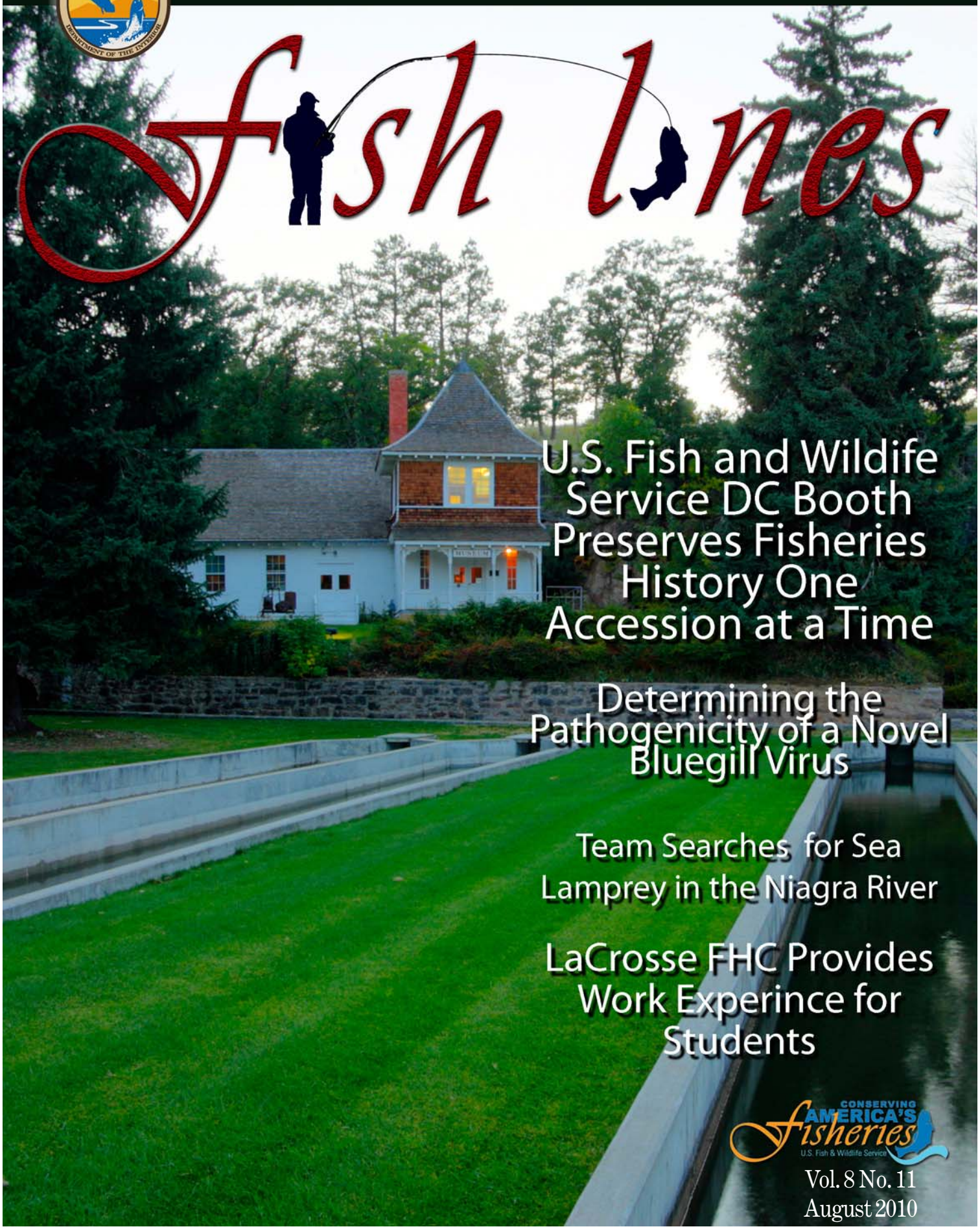
U.S. Fish & Wildlife Service - Midwest Region

Fisheries & Aquatic Resources Program

fish lines



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CONSERVING AMERICA'S fisheries
U.S. Fish & Wildlife Service

Vol. 8 No. 11
August 2010

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.

Features

-USFWS

The U.S. Fish and Wildlife Service's D.C. Booth Archives prizes historic Service photographs, such as this circa-1900 photo of U.S. Fish Commission employees performing fish culture duties inside Leadville National National Fish Hatchery.

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

Fish Lines

2010 Vol. 8 No. 11
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-Royal Tine Images Inc/Lee Voorhis

The Hector Von Bayer Museum in Spearfish, S.D., contains exhibits chronicling the rich history of fisheries management.

Fish Lines is produced by the Fisheries and Aquatic Resources Program, Region 3, U.S. Fish & Wildlife Service, Ft. Snelling, Minnesota. Items included are selected from monthly reports submitted by Region 3 fisheries offices. Photos included are used by permission and may be copyrighted.

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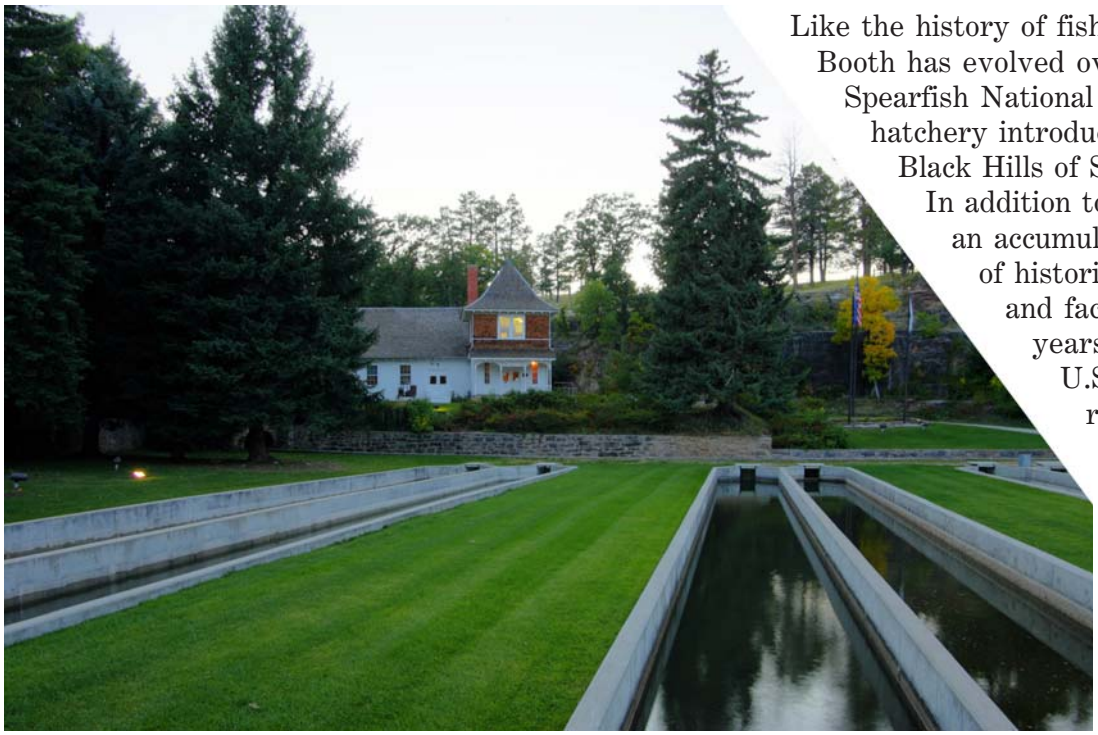
U.S. Fish and Wildlife's D.C. Booth Preserves Fisheries History One Accession at a Time

BY LEITH EDGAR, MOUNTAIN PRAIRIE REGION

Deep in the catacombs of D.C. Booth lies treasure – not sparkling jewels, precious metals or fancy jewelry – but a veritable treasure trove of fisheries history.



-Royal Tine Images Inc/Lee Voorhis

Overlooking some of D.C. Booth's active raceways, the Hector Von Bayer Museum in Spearfish, S.D., contains exhibits chronicling the rich history of fisheries management. Housed in a historic hatchery building (1899), the museum bears the name of the most prominent architect and engineer of the U.S. Fish Commission, the predecessor to today's U.S. Fish and Wildlife Service.

The D.C. Booth Historic National Fish Hatchery and Archives in Spearfish, S.D., houses one of the nation's most extensive collections of fisheries-related historic artifacts. The Archives' voluminous number of items just keeps growing as the history of fisheries management unfolds.

The Archives' primary mission is the preservation of fisheries history by collecting items of historic significance. Each accession to the collection has a cumulative effect on the Archives; the additions enrich the overall collection and form the program's narrative from the U.S. Fish Commission era to the present.

"The D.C. Booth Historic National Fish Hatchery is the custodian of the rich and diverse history of fisheries. This Archive is much more than a collection and exhibits. Biologists and historians look toward D.C. Booth for vital knowledge and information," said Carlos Martinez, the director who oversees the multi-purpose facility.

Like the history of fisheries management, D.C. Booth has evolved over the years. Established as Spearfish National Fish Hatchery in 1896, the hatchery introduced trout populations to the Black Hills of South Dakota and Wyoming. In addition to producing trout, it served as an accumulation site for a large amount of historic materials, which individuals and facilities had collected over the years. Political closures forced the U.S. Fish and Wildlife Service to relinquish operational control of the hatchery to the city of Spearfish. For almost a decade the city operated the hatchery as a historic site. However, in 1989 the Service came back on board; and via a variety of partnerships, has transformed the hatchery into the phenomenal facility now known as D.C. Booth.

