



U.S. Fish & Wildlife Service

Fish Lines



Fiscal Year 2005
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Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems

Workhorse of the Lake Trout Rehabilitation Program Nears Retirement



-USFWS

M/V Togue

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



Region 3 - Great Lakes/Big Rivers Region

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

Region 3 Focus Areas

1. Partnerships and Accountability

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

2. Aquatic Species Conservation and Management

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

3. Aquatic Invasive Species

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

4. Public Use

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

5. Cooperation with Native Americans

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

6. Leadership in Science and Technology

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

7. Aquatic Habitat Conservation and Management

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

8. Workforce Management

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

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

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

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Great Lakes - Big Rivers Region Fisheries Field Offices

National Fish Hatcheries

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

Sea Lamprey Control Stations

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

Fishery Resources Offices

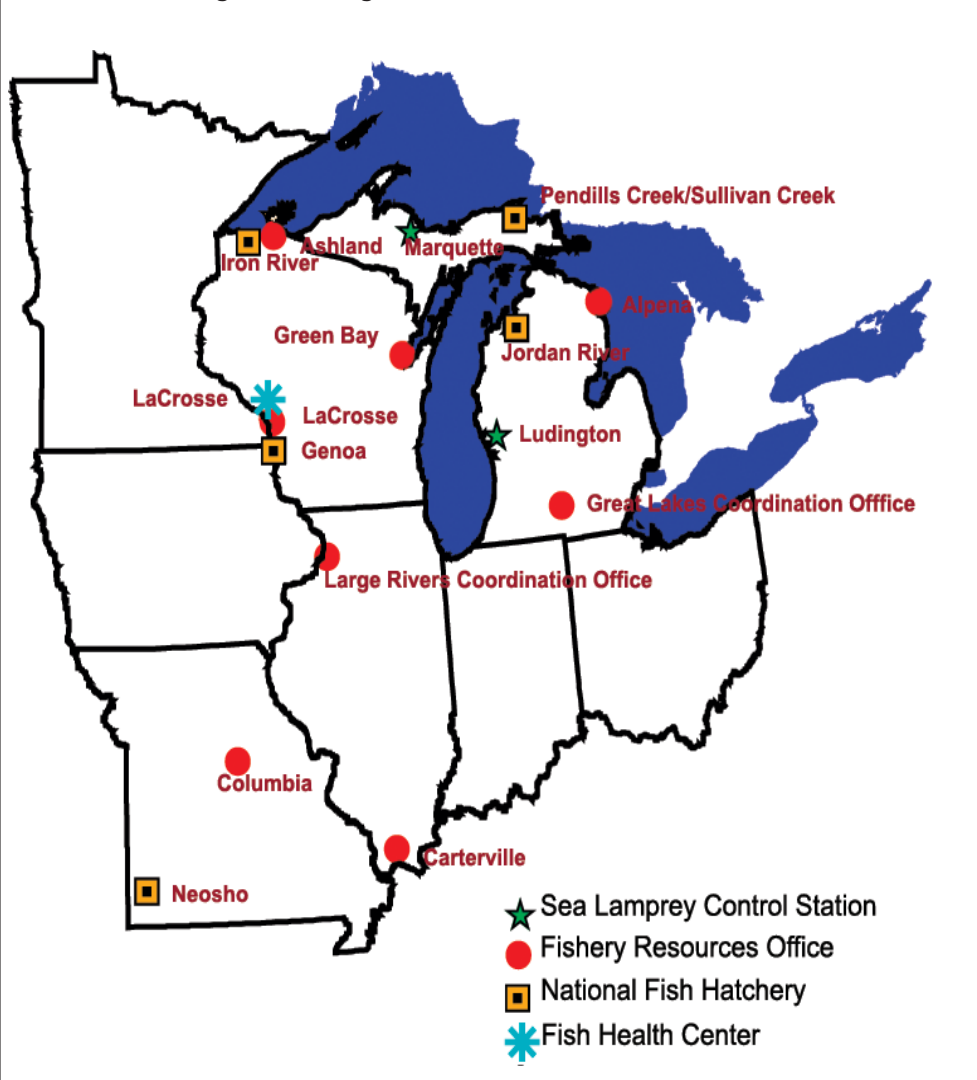
Fishery Resources Offices conduct assessments of fish populations to guide management decisions, perform key monitoring and control activities related to invasive, aquatic species; survey and evaluate aquatic habitats to identify restoration/rehabilitation opportu-

