 work crew completed fabrication and placement of 156 large woody debris structures in the main branch of the Black River, Canada Creek (within Canada Creek Ranch), and the East Branch of the Black River (within Black River Ranch). Additionally they removed three inactive beaver dams and cleared fallen trees in navigable parts of the river (allowing for wading and recreational boat traffic) in Otsego and Montmorency Counties where a late winter storm downed many trees into the river.

The crew worked from late May through the end of August 2013. This work has been on going in the watershed since 2001 and has proven to be beneficial to the brook trout populations with increases in number and size of brook trout found in restored areas. These fishery improvements have been documented through multiple-year MDNR electrofishing surveys.

The Black River in Northern Michigan is renowned throughout the state as an excellent brook trout fishery. As with many Michigan rivers, logging and development (primarily road building) have altered the dimension, pattern, and profile of several reaches of the Black River. These reaches of the Black River are devoid of large woody debris (LWD) and carry excessive sediment loads due to human activity.

The Upper Black River Council, a non profit non governmental organization (NGO), worked in conjunction with numerous partners (including the Montmorency Conservation District, Michigan Department of Natural Resources, U.S. Fish and Wildlife Service's Partners for Fish and Wildlife Program, and private landowners) to place large woody debris in the Black River, which provides improved fishery (specifically brook trout) habitat without negatively altering the river. Strategic placement of large woody debris structures is designed to flush sediment downstream, which will uncover riffle and pool habitat previously clogged by large amounts of sediment.



After the addition of large woody debris the river gained diversity (became deeper and narrower) and now has some structure for fish to use for shelter. Credit: Montmorency County Conservation District.



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Degrading Barriers - A Risk to Great Lakes Fisheries

BY ALEX GONZALEZ, LUDINGTON BIOLOGICAL STATION

Barriers are an important component of the integrated Sea Lamprey Control Program (SLCP) in the Great Lakes. Many barriers were constructed on Great Lakes tributaries around the turn of the century and although they weren't designed to block the upstream spawning migration of adult sea lampreys, they continue to serve this purpose. Other barriers were built specifically to control sea lampreys, effectively blocking the sea lamprey spawning migration and limiting the amount of spawning and rearing habitat available.

Over time, barriers degrade and require repair or replacement. Lacking repair, adult sea lampreys will eventually find a route around, through or over the "leaky" barrier. Breaches of degrading barriers often result in large increases in the production of sea lampreys due to access to new spawning and rearing habitat. Left uncontrolled, these voracious parasites will eventually end up in the Great Lakes where they feed on and kill valuable sport and commercial fishes.

The Harpersfield Dam, located near Ashtabula, Ohio on the Grand River, currently acts as a barrier to the upstream migration of adult sea lampreys, blocking access to 462 miles of river that may contain spawning and larval habitat suitable for sea lampreys. Like many dams in the Great Lakes region, the Harpersfield Dam, which was built during 1913, is in poor condition. If this dam deteriorates and adult sea lampreys migrate upstream of the dam, sea lamprey production will likely increase dramatically. Costs to replace this dam are estimated at about eight million dollars. Therefore, it is critical to collect information about habitat suitability for sea lampreys upstream of the barrier to assess the cost-benefit of the project.



Harpersfield Dam Grand River, Ohio showing signs of deterioration under normal stream flow. Credit: USFWS



Habitat transect sampling. Credit: USFWS

During October 2013, a team of U.S. Fish and Wildlife Service biologists and technicians from the SLCP traveled to Ohio to conduct habitat and larval lamprey surveys in the Grand River upstream of Harpersfield Dam. The team surveyed 42 locations in the mainstream and associated tributaries. At each location they measured and classified larval and spawning habitat and conducted electrofishing surveys for native lampreys. If native lampreys are found, it is a strong indicator that sea lampreys would survive in these locations if they were to breach the dam. This information will be used to estimate the production potential of sea lampreys in portions of the Grand River located upstream of the Harpersfield Dam and will aid in estimating the cost and benefit of barrier replacement.



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Ashland FWCO Assists in Cisco Spawning Survey on Lake Superior

BY MIKE SEIDER, ASHLAND FWCO

In early November, the Ashland Fish and Wildlife Conservation Office (FWCO) contributed to an assessment of cisco populations in the Apostle Islands region, Lake Superior. The objective of the study was to estimate the density of spawning cisco and evaluate multiple capture methods. Sampling included gill netting (on the bottom and up in the water column) by the Wisconsin Department of Natural Resources (DNR) and hydro-acoustic sampling and mid-water trawling by United States Geological Survey (USGS). Ashland FWCO fisheries biologist Mike Seider assisted staff from USGS with data collection and processing aboard their research vessel the R/V Kiyi.