During the six years without the Service, the hatchery was held in trust by the

-USFWS/Randi Sue Smith

This metal USFWS sign is part of the museum collection at the U.S. Fish and Wildlife Service's D.C. Booth in Spearfish, S.D. Its original use and purpose are unknown.

mayor of Spearfish's Hatchery Advisory Board. The Board kept the hatchery productive and maintained the collection of historic items. After returning the facility to the Service's control, the Board sustained its contribution by morphing into the facility's friends group, the Booth Society. Today, the Booth Society is the premier fisheries friends group and assists other fisheries facilities in mentoring and creating friends groups.

-USFWS/Leith Edgar

April Gregory, a U.S. Fish and Wildlife Service intern, catalogs an incoming piece of fisheries history inside the D.C. Booth Archives in Spearfish, S.D.. Acquisitions from current and retired Service employees compose a large portion of the Archives' collection on fisheries history.

Even now the Booth Society plays a crucial role in the Archives' day-to-day operations: connecting visitors with fisheries history. Volunteers of the nonprofit serve as guides to visitors of the facility's numerous exhibits. The well-maintained grounds of D.C. Booth are spotted with pieces of fisheries history, which volunteers care for and introduce to visitors. A refurbished train-car restored to its period allows visitors to see how fish were once transported across the country. The Booth house is representative of how the facility's namesake and family lived more than 100 years ago. And the Hector Von Bayer Museum of Fisheries History showcases rotating exhibits for the public's fishery edification.

"Preserving this history is incredibly important for future generations, but it's imperative that people know it's here," said the Booth Society's executive director, Eric Davis.

Annually, the Booth Society contributes more than 14,000 volunteer hours to the facility; the effect is the equivalent of seven full-time employees, Davis said.

While visitors enjoy the fruits of the Archives, behind the scenes the pain-staking work of conserving fisheries' management history into the future is executed under the detail-oriented eye of its curator, Randi Smith. A rotating group of college interns and Booth Society volunteers assist her in the intake, cataloging and storage of each piece of incoming history.

The Archives uses the state-of-the-art Interior Collections Management System to file and catalog all incoming items. There is no end to incoming items. The Archives houses objects from fish culture and fisheries management's first days to more contemporary pieces.

An in-house conservation lab assists Smith and her staff in conserving all incoming items. The objective is always the same: arrest decay, minimize future deterioration and protect from further harm. There is a real science to the conservation process. How an item chemically interacts with its protective case determines its lifespan. Each item's needs vary. One plastic might be fine for one item but accelerate the deterioration of another. Matching an item with the proper preservation precaution is one of the tricks of the archiving trade.

The Archives utilizes a multi-layered system of safeguards, including climate control systems to

-Royal Tine Images Inc./Lee Voorhis

The Fisheries Railcar Exhibit at D.C. Booth tells the story of an era when the U.S. Fish and Wildlife Service and others used railroad cars to transport fish across the country.

preserve and protect its precious contents from the elements.

-USFWS/Leith Edgar

Spearfish National Fish Hatchery (now D.C. Booth) used this and other wood panniers to pack fish eggs in Yellowstone National Park, where it operated an egg-gathering substation from 1901-1911.

Some of the Archives' items might seem unimportant, but they may prove invaluable to Service researchers of the future. Smith even preserves samples from fishery structures and materials.

The Archives The Archives are always looking for more Service or conservation-agency related items, such as photos, log books, uniforms, field equipment, lab equipment, blueprints, and maps. Most often the Archives look to Service employees in the twilight of their careers for contributions.

"We'd like them to think about us when they're deciding what to do with the Service-related stuff they've acquired over a full career," Smith said.

Often times Service employees save pieces of history otherwise destined for a landfill because they recognize the value of the items slated for disposal. To avoid losing the item forever, they often bring it home for safe keeping. When it's time for those items to find a new home, the Archives is ready to adopt them.

"The Archives is interested in anything fisheries related, regardless of the agency or time period," Martinez said. "We're even interested in items that are not fisheries related. As long as there is a tie to a current or former natural resource or conservation program. It is also important to keep in mind that items we use today may have some historical significance down the road."

The Archives largely depends on the generosity of Service employees, both past and present. Smith hopes retiring Service employees will strongly consider donating their collections to the Archives for prolonged safekeeping and use by future generations of fisheries biologists, scientific researchers and historians.

"If it's important, you need to make arrangements for all the pieces of history you've acquired," Smith said. "All too often people outside the Service do not see the value in many of the items we prize here in the Archives."

Each acquisition adds a small piece to the rich tapestry of fisheries history that is the Archives.

"As the collection grows we can see where we need to fill in the gaps," Smith said. "We seriously consider all contributions, and we're more than happy to answer questions about the process of donating to the Archives. We want people to know that the Archives are open and inclusive; we'll work with you to get your contribution here."

For additional information on the D.C. Booth Historic National Fish Hatchery and Archives contact Carlos Martinez, director (605) 642-7730, x223; carlos_martinez@fws.gov, or Randi Smith, curator, (605) 642-7730, x215; randi_smith@fws.gov

Determining the Pathogenicity of a Novel Bluegill Virus

BY ERIC LEIS, LA CROSSE FHC

In recent years, the La Crosse Fish Health Center (FHC) has commonly isolated a novel virus from bluegills. The virus was first isolated in 2001 from bluegills collected from a fish kill at Montana Lake, Wisc. and has since been referred to as Bluegill Virus (BGV). Currently, BGV has been isolated from 14 sites in Wisconsin, 4 sites in Ohio and from hatchery cultured bluegills in Wisconsin, Ohio and Illinois. The virus has also been detected from several species of fish including bluegill, largemouth bass, black crappie, bluegill hybrids and pumpkinseeds.

In the Midwest, the virus has also been associated with some fish kills that have occurred in the wild; however, it is uncertain as to whether the virus is the cause of the fish kills. Staff from the La Crosse FHC, University of Wisconsin - La Crosse and United States Geological Service is conducting a laboratory study to determine if bluegill are susceptible to the virus, if the virus can be isolated from the fish exhibiting disease signs, and to observe the progression of disease.

-USFWS/SarahBauer

These bluegills needed to be infected with the novel Bluegill Virus during an experimental study to determine if bluegill are susceptible to the virus, if the virus can be isolated from the fish exhibiting disease signs, and to observe the progression of disease.

The La Crosse Fish Health Center is located in Onalaska, Wisconsin, and is responsible for fish health management within the Midwest Region of the Fish and Wildlkife Service. Primary responsibilities include inspection, certification and diagnostic services for federal hatcheries, providing inspection and laboratory services for state, federal and tribal agencies, surveillance of target pathogens as part of the National Wild Fish Health Survey, providing training in fish health management, monitoring use of drugs and chemicals for National Fish Hatchery use, researching fish health management and assisting in design and implementation of surveillance, and control of invasive aquatic pathogens in cooperation with state, tribal, federal and non-governmental agencies.

For further info about the La Crosse FHC: http://www.fws.gov/midwest/LaCrosseFishHealthCenter/

Team Searches for Sea Lampreys in the Niagara River

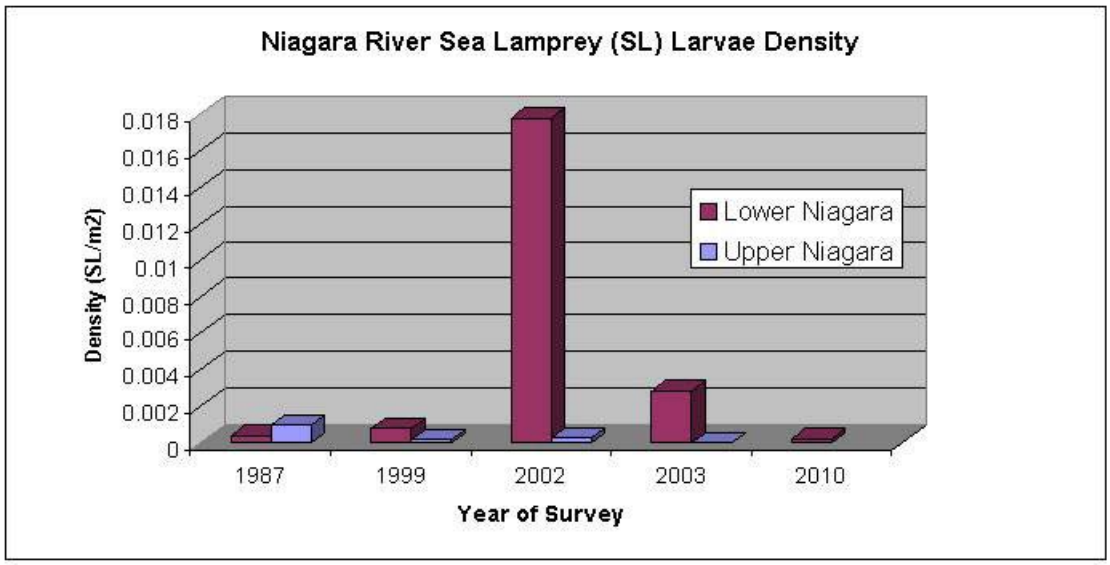
BY ALEX GONZALEZ, LUDINGTON BIOLOGICAL STATION

Personnel from the Fish and Wildlife Service and Department of Fisheries and Oceans, Canada, joined forces to detect the presence of larval sea lampreys in the Niagara River, the connecting waterway between lakes Erie and Ontario.