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

Fish Health Center

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

Great Lakes - Big Rivers Region Fisheries Field Offices



List of Acronyms

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

Feature Story - Workhorse of the Lake Trout Rehabilitation Program Nears Retirement

Each year since 1990, crewed by Fish and Wildlife Service Fisheries program staff, the Motor Vessel (M/V) Togue has stocked more than three million lake trout in the Great Lakes of Huron and Michigan. Of 63 science vessels operating in the Great Lakes, the M/V Togue is the only hatchery fish distribution vessel in service. In its lifetime as a stocking vessel, the Togue has put tens of millions of lake trout in the Great Lakes, making it one of the keys to the success of the Great Lakes lake trout rehabilitation program.

Restoration of fish to their native habitats is among the Fish and Wildlife Service's highest priorities, and to achieve this, more than 29 million yearling lake trout have been stocked into lakes Huron and Michigan. Offshore stocking is the only method available to promote colonization of historically productive offshore reefs by yearling lake trout — a strategy specified in multi-agency rehabilitation plans for lakes Huron and Michigan.

Although research continues to identify limiting factors affecting complete lake trout rehabilitation in lakes Michigan and Huron, the Fish and Wildlife Service continues to lead lake trout rehabilitation efforts with strong support from partners—and help from the M/V Togue.

Given the prodigious number of lake trout released from its decks, it might come as a surprise to learn that the 85-foot, 175-ton Togue wasn't designed specifically for fish stocking — but rather for catching shrimp with trawls.

Built in 1975, the M/V Togue operated for 12 years as a shrimp trawler before being confiscated in Florida by the U.S. Customs Service for carrying contraband cargo. The Fish and Wildlife Service acquired the Togue and in 1988 began retrofitting it for stocking lake trout in the Great Lakes. The Fish and Wildlife Service also gave its newly acquired vessel an appropriate new moniker—"Togue" is derived from a Native American word meaning lake trout.

The lake trout stocking season for the Togue is busy. Ship Captain Michael Perry, who has logged five years on the Togue, along with Marine Engineer Robert Bergstrom, a 15-year Togue veteran, and a