Cisco stocks throughout Lake Superior began to recover during the 1980s following several decades of low abundance likely caused by over exploitation and exotic species. The lake wide recovery was spurred by large but sporadic year classes that recruited to the adult population. As the stocks in Wisconsin recovered, commercial fisheries also expanded due to the value of cisco roe. Although cisco stocks appear to be healthy, biologists remain concerned about the sustainability of the increasing fishery exploitation, especially in light of highly sporadic cisco recruitment.

Thus the Wisconsin DNR, with assistance from partner agencies initiated a three year study to evaluate spawning cisco stocks and the viability of a multi-gear survey. The survey will be conducted in other locations within the Apostle Islands region in subsequent years. Data collected will aid managers in not only evaluating the status of spawning stocks but also in developing the most efficient methodology to sample those stocks in the future.



Photo of spawning cisco captured by mid-water trawl in Apostle Islands region, Lake Superior. Credit: Lori Evrard



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Juvenile Asian Carp Telemetry Project on the Illinois River

BY IAN KENNEDY, CARTERVILLE FWCO

Asian carp have become a nuisance throughout Illinois and its surrounding states. Many people around the United States have heard about these fish even if they have never seen one. Despite the publicity, even scientists are somewhat puzzled by the life history of Asian carp when they are young.

Our work occurred on Merwin Preserve at "Spunky Bottoms" on the Illinois River in West-central Illinois. Merwin Preserve is a wonderful representation of wetland conservation and habitat improvement. It holds large populations of moist soil plants, amphibians, birds, fish, and insects. During the spring of 2013, high water events caused the levee system around Merwin Preserve to fail allowing different fish species to access the preserve. Illinois Natural History Survey personnel conducting field work at Merwin Preserve collected small Asian carp, and the news of these captures was relayed to our office who has been studying juvenile Asian carp for some time now. Fish Biologist Jeff Stewart from Carterville Fish and Wildlife Conservation Office (FWCO) is conducting an ongoing telemetry project to study small Asian carp movements and habitat use. After receiving the call that there were easily obtainable small Asian carp at Spunky bottoms, he decided that this would be a great opportunity to go collect the normally elusive juvenile Asian carp.



Brad Rogers performs surgery on a small Asian carp. Credit: USFWS



A view of Merwin Preserve with electrofishing equipment in the foreground. Credit: USFWS

On September 16, 2013 lead technician Brad Rogers and technician Ian Kennedy from the Carterville FWCO joined T.D. VanMiddlesworth, Long Term Resource Monitoring Program Fish Specialist from the Illinois River Biological Station to collect Asian carp. Specifically, we went to collect small Asian carp (>300mm) and surgically implant ultrasonic transmitters into the fish in order to track their movements over the next several months. Merwin Preserve served as an excellent collection area due to its low water conditions, small pools, and narrow channel systems. A total of twenty carp were collected from different areas of the preserve. As is always the case with Asian carp, we sharpened our netting skills due to the quickness of the carp and their jumping ability.

Collecting these specimens was accomplished by using a custom built electrofishing Jon boat with a Pro Drive mud motor. Once the specimens were captured they were transported in a live well down to the Illinois River and the ultrasonic transmitters

were implanted. All of the specimens were weighed, measured, and had their personal transmitter identification numbers recorded before they were placed into a recovery tank. The carp were allowed to recover and then were released into the Illinois River. Tracking continues as of the time of this writing, and the small tags batteries won't last long. We hope this will end up being a great opportunity to gather valuable scientific information. But for now, we better get back out there while there is still some time!



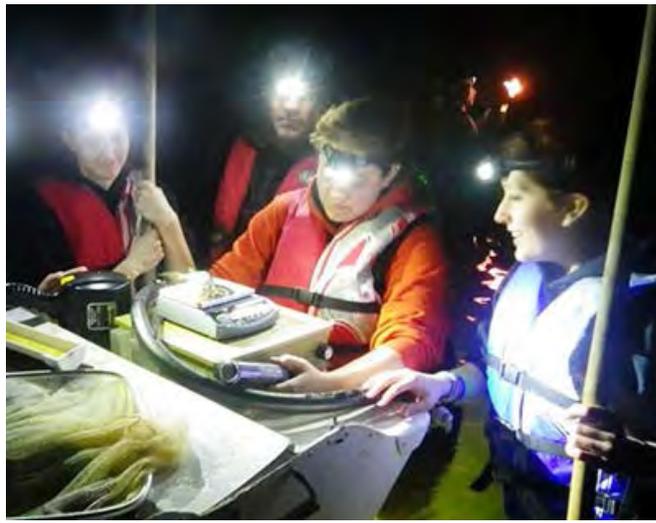
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USFWS Works with UW-Green Bay Mentoring Program