--USFWS/Ludington Biological Station

Ludington Biological Station personnel spread Bayluscide in a sample plot to detect the presence of larval sea lampreys in the Niagara River, the connecting waterway between lakes Erie and Ontario.

A heavy mist could be observed from the falls as the international team sprayed granular Bayluscide®, a lampricide approved for use by the U.S. Environmental Protection Agency and Health Canada, in search of larval sea lampreys. Larval sea lampreys are found in burrows they construct in the silt and sand on the bottom of rivers such as the Niagara. The team preselected areas to survey based on habitat surveys designed to identify suitable substrate. Habitat was previously delineated with a hand dredge or through the use of Roxann™ sidescan sonar. After identifying suitable burrowing habitat, the team measured 500 square meter plots, delineated



Fraser Neave, Stock Assessment Biologist, DFO: Bar Graph of Sea Lamprey Density in the Niagara River.

the plot boundaries with buoys, and sprayed the granular Bayluscide® evenly throughout the plots with a pesticide spreader or blower. Granular Bayluscide® is used in deep or turbid waters where backpack electrofishers are not effective. Like some encapsulated medicines, the coating on the granular Bayluscide® slowly dissolves, releasing the pesticide on the bottom where larval lampreys live in their burrows. Once exposed to the lampricide, many of the larval lampreys come out of their burrows and swim to the surface of the stream. Each sample plot is patrolled by sampling crews for a one hour period. When present, the teams collect the larvae with nets to get an estimate of their relative abundance and record the length of each larva. This information is critical to understanding if and when the population needs to be controlled.

Since 1987, small populations of larval sea lampreys have been detected in the upper and lower Niagara River. As illustrated in the bar graph of sea lamprey densities in the upper Niagara River (upstream of Niagara Falls) and the lower Niagara River, the greatest density of larval sea lampreys was found in 2002. Survey data indicate that the larval population in the upper Niagara River has declined since 1987 and that the population in the lower Niagara River has decreased significantly since 2002. Surveys conducted in 2010 collected no sea lampreys in the upper Niagara River and only three sea lampreys in the lower Niagara River which is an indication that this population has a minor contribution to the number of parasitic sea lampreys feeding on fish in Lake Ontario.

Monitoring the presence and relative abundance of sea lamprey larvae in the Niagara River is critical to identifying sources of parasitic sea lampreys in Lake Ontario. If this population was to increase in size, efforts would be made to control this population, likely through larger applications of granular Bayluscide®.

The sea lamprey management program continues to work closely with partners to control populations of sea lampreys in tributaries of the Great Lakes to protect the fishery and related economic activities in the basin (an estimated annual benefit of $7 billion/year to the region). The Fish and Wildlife Service delivers a program of integrated sea lamprey control in United States waters of the Great Lakes in partnership with the Great Lakes Fishery Commission.

-USFWS/Ludington Biological Station

Ludington Biological Station personnel patrol a Bayluscide® sample plot, looking for larval sea lampreys.

For further info about the Ludington Biological Station: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/ludington.pdf

La Crosse FHC Provides Work Experience for Students

BY LUCAS PURNELL, LA CROSSE FHC

The La Crosse Fish Health Center (FHC) uses the Student Temporary Experience Program (STEP) and the Student Career Experience Program (SCEP) to help maintain a fluent and viable workplace. These two programs allow interested students to not only continue their education while being paid, but it will also give these students an opportunity to gain an experience of their life in the environment of a lab. Today, the La Crosse FHC employs nine students. Six of these are STEP students, and three SCEP students are employed here while completing their graduate course work. The question; though, is how these nine students got here. What were their individual paths in life, and why would they choose to work in such a fast paced environment?

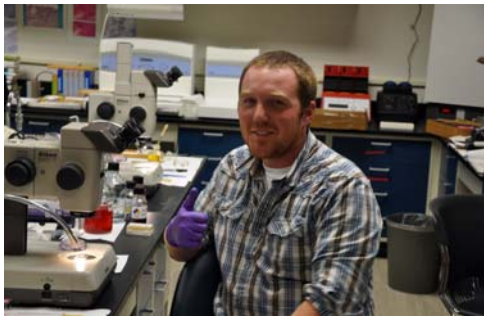
This summer we have welcomed three new STEP students to our staff. The youngest of these is Robbie Knauber. Robbie is 18, a recent graduate of Holmen

-USFWS

Student Temporary Experience Program employee Robbie Knauber is a recent graduate of Holmen High School and plans to attend the University of Wisconsin- Stevens Point.

High School, and plans to attend the University of Wisconsin- Stevens Point. While at Stevens Point, Robbie plans on majoring in Biology. Actually, as Robbie puts it, "Double majoring is still an intriguing thought". After learning that Robbie plans on majoring in biology, I was curious to find what he found so interesting about science. "Learning about wildlife" was his reply. After college, Rob hopes to become a zoo keeper. If that falls though, Rob gave me his second option, a game warden. Outside of work and school, Rob enjoys going on the river, sports, hip-hop and "just chilling". At the end of our interview, I asked Rob to tell me something interesting about himself. He told me that the most interesting thing that ever happened to him was that he shot a "nubbin buck" once. While Robbie Knauber is the youngest employee at the La Crosse FHC, I am sure he has a great future here and at UW-Stevens Point.

The second STEP student added to our staff this summer is Dustin Lee Hart. Dustin is 23 and a graduate of both the University of Wisconsin-River Falls and Platteville. He completed his undergraduate work in Biology and Wildlife Conservation. When asked what his favorite part about science is, Dustin replied that "There's always something you don't know". In the future, Dustin would love to work for either the Wisconsin or Minnesota Department of Natural Resources. More specifically, he wants to help fight, control and prevent soil erosion. During his free time, Dustin enjoys kayaking, fishing, donating plasma and brewing wine. He also enjoys listening to music. Something interesting about Dustin is that he shot 25 out of 25 targets in a trap shooting league. Dustin is sure to be a great addition to our staff.

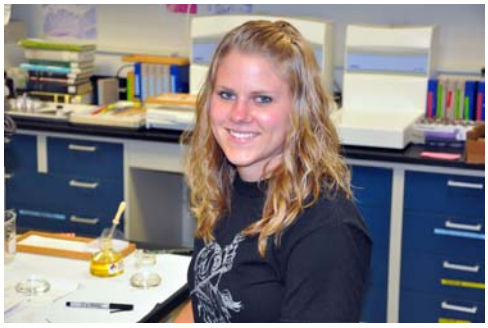


-USFWS

Student Temporary Experience Program employee Dustin Lee Hart is a graduate of both the University of Wisconsin-River Falls and Platteville.

The third STEP to be added to our staff is Alise Duffy. She is 22 and calls La Crescent, Minnesota, her hometown. Alice graduated from Wartburg College (Waverly, Iowa) this past spring and will go on to South Dakota State University to complete her Advanced Nursing Program. After completing this degree, Alise wants to work as a pediatric nurse. Alise says that her favorite part about science is learning about viruses. To show that she has a diverse background, Alise explained that she has 50 cousins.

Alise will surely learn a lot about viruses this summer while she works as a lab assistant in our virology lab.



-USFWS

Student Temporary Experience Program employee Alise Duffy graduated from Wartburg College this past spring and will go on to South Dakota State University to complete her Advanced Nursing Program.

Abby Purdy is the next STEP student I got the opportunity to interview. Currently, 24, Abby is from Spencer, Wisconsin. She graduated from the University of Wisconsin-Stevens Point with a degree in Biology. For the past school year, Abby has been working on her master's degree in Biology with a concentration in Aquatic Sciences at the University of Wisconsin-La Crosse. When it comes to science, Abby is interested in how everything is interconnected. In the future, Abby wants to work as a biologist. In her free time, Abby enjoys riding bicycles, doing yoga, snowboarding and listening to jazz music.

-USFWS

Student Temporary Experience Program employee Abby Purdy graduated from the University of Wisconsin-Stevens Point with a degree in Biology. For the past school year, Abby has been working on her master's degree in Biology with a concentration in Aquatic Sciences at the University of Wisconsin-La Crosse.

Beka McCann was added to our staff as a STEP student in the summer of 2009. Born in Dayton, Ohio, Beka has lived in four states but calls Wisconsin home. Beka is 34 and received her undergraduate degree from the University of Wisconsin-Madison. Currently, Beka is working on her graduate degree in Biology at the University of Wisconsin-La Crosse. Beka gave me two interesting stories about her life. The first was that she worked with primates at a University of Wisconsin facility, and as an elementary student, she received a letter from former President Ronald Reagan.

-USFWS

Student Temporary Experience Program employee Beka McCann received her undergraduate degree from the University of Wisconsin-Madison. Currently, Beka is working on her graduate degree in Biology at the University of Wisconsin-La Crosse.

Next, on the list of students on our staff is Sarah Bauer. Sarah, 29, is originally from Dayton, Ohio. Sarah graduated from Ohio University with a bachelor's degree in Biological Sciences. In June of 2007, Sarah began to work as a temporary employee here. Currently, Sarah is a SCEP student completing

-USFWS

Student Career Experience Program employee Sarah Bauer graduated from Ohio University with a bachelor's degree in Biological Sciences. Currently, Sarah is completing her graduate work in Aquatic Sciences at the University of Wisconsin-La Crosse.

her graduate work in Aquatic Sciences at the University of Wisconsin-La Crosse. Present day, Sarah works with the Polymerase Chain Reaction (PCR) assay confirming viral, bacterial and parasitic infections. Overall, Sarah finds joy in the continual process of learning more and more about science. Outside of the world of science, Sarah likes to fish, watch football, take pictures and spend time with family. Sarah is a hardworking and dedicated employee.