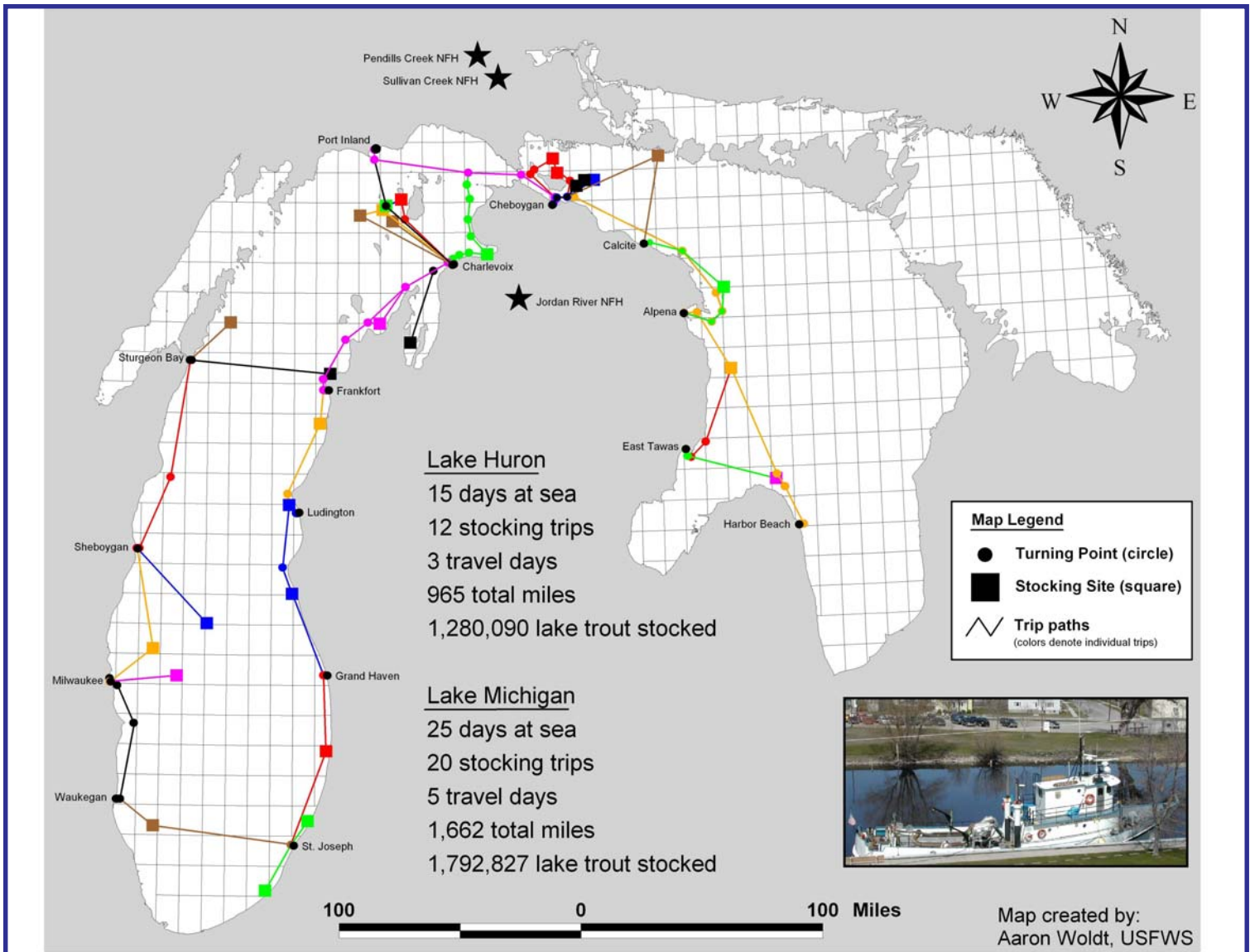
-USFWS photos

(Top Row, Lt. to Rt.) A confiscated shrimp trawler arrives in Cheboygan, Michigan, in 1985; The new stocking vessel, named the M/V Togue, begins a retrofit in 1988 at Michigan Limestone in Rogers City, Michigan; (Bottom Row) A new upper cabin is being constructed (April 1989); Fish tank construction

fish caretaker, typically begin offshore stocking operations in mid-April and continue through the end of June. The Togue travels far in two Great Lakes on its stocking mission.

From its home port in Cheboygan, Michigan, in 2005 the Togue traveled 1,001 statute miles to 11 Lake Huron reefs, stocking 1.19 million fish, and 1,469 statute miles to 22 reefs in Lake Michigan, stocking 2.75 million fish, for a total of nearly 2,500 miles. With the vessel moving at the blistering speed of 10 mph, it takes approximately 250 hours to traverse those 2,500 miles. The Togue stocks fish from three National Fish Hatcheries: Jordan River and Pendills Creek in Michigan, and Iron River in Wisconsin.

A typical fish stocking day for the crew begins at 4:30 a.m., when they check the weather. Once Captain Perry determines it's safe to stock fish, he calls Jordan River National Fish Hatchery (NFH) at 6 a.m. to say, "It's a go." Hatchery staff, with assistance from Iron River and Pendills Creek hatchery employees and vehicles, begin loading up to four distribution trucks with water, ice, and up to 100,000 fish, averaging 10 to 12 fish per pound.



Cruise map of the M/V Togue during the 2004 stocking season

The fish are pumped out of the raceway onto each truck. The fish pump has saved numerous backs; prior to 2000, fish were loaded by hand. It takes 2½ to three hours to get the fish on the trucks for the ride to meet the Togue.

Once on the trucks, the crew checks to make sure oxygen levels and temperature (below 40 degrees Fahrenheit) are satisfactory for the fish before leaving the hatchery for a ride of 45 minutes to six hours, depending on the transfer site.

Before departing, the crew checks the weather again to make sure the fish are not being taken for a “joy ride,” rather than meeting their final destinations on off-shore reefs.

Upon arrival at port, the fish are loaded in the Togue’s eight hull tanks. Stocking sites range from two to 48

miles offshore. En route to the stocking site, the fish caretaker monitors his cargo. If the fish are stressed or “sea sick” from the wave action, they will be released as close to the stocking site as possible.

The native lake trout are vacuumed off the Togue onto the offshore reef. The crew’s work is done when the vessel returns to port; however, the return trip is many times more exciting because the weather can get pretty rough, especially when it takes two to five hours. This daily ritual continues until all of the fish are released.