BY KEVIN MANN, GREEN BAY FWCO



Jason Brabant (center) and other students from Dr. Forsythe's Aquatic Ecology class help FWS biologists collect data during a young-of-year lake sturgeon study. These students were paired with other professionals during the third year of Dr. Forsythe's mentoring program. Credit: Rob Elliott, USFWS

interest in lake sturgeon so assigning him the topic of natal homing and pairing him with Kevin seemed to be a natural fit. Both met several times throughout the semester to discuss the successes and difficulties Jason had reviewing literature and ended when Jason finished his paper and presented his findings to Dr. Forsythe and the class.

While the main goal of mentoring program was to give UWGB students access to "real world" situations experienced by their mentors, it also allowed USFWS biologists to spread the word about their mission as it relates to fish and wildlife resources. As long as Dr. Forsythe continues to have his mentoring program, biologists from the Green Bay FWCO will continue to volunteer.

For the third year in a row, Dr. Patrick Forsythe from the University of Wisconsin-Green Bay (UWGB) approached biologists from organizations including the Wisconsin Department of Natural Resources, Wisconsin Sea Grant and the U.S. Fish and Wildlife Service (FWS) to be partners in a mentoring program for senior level students enrolled in his aquatic ecology course. As part of this program, employees from each of these organizations would be paired with a student to help them gain experience reviewing literature and communicating both orally and in writing. Additionally, students would learn professionalism by discussing and possibly participating in activities the mentors perform on a daily basis.

Fish biologist Kevin Mann from the USFWS Green Bay Fish and Wildlife Conservation Office (FWCO) was paired with UWGB student Jason Brabant with the topic of "Natal homing in migratory fish". Kevin's primary responsibility with the Service is operating a lake sturgeon streamside rearing facility on the Kalamazoo River, Michigan. With a background working with lake sturgeon, Kevin had a knowledge base in natal homing in migratory fish. Throughout the aquatic ecology course, Jason had shown an



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We All Need Friends...

BY ROGER GORDON, JORDAN RIVER NFH

Established in January, 2006, the *Friends of the Jordan River National Fish Hatchery (FJRNHF)* have been a force amidst fishery Friend organizations within the U.S. Fish and Wildlife Service. From its beginning the group has been a strong advocate for the Service's fisheries program, a staunch supporter for public use improvements on the station, and a patron for youth recreation and education.

Since its founding the FJRNHF have been a strong supporter of the Service's national fish hatchery system. Representatives of the organization have met annually with members of Congress or their staffs, both locally and in Washington D.C. Friends of the hatchery have also been very active in the formation and development of the National Fisheries Friends Partnership, a nation-wide group made up of USFWS fishery friend's organizations. Most recently Mr. Robert MacCord, President of the FJRNHF was elected to Chair this national organization.



Friends group members constructing Visitors Pavilion at Jordan River NFH. Credit: USFWS

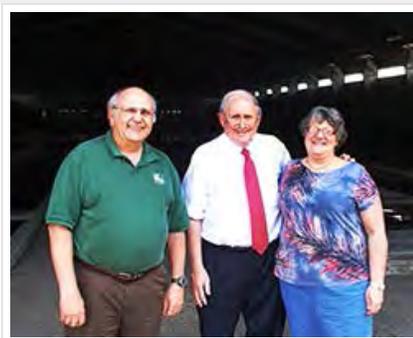


Several happy young fishermen at a FJRNHF sponsored youth fishing event. Credit: USFWS

friends group provide funding, volunteer hours, and organizational skills to a program that interacts with thousands of youth annually. The group also organizes, promotes, and carries out several high profile outreach events on the station that attract thousands of families, outdoor enthusiasts, and tourists. Recently, FJRNHF has also began serving as grant manager for a regional fishery friends small grant program that has provided funding to all Region 3 fishery friends organizations.

The best thing about having "friends" is the help they can provide when needed. The FJRNHF has proven this adage time and time again. Over the past seven years the group has been instrumental in providing labor, funding, and most importantly-support for multiple public use improvements at Jordan River NFH. Example projects like the construction and up keep of a four season visitor's pavilion, 10,000 square foot pollinator garden, miles of annual trail maintenance, and a children's pumpkin garden could not have been completed without this cadre of dedicated individuals. The hundreds of man-hours the FJRNHF donate to the facility annually represent the driving force behind an ever growing public use program on the hatchery.