Next, I interviewed Ryan Katona. Ryan attended Viterbo University, a private school, in La Crosse, Wisconsin. For his first two years at Viterbo, Ryan was a dedicated player on the V-Hawks basketball team. Following his two years of intense athletic training and competition, Ryan went on to graduate from Viterbo with a degree in Biology. Ryan is now 26 years old. Recently, Ryan completed his graduate work at the University of Wisconsin-La Crosse studying diseases and parasites of percids. He has been promoted to a permanent position at the center. In his free time, Ryan enjoys running, fishing, playing piano and of course...playing basketball. In writing my last words about this joyous personality, Ryan brings a vivacious feeling to our workplace.

-USFWS

Biologist Ryan Katona graduated from Viterbo College with a degree in Biology. Ryan has now completed his graduate work at the University of Wisconsin-La Crosse studying diseases and parasites of percids.

Our next student is neither a part of the STEP or SCEP program. Corey Puzach is 34 years old. Corey is originally from Waukesha, Wisconsin. Corey completed his undergraduate work in Biology at the University of Wisconsin-Stevens Point. After completing his undergraduate degree in the spring of 2002, Corey began working at the La Crosse FHC as a permanent biologist. After a few years, Corey began working part-time on his Master's degree in Aquatic Sciences at the University of Wisconsin-La Crosse. Corey, when not at work, enjoys spending time with his family. The most interesting fact about Corey is that he can devour fifty chicken wings with mild buffalo sauce in one sitting. Corey is a vital part of our staff.

-USFWS

Biologist Corey Puzach completed his undergraduate work in Biology at the University of Wisconsin-Stevens Point. Corey is currently working part-time on his Master's degree in Aquatic Sciences at the University of Wisconsin-La Crosse.

I will now discuss my own path that got me to the La Crosse FHC. Sure, I could have had someone interview me and then write this part but, who knows me better than myself? I am 20 years old and a 2008 graduate of Holmen High School. I began working here the summer after my junior year in high school. It was an opportunity that I was, and am still, thankful for. I will be a junior at the University of Wisconsin-La Crosse in the fall. I am majoring in Political Science with a minor in Economics. After I complete my undergraduate work at the University of Wisconsin-La Crosse, I would like to attend graduate school in hopes of obtaining a doctorate degree in Political Science. What I will do with that is a question to be left unanswered for now. While I am not taking the typical coursework that you may see from the other students who work here, I feel that everyday spent here is a joy and learning experience. While I began my journey in the Bacteriology lab this summer, I have found it interesting to learn that different bacteria have varying biochemical processes occurring within them. Outside of work and school, I enjoy playing basketball, bowling and hanging out on the river with my friends. My favorite type of music is rap. Otherwise, I am thankful to the staff that works with me as I complete my undergraduate degree. While I hope my time here continues into the future, I will always appreciate the lessons I have learned at the La Crosse FHC.

For further info about the La Crosse FHC: http://www.fws.gov/midwest/LaCrosseFishHealthCenter/

Green Bay FWCO Strives for Better Management of Multi-Agency Lake Trout Survey Data

BY DALE HANSON, GREEN BAY FWCO

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.

Lake trout assessment survey data is a primary information source for lake trout abundance and age compositions, sea lamprey wounding rates, and whether naturally spawned lake trout are present. On Lake Michigan, lake trout assessment surveys are performed annually by four state agencies, four tribal fishery programs and two federal agencies. This scope of participation is exceptional and each agency's contributions are needed to tackle the daunting task of evaluating lake-wide lake trout population dynamics. However, the task of consolidating lake trout data from ten agencies can also prove daunting, especially when trying to compile historical survey data.

Green Bay Fish and Wildlife Conservation Office (FWCO) biologists Ted Treska and Dale Hanson are actively trying to improve the management of lake trout survey data by working with individual agencies to facilitate the transfer of data into lake-wide survey databases. Hanson previously created a standardized database for the Lake Trout Working Group (LTWG) to house multi-agency survey data that included information tables for survey effort, catch and biological data. These tables were populated by each agency with historical data but it soon became clear that this task required substantial efforts from each agency to output data into a format compatible with the relational LTWG database. Treska and Hanson began by meeting with Wisconsin Department of Natural Resource's (DNR) Pat McKee and Brad Eggold to learn about the DNR fisheries database. Then the group devised a database programming routine to output the needed LTWG effort, catch and bio-data tables from the DNR database. Thus, this routine provides an efficient conduit to access historic and future data within the DNR database so it can be easily input into the LTWG database.

Treska and Hanson hope to work with other agencies to develop similar programming routines customized for their database. This work will benefit the management of the LTWG database to facilitate annual reporting requirements and assist monitoring and evaluation of lake trout restoration efforts. These data are also critical to evaluate sea lamprey wounding rates for lake trout and other species.

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

Planned Pharmaceutical Take-Back Exceeds 3,400 Sites Nationwide

BY MARK STEINGRAEBER, LA CROSSE FWCO

On September 25, the U.S. Drug Enforcement Administration coordinated a collaborative effort with participating state and local law enforcement agencies nationwide to safely remove potentially dangerous pharmaceutical controlled substances and other medications from our nation's medicine cabinets.

This initiative compliments the Fish and Wildlife Service's continuing SMAR$_x$T DISPOSAL campaign program, a collaborative effort with the American Pharmacist's Association and the Pharmaceutical Research and Manufacturers of America, to educate consumers how to dispose of unwanted medications in a responsible manner that safeguards lives and protects the environment.

The public was encouraged to take their expired, unused and unwanted medications to one of more than 3,400 sites around the country where they were collected for destruction on Saturday, September 25.

A continuously updated list of collection sites in or near your community can be found by visiting www.deadiversion.usdoj.gov/takeback. In addition, interested media can now go to: www.nationaltakebackday.com to download a public service announcement about the initiative.

Remember to dispose your unwanted medications in ways that protect human and environmental safety.

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

La Crosse FHC Makes the News

BY COREY PUZACH, LA CROSSE FHC

In August, members of the La Crosse Fish Health Center (FHC) and La Crosse Fish and Wildlife Conservation Office (FWCO) completed the annual Wild Fish Health Survey on Pool 4 of the Mississippi River. This survey was different than a typical Wild Fish Health Survey. The group had a visit with a news crew from WXOW Channel 19 News, La Crosse, Wisconsin. The news crew was at the work site for about two hours interviewing staff members, filming fish sampling, and even took a boat ride with La Crosse FWCO staff to film the boom shocking process. Samples were collected near the Minnesota Department of Natural Resources headquarters in Lake City.

The Wild Fish Health Survey is a national program which screens fish for select pathogens in wild fish stocks. The La Crosse FHC has participated in health surveys on the Mississippi River since 1997. Yearly screening of fish is important to categorize any new or emerging pathogens which may be present. It is also important to monitor any pathogens found in the past. Over 120 fish representing 10 species were sampled on Pool 4 of the Mississippi River. Results are still pending and can take up to 45 days to finalize.

For further info about the La Crosse FHC: http://www.fws.gov/midwest/LaCrosseFishHealthCenter/

Traveling Screen Building

BY JAIME MASTERSON, PENDILLS CREEK NFH

In July, construction started on the water filtration building at the Pendills Creek National Fish Hatchery (NFH). Plans consist of the addition of a traveling screen to the stream water supply that will allow for leaves, wood debris and most aquatic life to be removed before reaching the filtration building. This will make for much cleaner water and will greatly reduce the risk of lines plugging with leaves and other debris throughout the year. Later, the building will be finished off by adding three more drum filters and an ultraviolet light system to kill any bacteria, diseases or parasites that may be in the water.

-USFWS

Throughout August, roof beams, side walls and most of the roof were completed on the water filtration building 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

Sea Lamprey Annual Workshop

BY RICK WESTERHOF, GREEN BAY FWCO

The Sea Lamprey Control Program held their Sea Lamprey Annual Working Session in Petoskey, Michigan. Rick Westerhof from the Green Bay Fish and Wildlife Conservation Office (FWCO) attended the workshop on February 4 to learn more about sea lamprey control efforts and the latest on sea lamprey barriers in the eastern basin of Lake Michigan. Coordination with the Sea Lamprey Control Program is necessary to ensure the Green Bay FWCO doesn't develop fish passage proposals to remove a barrier (dam or culvert) to benefit native fish that would allow passage of invasive sea lamprey. Opening up river miles and potential habitat for sea lampreys would increase the cost of control efforts and have overall negative impacts on fish populations in Lake Michigan. The annual working session allows both offices to improve coordination and be more effective when implementing their respective programs by discussing potential concerns with removing a particular dam or road crossing culvert before developing a proposal.

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

Fatmuckets Stocked into Farmer's Creek

BY JORGE BUENING, GENOA NFH

In August, 650 sub adult fatmuckets (native mussels) were stocked into Farmer's Creek in Iowa. This is an effort along with the Iowa Department of Natural Resources (DNR) and Natural Resources Conservation Service to reestablish mussels to a stream from which they were previously extirpated.