During a typical fish stocking season, the Togue’s crew doesn’t return to Cheboygan to sleep in their own beds until mid-June, en route to finishing stocking in Lake Huron by July. During the average season, about 16 bad weather down days or “blow days” keep the Togue from sailing. Because of the Togue’s age

and condition, it can only safely stock fish in one- to three-foot waves.

The safety of the crew and fish is of the utmost importance as Captain Mike needs a 12- to 18-hour “good weather window” for each trip. Predicting the weather that far in advance on the Great Lakes is no small feat.

In 2005, 4.12 million lake trout were released into the Upper Great Lakes via the Togue or by truck at alternative shore stocking sites. As a result of the Togue’s stocking capability, mature lake trout are now abundant on offshore reefs in lakes Huron and Michigan. Assessment data from Lake Huron has shown that this offshore stocking strategy provides an added benefit — yearling lake trout released offshore survive at a higher rate than those fish released near shore.



-USFWS
Fish are being pumped out of a tank on the M/V Togue onto an offshore reef. Repopulating historically significant spawning reefs is a key to rehabilitation of native lake trout.

Along with stocking millions of lake trout annually, the Togue has been involved in fall spawning assessments in Lake Huron. Since 1993, the Alpena Fishery Resource Office (FRO) and the M/V Togue crew have teamed up to collect adult lake trout from Yankee Reef and Six Fathom Bank Refuge. The study objectives are to compare growth, sea lamprey wounding rates, survival age composition, movement, and reproductive success of three strains of lake trout stocked from the Jordan River NFH. Each year, the Togue with staff from Alpena FRO, set gill nets to

capture adult lake trout. The next day the nets are pulled and the fish are processed. Typically, the vessel would stay out overnight at the reef, but recently, because of the vessel’s condition and concern for the crew’s safety, the Togue has come back after setting the nets.

Over the years, the Togue has proven useful not just as a stocking vessel, but also as an educational tool. Countless school groups and the general public have toured the Togue to see how crews carry out a vital part of the Fish and Wildlife Service’s mission: restoring native aquatic species. The Togue and its crew have participated in the Alpena Lighthouse Festival for many years, educating people about its unique mission. Other tours are given during the stocking season as the Togue travels throughout lakes Huron and Michigan.



-USFWS
Marine Engineer Bob Bergstrom explains vessel operations to a group of citizens during the Alpena Lighthouse Festival.

Politicians, members of the news media, and conservation partners also have come aboard the Togue to learn about fish stocking operations. Several years ago, Harold Chase, a staffer in U.S. Senator Carl Levin’s office in Traverse City, visited the Togue while crews were loading fish in Traverse City. Chase was given a grand tour from the friendly staff, but got off the vessel as soon as possible and wouldn’t step foot back on it—he was afraid it would sink at the dock after seeing the uneven floor in the galley.

Although the Fish and Wildlife Service has made many repairs to the Togue over the years—including propeller work, new shafts and stuffing boxes, painting, and replacing sections of the hull—the vessel was not well maintained when it was a shrimp trawler. In 2001, inspections revealed that the Togue was becoming unsafe and had an estimated three years left of service as a fish stocking vessel.



-USFWS photo by Mike Perry

The M/V Togue is shown in dry dock for repairs.

Despite its original operation in salt water and poor prior maintenance, the Togue has never missed a stocking trip because of a mechanical breakdown. This demonstrates the ability and dedication of Robert Bergstrom to keep the Togue up and running year after year. During a 2001 inspection, personnel from JMS Naval Architects and Salvage Engineers commented that they “couldn’t believe how well the Togue had been maintained given its early history.” They were further amazed by the fact that only one person—Bergstrom—was responsible for the upkeep.

Year	# Stocked	Reefs	Miles
1997	3,327,000	45	3,485
1998	3,581,500	51	3,035
1999	3,280,000	47	3,288
2000	3,369,700	46	2,850
2001	3,416,700	37	2,993
2002	2,898,334	35	2,702
2003	3,073,751	35	2,619
2004	3,072,917	30	2,489
2005	3,266,363	33	2,470