Early in its development a theme of providing recreational and outdoor education opportunities for youth became central to the core mission of the group. From humble beginnings as a supporter of after school education programs on the hatchery, FJRNHF has expanded its role and responsibilities to include programs that are region wide in breadth. As the primary supporter of the station's "Baby Brookies" program Jordan River's



Friends group representatives Bob and Liz MacCord meet with Senator Carl Levin (MI.) at Jordan River NFH. Credit: USFWS

A new and exciting program that the group has developed is a summer internship position at Jordan River NFH. This position, funded entirely by FJRNHF, is open to students interested in natural resource management. In



Friends group sponsored "Fall Festival" at Jordan River NFH. Credit: USFWS

In addition to position funding, the group provides mentoring and the opportunity for selected students to gain valuable practical knowledge in a range of fish culture and public outreach experiences.

The old adage, "you can't have too many friends", is proven time and again at Jordan River National Fish Hatchery by a dedicated group of citizens that give their time, sweat, and caring for community on a continual basis. For more information on this or other fishery Friends organizations in the Midwest Region please contact Conservation Education and Partnerships Coordinator, Tim Smigielski at tim_smigielski@fws.gov.



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Fish Tails

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Vagabond Sturgeon

BY COLBY WRASSE, COLUMBIA FWCO

On the Missouri River we often recapture Shovelnose Sturgeon that were originally tagged on the Mississippi River along the Illinois/Missouri state boundary. This is not surprising considering that there are no barriers between the two rivers and sturgeon are known to swim long distances; however, we recently captured a Shovelnose Sturgeon with an unfamiliar Floy Tag that had us scratching our heads.

After a quick internet search, we concluded that this fish was most likely tagged by Mississippi Department of Wildlife, Fisheries and Parks (MDWFP). Fisheries Biologist Nathan Aycock of MDWFP confirmed that this was in fact a fish they had tagged. We recaptured this fish more than 600 miles upstream from where it was tagged two years ago. It traveled through portions of six states, again illustrating the importance of scientific collaboration when dealing with interjurisdictional fishes such as sturgeon.

Academia Meets Conservation in Action

BY MARK STEINGRAEBER, LA CROSSE FWCO

Fourteen students from Viterbo University in La Crosse, Wisconsin who are currently enrolled in Biology 321 – Conservation Biology - paid a visit to the Fish and Wildlife Resource Center in Onalaska on November 7th. They came at the request of their instructor, Dr. Michael Alfieri, to learn about the broad range of conservation issues and efforts routinely undertaken by U.S. Fish and Wildlife Service (FWS) fishery program employees who work here to protect aquatic bio-diversity throughout the Midwest.

The USFWS Fish Health Center laboratories were the first stop on a walking tour where students learned the significance of aquatic animal health and procedures used to diagnose aquatic diseases. Next was a [virtual tour](#) of the Whitney Genetics Laboratory where students were briefed on its mission to detect genetic evidence of Asian carp and other aquatic nuisance species from environmental (water) samples. Finally, the class learned about the Fish and Wildlife Conservation Office (FWCO) and its partnership efforts to conserve, protect, and enhance diverse fishery resources and aquatic habitats of the Midwest.

In addition to Viterbo University's challenging academic environment, students who attend this Catholic Franciscan school are encouraged to participate in volunteer activities to instill a lifelong desire to provide service to others. Based on the genuine interest these students showed for the mission and diverse work performed by our fishery program offices, a new cohort of young and eager volunteers may be on their way to help us in the New Year!



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Midwest Region Fisheries Divisions

National Fish Hatcheries

The Region's National Fish Hatcheries (NFH) focus on native species recovery and restoration. Primary species include: lake trout, endangered pallid sturgeon, and endangered, threatened, and native mussels. Other major programs include coaster brook trout and lake sturgeon restoration, fulfilling tribal trust responsibilities for native aquatic species, and cost reimbursed rainbow trout production for recreational fishing. Hatcheries also provide technical assistance to other agencies, provide fish and eggs for research, and develop and maintain brood stocks of various species and strains.

Fish and Wildlife Conservation Offices

Fish and Wildlife Conservation Offices (FWCO) conduct assessments of fish populations to guide management decisions, play a key role in targeting and implementing native fish and habitat restoration programs; perform key monitoring and control activities related to aquatic invasive species; survey and evaluate aquatic habitats to identify restoration/rehabilitation opportunities; work with private land owners, states, local governments and watershed organizations to complete aquatic habitat restoration projects under the Service's National Fish Passage Program, National Fish Habitat Partnerships, 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 relicensing; 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 and tribal 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. The Whitney Genetics Lab serves as a leading edge genetics laboratory and conducts environmental DNA (eDNA) sample processing for early detection of invasive species.



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