Black sandshells and fatmuckets were released while still attached to host fish over the past few years. We hope that the mussels will drop off of the fish and disperse themselves throughout the creek and grow and mature. To supplement those stockings, two year-old fatmuckets, ranging between 30 and 50 mm in length, were stocked into two suitable locations along Farmer's Creek last year. A problem arose when an assessment of the stocking was taken and none of the mussels could be found. This could have occurred due to decreased water clarity or mussels burying themselves very deep into the substrate. In an effort to keep track of mussels, a white strings was glued onto the mussel's shell. These strings float up into the water column which makes finding the mussels easier. Four mussels were marked this way and have been monitored weekly by Scott Gritters of the Iowa DNR. Of the four, three still have their strings and are easily found.

The two year-old mussels that were used in these stockings were produced as a result of mussel cages set out by Genoa National Fish Hatchery (NFH) staff. These cages house mussels after they drop off of host fish and allow them to grow and develop in the river. As our monitoring improves and stockings increase, hopefully freshwater mussels will soon be reestablished at Farmer's Creek.

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.

-USFWS

A sub adult fatmucket is stocked into Farmer's Creek in Iowa. This is an effort along with the Iowa Department of Natural Resources and Natural Resources Conservation Service to reestablish mussels to a stream from which they were previously extirpated.

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

Lemonade Stand Re-opens with Sweeter Prospects for Business

BY MARK STEINGRAEBER, LA CROSSE FWCO

Remember the old adage, "Patience is a virtue"? How about the Boy Scout motto, "Be Prepared"? These phrases are part of an all too familiar autumn mantra I have muttered at times over the past decade to comfort myself and colleagues while working to recover the St. Croix River population of federally endangered winged mapleleaf mussels.

Heck, we had to set up everything in the wet lab three years in a row (2001-03) before enough mussel larvae (glochidia) were available to finally identify blue catfish and confirm channel catfish as suitable host fish to propagate the winged mapleleaf. So early last fall, after building a new flow-through test system in the lab to identify the optimum size of catfish

-USFWS

These channel catfish will be exposed to winged mapleleaf mussel larvae (glochidia) to evaluate the effect of host fish size on juvenile mussel production.

needed to maximize juvenile winged mapleleaf production, we were well prepared for the lemon I later received in an email stating, "No glochidia are available for testing in 2009".

Nearly a year has passed since receiving that bitter message and preparing sour lemonade from it. But this year, things will be different! More than 80 winged mapleleaf mussels were aggregated by an interagency team of divers this summer to encourage successful reproduction. And despite the fact that we could receive yet another lemon if no glochidia are available for testing in 2010, any juice we may be forced to squeeze this year will be sweetened knowing that our Quick Response research proposal, titled *Evaluation of host fish size on juvenile production of endangered winged mapleleaf mussels*, was recommended by the Fish and Wildlife Service's Regional Research Committee for U.S. Geological Survey funding ($10,000) in the new fiscal year (2011).

The wet lab (a.k.a. lemonade stand) at the Upper Midwest Environmental Sciences Center in La Crosse is now open and ready for business!

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

More Tagging and Stocking Completed

BY MELISSA CHEUNG, NEOSHO NFH

In a matter of 2 days, we managed to tag, measure and record data for 5,331 pallid sturgeon yearlings at the Neosho National Fish Hatchery (NFH). There is no doubt that this was only made possible by the extra staff that visited us on Aug. 1-2. That's right, 28 people from 5 different stations and 4 different state or federal agencies came out to help us get our sturgeon stocked. This included field and hatchery staff from the Columbia Fish and Wildlife Conservation Office, Missouri Department of Conservation's Chillicothe Field Station and Blind Pony State Fish Hatchery, Nebraska Game and Parks Commission from Lincoln, Neb., and Columbia U.S. Geological Survey.

-USFWS

A pallid sturgeon is marked with a passive integrated transponder (PIT) tag. This type of tag is about the size of a grain of rice.

The group helped our hatchery complete what would have taken our small staff weeks, if not months to do. Missouri and Nebraska staff also contributed passive integrated transponder (PIT) tag readers, fish rulers, scales and laptops to the cause. The additional equipment allowed us to set up four tagging stations and expedite the entire process. Each yearling needed to be PIT tagged, length and weight obtained, and the data recorded into the PTAGIS tagging program. While seemingly simple, the PTAGIS program, tag readers and laptops have malfunctioned simultaneously and separately in the past.

The sheer number of staff kept the sturgeon work flowing smoothly and efficiently. Thanks to everyone's help, we already have all 5,331 of these fish stocked in the Missouri River. We hope to see these pallid sturgeon again, and soon, in future mark-recapture studies. To view more photos from the event, please visit our blog at: www.neoshonfh.blogspot.com.

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

Getting Ready for Coded-wire Tagging

BY JAIME MASTERSON, PENDILLS CREEK NFH

Biologists at the Pendills Creek National Fish Hatchery (NFH) have started going through each raceway to check the average length of lake trout production groups. With the use of the new mass marking trailer for coded-wire tagging, the optimal length is between 7.0 to 9.5 centimeters. Tagging started around September 28th.

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

Early Detection of Aquatic Invasive Species Implemented with GLRI Funds

BY HENRY QUINLAN, ASHLAND FWCO

In August and early September, Ashland Fish and Wildlife Conservation Office (FWCO) biologists surveyed the three busiest shipping ports on Lake Superior in search of new introductions of aquatic invasive species. This binational effort was possible as a result of funds provided through the Great Lakes Restoration Initiative (GLRI). In cooperation with the U.S. Environmental Protection Agency (EPA), Fond du Lac Tribe of Lake Superior Chippewa, 1854 Authority, Ontario Ministry of Natural Resources, and Fisheries and Oceans Canada, Ashland FWCO implemented components of the EPA's *Early Detection and Monitoring Protocol*. This protocol was developed over five years by some of the nation's lead scientists at the EPA Mid-Continent Ecology Division with the assistance from Ashland FWCO. The protocol utilizes an oversampling approach with multiple gear types and a depth/habitat stratified sampling scheme.

Ashland FWCO and our partners utilized bottom trawls, boom electrofishing and fyke nets to sample 45 locations in the Duluth-Superior Harbor (Minnesota/Wisconsin) and nearly 30 locations in the port of Sault Ste. Marie (Michigan/Ontario) and in Thunder Bay Harbour (Ontario).

One invasive fish species new to Thunder Bay Harbour, the tubenose goby, was collected. Tubenose goby were previously known to inhabit only the Duluth-Superior Harbor. The project supports identified needs of the Binational Program draft Lake Superior AIS Total Prevention Plan, Lake Superior Lakewide Management Plan, and the Great Lakes Fishery Commission Lake Superior Fish Community Objectives.

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.

-Ontario MNR/SueGreenwood

Gary Czypinski of the Ashland Fish and Wildlife Conservation Office prepares to retrieve a bottom trawl tow from the port of Sault Ste. Marie, Michigan/Ontario, to detect the presence of invasive species.

-Ontario MNR/SueGreenwood

The contents of this bottom trawl catch from Sault Ste. Marie, Michigan/Ontario includes a bowfin (largest fish in the photo and rare in Lake Superior), yellow perch, brown bullhead, young-of-the-year and older pumpkinseed and bluegill, and rock bass. No invasive species were captured in this location.

For further info about the Ashland FWCO: http://www.fws.gov/midwest/ashland/

Naval Support Activity at Scott Air Force Base

BY BRAD ROGERS, CARTERVILLE FWCO

Every year in early May, staff from the Carterville Fish and Wildlife Conservation Office (FWCO) make trips to Naval Support Activity Crane in Crane, Indiana, and Scott Air Force Base (Scott AFB) near Belleville, Illinois, in order to conduct annual fishery surveys. This year was no exception. On May 5, Sam Finney and Brad Rogers conducted a nighttime electrofishing survey on Lake Greenwood and surveyed a smaller fishing pond the next morning. Natural resource managers at Crane have been focused on largemouth bass management on Lake Greenwood for several years and the data from this year's survey show a continuing growth in the number of larger bass (13 to 15 inches) and a decline in the number of bass smaller than 13 inches. This has been a welcome change for the local bass fishermen; in the past it was rare to land a 15 inch bass and now fisherman are turning in the 5 fish limit of 15 inch bass, and bigger, at tournaments! With the bass population looking better all the time, we have started discussing ways to increase our sampling efforts to gather more data on other species of interest in Lake Greenwood including walleye, black and white crappie, and channel catfish. With increasingly tighter budgets this will be a challenge, but we are confident we can work with our partners to develop an effective sampling strategy that will provide us with the most information possible to better allow us to improve those other populations that make up the Greenwood fishery.

-USFWS/BradRogers

Lake Greenwood at Naval Support Activity Crane in Crane, Indiana, now supports a continuing growth in the number of larger bass (13 to 15 inches) and a decline in the number of bass smaller than 13 inches, after several years of careful management.

On May 7, Sam Finney and Brad Rogers traveled to Scott AFB and performed daytime electrofishing surveys on Scott and Cardinal Lakes. These two lakes are both relatively small and heavily pressured by fishermen. Scott Lake is a particularly difficult body of water to manage, due to heavy fishing pressure and a persistent weed problem. After a fish kill in 2006, we have slowly but surely watched the fishery come back to a healthy and relatively stable state. Scott Lake has been a catch and release fishery for largemouth bass in the past but the population has reached a point where we will consider setting harvest regulations. Carterville FWCO will work with Scott AFB to perform an angler survey prior to setting any harvest regulations to gain an understanding of how much use the lake actually receives.

Carterville FWCO has also been actively involved with designing a renovation project for Scott Lake. The 20 year old lake has filled in with a large amount of sediment which is believed to be a cause of the chronic weed problem in the lake. Managers at Scott AFB want to dredge the lake, slope the banks and add habitat structures along with a proper stocking of fish. This project will improve the overall health of the lake and quality of the fishery. This year, Scott AFB has also started a five year revision of their Integrated Natural Resource Management Plan. Carterville FWCO is working closely with managers on this project as well.

While work on these two military bases takes up approximately two weeks of our time each year, our efforts have produced many positive results. Our work and accomplishments at these military bases are a good example of the Fish and Wildlife Service fulfilling its mission to enhance fish and their habitat for the continuing benefit of the American people.

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.

For further info about the Carterville FWCO: http://www.fws.gov/midwest/Fisheries/library/StationFactSheets/carterville.pdf

Wild Horizons + Mayfly Emergence = Wild Planet

BY MARK STEINGRAEBER, LA CROSSE FWCO

While some may find an abstract equation like this confusing, it really does add up … trust me!

Last winter, I received an inquiry by email from a staff member at Wild Horizons, a wildlife film company in the United Kingdom that has recently produced many of the best natural history series for television, including Plant Earth for the Discovery Channel. Using the full power of cutting-edge film technology, the Discovery Channel is now teaming with Wild Horizons to produce an ambitious, seven-part documentary titled *Wild Planet: North America* that will take an all-encompassing view of the continent to highlight the beauty of its landscapes and diversity of its wildlife inhabiting mountains, forests, deserts, plains, coasts and rivers from the Arctic to Mexico.

"Old Man River" is where I, figuratively, entered into this jig-saw panorama. From experiences guiding several other wildlife filmmakers who visited the La Crosse, Wisconsin, area in the past to document the mid-summer spectacle of millions – make that billions - of deep burrowing mayflies emerging from the upper Mississippi River to mate and subsequently die, word had reached Wild Horizons producer Mandi Stark that I would make a good, local point-of-contact to help record these scenes for their new high definition series.

Over a two week period in July, I had the privilege to work with Stark and cinematographer Neil Rettig (a past recipient of the Fish and Wildlife Service's Silver Eagle Award and the Academy of Television Arts and Sciences' Emmy Award for his bald eagle film documentaries) in their quest to film the synchronous mass emergence of mayflies amid the natural beauty of the Upper Mississippi River National Wildlife and Fish Refuge while conveying the ecological significance of this annual event to an international television audience.

-Cal Fremling

The mass emergence of deepburrowing mayflies from the upper Mississippi River is an indicator of good water quality and has been a mid-summer source of local fascination for decades.

Additional sequences of mayfly emergence events are planned for filming with high-speed cameras on the refuge near La Crosse in 2011.

Wild Planet: North America, an anticipated "jewel in the crown" at the Discovery Channel, is slated for its premiere broadcast in 2012. Don't miss it!

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

Rainbow Trout Mitigation Commitment Complete!

BY MELISSA CHEUNG, NEOSHO NFH

The end of the 2010 fiscal year was September 30 and is also the end of our fish production year at the Neosho National Fish Hatchery (NFH). Our mitigation requirement of 225,000 rainbow trout was exceeded this year. Despite the bad winter weather which pushed our stocking trips behind a month, we stocked over 236,000 fish into Lake Taneycomo, Missouri.

-USFWS

-Ten inch rainbow trout are ready to stock into Lake Taneycomo to fulfil mitigation commitment.

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

Day Use Area Finished

BY JAIME MASTERSON, PENDILLS CREEK NFH

Over the past few years the day use area, located directly across the street from the Pendills Creek National Fish Hatchery (NFH), has been updated and made more visitor friendly. Last year, a pavilion with picnic tables was built along with some landscaping for aesthetic purposes. This year, a bridge was built that leads from the parking area down to a landing on the beach. The new walkway makes for a much easier walk to the beach and also a place to sit and enjoy the nature resources of Lake Superior, or even watch a passing-by freighters. All of these new upgrades to the day use area were done mostly with the help of our Friends group and a few other volunteers.

-USFWS

The day use area at the Pendills Creek National Fish Hatchery has been updated with the addition of a picnic pavilion (Left) and a new walkway (Right) to the beautiful Lake Superior beach.

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

Fish and Education to the La Crosse Family Resources Children's Summer Festival

BY CHRIS OLDS, GENOA NFH & RYAN KATONA, LA CROSSE FHC

Each year on the last Saturday of August, the La Crosse Family Resources office hosts a Children's Summer Festival for families in the Coulee Region. The theme of this year's festival was the Mississippi River.

Genoa National Fish Hatchery (NFH) was asked to present a program at the festival. Student Conservation Education Program employee Chris Olds represented the hatchery by setting up a display for families to see. Different species of freshwater fish and mussels were featured in the display aquariums. Chris talked about how Genoa NFH plays a role in the recovery and restoration of endangered and threatened species to the river.

Ryan Katona from the La Crosse Fish Health Center (FHC) ran the backyard bass game. This game allows kids to practice their casting skills, as they are casting to a specific spot and trying to "hook" a big plastic fish. Many kids were successful with this game, and most kids had a hard time putting the poles down to give other kids a chance. Overall, this event was a great success, as hundreds of people came out to enjoy the beautiful weather and the laughter of kids on a Saturday in the park.

The event was held at Myrick Park in downtown La Crosse, Wisconsin, and lasted three hours. During those three hours, over 600 adults and children visited the Fish and Wildlife Service displays. People loved seeing the sturgeon and mussels in the two display aquariums and play the many games offered. People frequently hear about sturgeon on TV but rarely have the opportunity to see one alive in person. Events such as this allow families to see the many opportunities and species diversity that the Mississippi River region has to offer.

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

For further info about the La Crosse FHC: http://www.fws.gov/midwest/LaCrosseFishHealthCenter/

It Takes a Village…

BY JENNIFER BAILEY, GENOA NFH

Or many hours of tedious labor to count and insert coded-wire tags into over 34,000 fingerling lake sturgeon that will be stocked from the Genoa National Fish Hatchery (NFH) this fall. Lake sturgeon are raised at Genoa NFH each year as part of a combined effort between the Fish and Wildlife Service, White Earth Tribe (Minnesota), Menominee Tribe (Wisconsin), Red Lake Band of Chippewa Indians (Minnesota) and the states of Missouri and Minnesota to restore this threatened species to self-sustainable levels in their native waters. Fifty-two thousand lake sturgeon fingerlings will be stocked for programs in the Red River of the North, Mississippi River and Missouri River watersheds. Marked fish are essential for restoration of the species in the Mississippi River (Missouri), Missouri River (Missouri), White Earth Lake (Minnesota), Round Lake(Minnesota), and Red Lake (Minnesota) where populations have declined or been extirpated in the past. Tagging ensures that these sturgeon will be distinguishable from wild fish, once stocked fish reach maturity and begin spawning on their own.

This season, Genoa NFH received help from 18 volunteers who logged in 156 hours counting lake sturgeon, inserting coded-wire tags, and getting fish ready for release into the wild. Volunteers came from the *Friends of the Upper Mississippi Fisheries Services;* University of Wisconsin locations in La Crosse and Stevens Point; La Crosse, La Crescent and Viroqua Communities; and De Soto Middle School and Central High School in La Crosse.

Thanks for all the help and we appreciate it!

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.

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

Lake Whitefish Survey in Northern Green Bay

BY DALE HANSON, GREEN BAY FWCO

Green Bay Fish and Wildlife Conservation Office (FWCO) biologists Ted Eggebraaten, Ted Treska and Dale Hanson traveled to Escanaba, Mich. and finished a lake whitefish gill net survey in waters of northern Green Bay. The survey began on September 1st but the onset of fall weather, including gale force winds, forced the crew to delay finishing the work until September 10th. In all, the crew set nearly 15,000 feet of graded mesh gill net (2" to 6" mesh). This annual survey is used to monitor relative abundances of lake whitefish and lake trout within fishery management unit WFM-01. All captured fish were measured, weighed, examined for lamprey wounds, and ageing structures (otoliths) and stomachs were retained from lake trout and lake whitefish. This suite of "biological data" provides other important survey indices such as a time series of lamprey wounding rates, lake trout and lake whitefish size and age compositions, and fish diet information.

These surveys are a cooperative venture performed by the Fish and Wildlife Service, State of Michigan and Tribes within the 1836 Treaty Waters of the upper Great Lakes. Fishery independent survey data compliments other fishery data collected through commercial and recreational catch monitoring. All available fishery data are input into an "integrated analysis" to assess the status for each management unit's fish stocks, and this process is ultimately used to generate harvest quotas. The integrated analysis approach was a critical component of the 2000 Consent Decree as it fosters the adoption of scientifically defensible management policies to regulate harvest in 1836 Treaty Waters.

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

Making Room for Endangered Mussels

BY MELISSA CHEUNG, NEOSHO NFH

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.

Biologist Melissa Cheung of the Neosho National Fish Hatchery (NFH) met with Professor Dr. Chris Barnhart (Missouri State University) who is researching freshwater mussels at the Kansas City Zoo. Dr. Barnhart, several of his graduate students and biologist Bryan Simmons (Columbia Field Office) visit the zoo monthly to check on the floating upweller system (FLUPSY) that is kept and maintained on zoo property. Native and endangered freshwater mussel species are propagated within the FLUPSY and can attain record growth during spring and summer months when water temperature and food availability are optimal. Neosho NFH looks forward to working more with Dr. Barnhart and his staff with a goal to propagate endangered freshwater mussels at the Neosho NFH.

-USFWS

Dr. Barnhart (Missouri State University) and Bryan Simmons (Columbia Field Office) clean out the manifold of the FLUPSY or floating upweller system, that is used to propagate freshwater mussels.

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

Hydroacoustic and Trawl Monitoring Sea Trials

BY DALE HANSON, GREEN BAY FWCO

Sea trials were performed aboard the *M/V Spencer F. Baird* in northern Lake Huron during the first week of August. Simrad, the manufacturer of the Baird's transducers and trawl monitoring gear, sent Jeff Condiotti and Gregg Juergens to test the scientific stock assessment tools and to train staff in the operation of these hydroacoustic and trawl monitoring systems. Staff from the Green Bay Fish and Wildlife Conservation Office (FWCO), Alpena FWCO, and the vessel's crew spent three days deploying trawls equipped with temperature, depth, door spread, catch and bottom contact sensors. The sensors relay information from the net to the vessel and are used to monitor the net's fishing performance. Additionally, the ship's two scientific transducers, used for hydroacoustic work, were calibrated. Calibration enables measurements of fish size based on the magnitude of the return echo of insonified targets (fish detected during hydroacoustic surveys). This work was funded through the Great Lakes Restoration Initiative (GLRI) and is an important first step to determine the Baird's stock assessment capabilities.

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

Three … Two … One … Lift-Off!

BY MARK STEINGRAEBER, LA CROSSE FWCO

Having attended college and worked most of my life near the upper Mississippi River in La Crosse (Wisc.), I first witnessed the synchronous, midsummer mass emergence of deep burrowing mayflies lift off from "Old Man River" nearly 30 years ago while watching a Fourth of July fireworks show at dusk in Riverside Park. These swarming insects, floating like dark clouds silhouetted against a twilight sky, have fascinated me ever since.

It should come as no surprise then that early in my career I amassed a sizeable collection of academic articles on mayflies while working with several colleagues to quantify contaminant burdens in these insects. Because many of these colleagues subsequently took jobs in other parts of the country or retired, I assumed the de-facto role as a local authority on burrowing mayflies, particularly (*Hexagenia bilineata*).

So in the past, when representatives from the British Broadcasting Corporation, National Geographic Channel, Discovery Channel or other media would ask me to estimate when they should arrive to cover the summer's big emergence, the best I could tell them was to plan on being here during a two week window surrounding July Fourth.

However, things were different this year. After scanning several articles from my collection to plan for the arrival of the Wild Horizons film team from the United Kingdom, I encountered some key biological information in a 1982 publication that seemed to have been overlooked by the scientific community (myself included) for nearly 30 years.

In the article, researchers at the Oak Ridge National Laboratory reported that based on their laboratory studies, H. bilineata nymphs required 2,337 degree days of development (at temperatures >10°C) in order to emerge. Furthermore, they urged others to validate their reported values with observations from the field … a request I immediately set out to fulfill!

To begin, I determined the date of the first large H. bilineata emergence near La Crosse during recent summers from National Weather Service Doppler radar images that recorded these events. With these dates as starting points, I next tallied the cumulative degree days of development throughout the ensuing year, based on daily water temperature values reported at nearby Lock and Dam 8. Then I compared the predicted date of first emergence with the observed date of the first mass emergence during each summer. The level of correspondence between these biological endpoints was within one day during each year of comparison!

Based on these findings, it was time to "let the rubber hit the road" and estimate when the first big emergence would occur near La Crosse in 2010. As daily river water temperatures were tallied and Independence Day approached, it appeared the required 2,337 degree days of development would be met early the morning of July 6. In fact, colleagues attending the annual Fourth of July celebration at Riverside Park reported a major emergence that evening (confirmed by Doppler radar) which continued into the wee hours of the July 5 and wreaked havoc on musicians performing there on the brightly lit stage!

Word of these recent findings has spread to other members of the river science community and plans are being made to test whether this temperature based model of mayfly development can accurately predict the timing of the first mass emergence in longitudinally distant river reaches, as well as explore its utility as an indicator of climate change. And when the Wild Horizons team returns to continue filming in 2011, we'll be counting down the days to the next big mayfly lift-off!

-USFWS

A burrowing mayfly has emerged from the upper Mississipi River.

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

Say Good Bye to the Oldest Dam on Wheeler Creek

BY RICK WESTERHOF, GREEN BAY FWCO & KIM BALKE, CONSERVATION RESOURCE ALLIANCE

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

In 1867, John Wheeler built a dam on Wheeler Creek along with the first saw mill in Wexford County. Over the years, there were several fires at the site and in the 1940's a concrete dam was built to provide electricity to nearby homes. The dam no longer produces power and the 20 foot high concrete spillway and dam has deteriorated over the years. The private landowner was concerned about the structural integrity of the dam and contacted the Conservation Resource Alliance (CRA) to help with the removal project. In 2007, the National Fish Passage Program provided $15,000 towards the engineering and design phase (total cost $60,000) for the removal of the Wheeler Creek Dam.

Once the design phase was completed, CRA submitted several proposals for the removal of the dam and was able to secure funding from the following sources: Michigan Department of Natural Resources and Environment ($145,000), National Oceanic and Atmospheric Administration ($80,000), Fish and Wildlife Service ($70,000), Natural Resource Conservation Service ($12,000) and private donations through the River Care fund ($10,000). Additional partners on the project were Wade Trim, Molon Excavating and Kanouse Outdoor Restoration. Total project dollars for the removal phase was $257,000.

Wheeler Creek Dam had a system of three impoundments behind the dam and the largest measured over three acres. All of the impoundments filled with sediments over the years, and the creek channel upstream of the impoundment was exceptionally shallow and wide. Removing the dam would expose a stream stretch with extremely high gradient, open up seven miles of quality habitat for native fish and would improve water temperatures below the dam in Wheeler Creek and in the Manistee River. The dam was located several hundred yards upstream of the confluence with the Manistee River, and essentially cut off the entire Wheeler Creek watershed to fish migration.

After 146 years, Wheeler Creek Dam was finally removed in the fall of 2009. Led by Kim Balke, Project Manager from CRA, along with Wade Trim engineering consultants, Molon Excavating and Kanouse Outdoor Restoration, the impoundments were drawn down and the dam was removed last fall. It was a very challenging project with 146 years of sediment and saw dust accumulations, leaving 20 feet of muck behind. Once the impoundments were drawn down, the dam was slowly breached to allow the creek to find its new channel last fall. Over winter and into the spring, the creek changed it course numerous times as it raced through the old impoundments, but finally picked its new course allowing the banks to be stabilized, graded and reseeded with native plants. The project will continue to be monitored for several years to ensure the integrity of the re-born creek.

-CRA

After 146 years, the Wheeler Creek Dam and spillway in Wexford County, Mich. were removed, opening seven miles of quality habitat for native fish and will improve water temperatures in Wheeler Creek and the Manistee River.

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

A Good Neighbor from Oklahoma

(NEOSHO DAILY NEWS)

BY KAY HIVELY, NEOSHO NFH

Sixteen-year-old Jordan Shope has some very dedicated parents. Each Wednesday morning, one or both of his parents make the drive from their home at Wyandotte, Okla., to bring Jordan to the Neosho National Fish Hatchery (NFH), so he can spend his day as a volunteer. At quitting time, those parents are back to take Jordan home.

Making this trip once a week is commendable of Jordan's parents, but this weekly drive is nothing compared to what they did for three months. Starting in late April or early May, they drove Jordan to Neosho five days a week. At that time he was either working as a volunteer or enrolled in a Youth Conservation Corps program at the hatchery.

Asked how a young boy from Oklahoma got involved with a hatchery in Missouri, Jordan explained that he and his father enjoy fishing. They each joined the local fly fishing club and, at a meeting in Joplin one night, Hatchery Manager David Hendrix was the speaker.

Hendrix told about the hatchery and mentioned that volunteers were always welcome.

"That started me thinking," Jordan said. "So I came down and talked to Dave."

-Kay Hively

Jordan Shope enjoys working at the Neosho National Fish Hatchery. When not working through the Youth Conservation Corps program, he volunteered many hours to gain some quality hatchery experience.

From there, Jordan started as a volunteer and then was able to enroll in the YCC program which gave him a small salary for his work. And, of course, he had very understanding and supportive parents.

The YCC program ended in late July, but Jordan wanted to keep working at the hatchery so he asked if he could go back to being a volunteer.

Because he is home schooled, he is actually in school now, but because he comes each Wednesday to the hatchery, he goes to school on Saturday to make up the day in Missouri.

Although Jordan had never been around a fish hatchery before, he has fished all his life with men in his family.

"We mostly fish for bass and catfish in farm ponds around Wyandotte," he said. "I like to fish and I like to eat fish, too."

Because of his age, Jordan can't do everything there is to do at a hatchery but he can run the push lawnmower, use the weed eater, feed fish and clean raceways.

"The part I like best is helping take care of the fish," he said. "That's very interesting. And I like cleaning raceways. When it's hot, it's nice being in the cool water."

Although Jordan is 16, he still cannot drive himself to Neosho each week. A new Oklahoma law will not allow that until he is sixteen and a half and that won't be until September.

Expecting to finish school in December, Jordan is thinking about his future. "I will probably get a job, but I do want to go to school. I would like a job in conservation," he said. "I just haven't decided where to go yet."

The staff at the hatchery is pleased with Jordan's work ethic and his attitude. What he is able to do allows them to do things he cannot or is not trained to do. To the hatchery staff, there's no doubt in the world that Jordan Shope is a good neighbor.

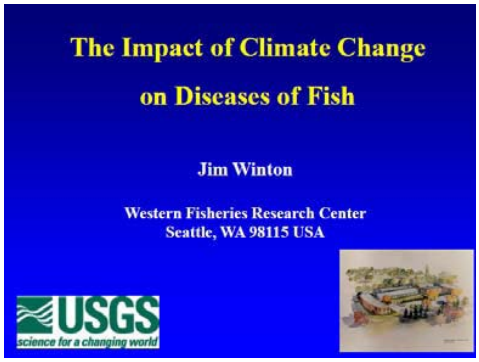
The Fisheries Program relies on a broad range of professionals to accomplish its mission: biologists, managers, administrators, clerks, animal caretakers, and maintenance workers. Without their skills and dedication, the Fisheries Program cannot succeed. Employees must be trained, equipped and supported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

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

Staff Participates in Class on Climate Change

BY SARAH BAUER, LA CROSSE FHC

The Fish and Wildlife Service's National Conservation Training Center facilitates a program between the United States Geological Survey (USGS) Cooperative Research Units and Fish and Wildlife Service to share knowledge and information between the two organizations. On August 24th, Jim Winton (USGS) gave a webinar titled "The Impact of Climate Change on Diseases of Fish". Becky Lasee and Sarah Bauer from the La Crosse Fish Health Center (FHC) participated in the webinar discussing ways climate change is predicted to affect disease outbreaks in fish.



For further info about the La Crosse FHC: http://www.fws.gov/midwest/LaCrosseFishHealthCenter/

Genoa NFH Lures in a New Mussel Biologist

BY DOUG ALOISI, GENOA NFH

The Genoa National Fish Hatchery (NFH) recently added a new mussel biologist to its staff. Nathan Eckert joins us in God's country, replacing our previous mussel biologist, Tony Brady. Nathan was drawn to Wisconsin by the challenge of recovering some of America's hidden treasures, freshwater mussels. Freshwater mussels are some of the country's most endangered fauna due to habitat alterations related to dredging, dam construction, land use practices and degraded water quality. Nathan will be working with some of the nation's most diverse assemblage of mussels, located in the upper Mississippi River system. He comes to us from the Virginia Department of Game and Inland Fishes at the Aquatic Wildlife Conservation Center, an aquatic facility near Marion, Virginia, devoted to the conservation of freshwater mussels. Nathan was the mussel propagation biologist, responsible for the propagation of over 24 species of mussels. Nathan also received his Master's of Science degree studying mussel propagation techniques under one of mussel propagation's pioneers, Dr. Chris Barnhart. We hope to put his expertise to good use, and plan on putting him to work designing and deploying intensive culture systems specifically designed to successfully rear mussels inherent in the basin. Nathan brings his wife Shelley and daughters Abigail and Sadie, with a son to be named very soon in September.

Welcome to Wisconsin Nathan and family!

-USFWS

Nathan Eckert has been selected as the new mussel biologist at Genoa National Fish Hatchery.

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

Congressional Actions

H.R. 51 (ih) To direct the Director of the United States Fish and Wildlife Service to conduct a study of the feasibility of a variety of approaches to eradicating Asian carp from the Great Lakes and their tributary and connecting waters. [Introduced in House]

H.R. 4604 (ih) To direct the Secretary of the Army to prevent the spread of Asian carp in the Great Lakes and the tributaries of the Great Lakes, and for other purposes. [Introduced in House]

H.R. 48 (ih) To amend section 42 of title 18, United States Code, popularly known as the Lacey Act, to add certain species of carp to the list of injurious species that are prohibited from being imported or shipped. [Introduced in House]

S. 1421 (rs) To amend section 42 of title 18, United States Code, to prohibit the importation and shipment of certain species of carp. [Reported in Senate]

S. 1421 (is) To amend section 42 of title 18, United States Code, to prohibit the importation and shipment of certain species of carp. [Introduced in Senate]

H.R. 3173 (ih) To amend section 42 of title 18, United States Code, to prohibit the importation and shipment of certain species of carp. [Introduced in House]

S. 3553 (is) To require the Secretary of the Army to study the feasibility of the hydrological separation of the Great Lakes and Mississippi River Basins. [Introduced in Senate]

S. 237 (is) To establish a collaborative program to protect the Great Lakes, and for other purposes. [Introduced in Senate]

H.R. 4472 (ih) To direct the Secretary of the Army to take action with respect to the Chicago waterway system to prevent the migration of bighead and silver carps into Lake Michigan, and for other purposes. [Introduced in House]

S. 2946 (is) To direct the Secretary of the Army to take action with respect to the Chicago waterway system to prevent the migration of bighead and silver carps into Lake Michigan, and for other purposes. [Introduced in Senate]

H.R. 5625 (ih) To require the Secretary of the Army to study the feasibility of the hydrological separation of the Great Lakes and Mississippi River Basins. [Introduced in House]

Source is http://www.gpoaccess.gov/bills/index.html
Searched database by keyword = "fish"

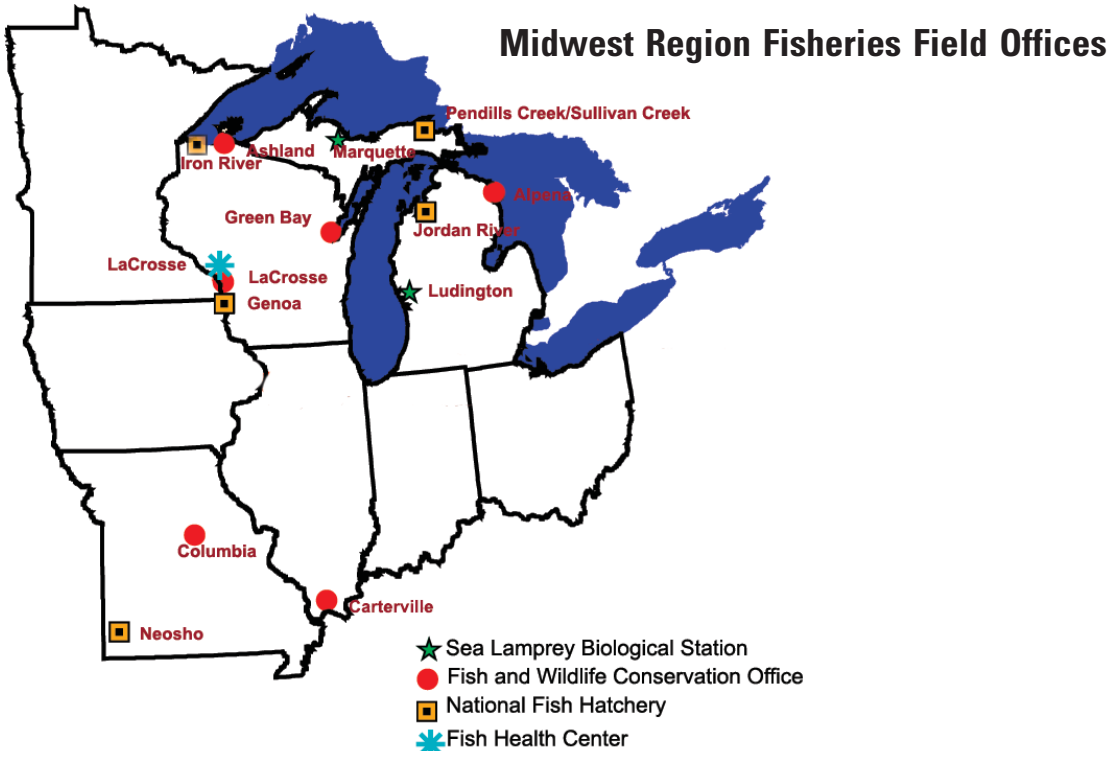
Midwest Region Fisheries Divisions

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.

Fish and Wildlife Conservation Offices
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 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.



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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

- Green Bay Fish Biologist Attends Workshop on Modeling Lake Trout in Western Lake Superior
  - Ted Treska, Green Bay FWCO

Aquatic Species Conservation and Management

- Fall Hatchery Inspection at Genoa National Fish Hatchery
  - Eric Leis, La Crosse FHC
- Iron River Fall Hatchery Inspection
  - Corey Puzach, La Crosse FHC

Aquatic Invasive Species

Public Use

- La Crosse Recreation Club Visits Genoa
  - Jorge Buening, Genoa NFH
- Norseland Nursing Home Returns for another Great Day of Fishing!
  - Chris Olds, Genoa NFH

Cooperation with Native Americans

Leadership in Science and Technology

Aquatic Habitat Conservation and Management

- Elsie Dam Project Partners Meeting
  - Rick Westerhof, Green Bay FWCO
- Pere Marquette River Large Woody Debris Site Selection
  - Rick Westerhof, Green Bay FWCO
- Watervliet Dam Heading Down the Road to Removal
  - Rick Westerhof, Green Bay FWCO

Workforce Management

- Regional Office Fisheries Job Shadow: A Valuable Learning Experience
  - Lucas Purnell, La Crosse FHC

Neosho NFH's Visitor Center Update

Construction of our newest building at the Neosho National Fish Hatchery (NFH) is into its final stage. Our contractor Crossland Construction is going through the final punch list. The exhibit displays are being installed. Aquarium tanks for the main area of the center are scheduled to arrive soon. Furniture has been selected and is set to arrive in September/October. Our tentative move in date will be sometime late October. The grand opening ceremony is set for December 9.