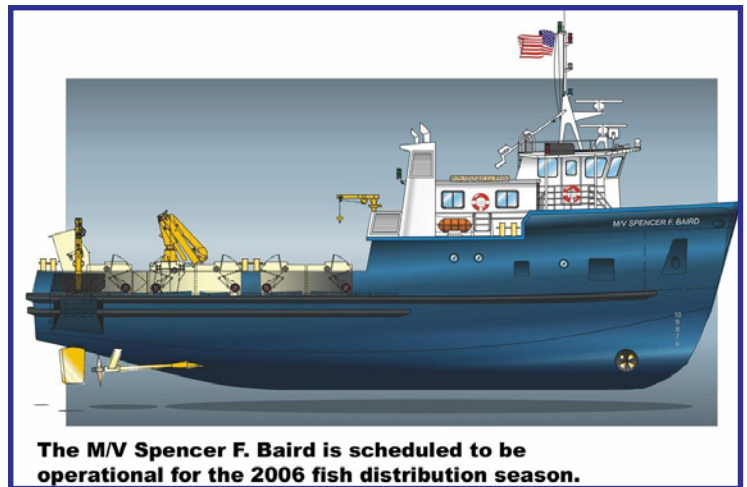
M/V Togue stocking table from 1997 through 2005.



-USFWS

Fish are being transferred from a distribution truck tank to a similar sized tank on the M/V Togue. The vessel has eight tanks and can accommodate eight tank loads of fish.

In 2006, the Togue will be replaced by the M/V Spencer F. Baird, a brand-new lake trout stocking vessel being built specifically for that purpose. Named for the first head of the U.S. Fish Commission (forerunner to the Fish and Wildlife Service), the M/V Spencer F. Baird will have features designed for stocking fish and sampling capabilities to support hatchery product evaluation programs. Plus, it will be much safer for Captain Mike and his crew, and the millions of native lake trout they stock into the Great Lakes each year.



The M/V Spencer F. Baird is scheduled to be operational for the 2006 fish distribution season.

This is a diagram of the Spencer F. Baird which is currently under construction in Morgan City, Louisiana.

The Togue has made a positive impact on lake trout restoration efforts in the Great Lakes. Hats' off to the old workhorse and all its crew members over the years for excellent service delivering native lake trout throughout lakes Huron and Michigan.

Look for an article on the M/V Spencer F. Baird in a future issue of Fish Lines.

Partnerships and Accountability

Getting By with a Little Help from Our Friends

On a clear, warm June day, the Friends of the Iron River National Fish Hatchery held a working meeting at the Iron River hatchery. Ten members brought cutting tools and delicious foods. They split into two groups and set out to clear some neglected trails on the hatchery grounds so they could be opened for educational tours, hiking, bird watching, hunting, snowshoeing, and cross-country skiing. Portions of overgrown trails were cleared to allow easy access for all levels of hikers and possible access by a snowmobile to groom for cross-country skiing. After the two crews finished brush cutting and removing fallen trees, they gathered back at the hatchery and fired up the grill for a potluck dinner. At the end of a day of good friends, food and fun, a Friends group meeting was held. All participants agreed that since everyone had so much fun and so much was accomplished that the next meeting would be set up the same way, and anyone who would like to join in the fun and see what the Friends group is all about, is invited to participate.

Nick Grueneis, Iron River NFH



-USFWS

The Iron River NFH entrance sign welcomes visitors to the facility.

Cooperators Integral to Success of 2005 Lamprey Monitoring

The long-term effectiveness of the Sea Lamprey Control program is measured by the abundance of spawning-phase lampreys in the Great Lakes. Monitoring of spawning-phase lampreys is conducted through assessment trapping. Several cooperators participated in trapping efforts on 18 streams or rivers for the 2005 trapping season: Chippewa/Ottawa Resource Authority, DOW Chemical USA, Grand Traverse Band of Ottawa and Chippewa Indians, Great Lakes Indian Fish and Wildlife Commission, Lake Superior State University, Case Western Reserve University, Little Traverse Bay Band of Odawa Indians, National Park Service, Red Cliff Band of Lake Superior Chippewas, Ohio Department of Natural Resources (DNR), and Wisconsin DNR. The cooperation of these partners is critical in the continued monitoring of sea lamprey abundance, which determines our progress toward the achievement of fish community objectives in the Great Lakes.

The sea lamprey management program continues to work closely with partners to control populations of invasive lampreys in tributaries of the Great Lakes to protect the fishery and related economic activities in the basin, an estimated annual benefit of \$4 billion to \$6 billion per year to the region. The Fish and Wildlife Service delivers a program of integrated sea lamprey control in the U.S. waters of the Great Lakes as a contract agent of the Great Lakes Fishery Commission. *Jessica Richards, Marquette Biological Station*

Brook Trout Rehabilitation Plan Presented to Natural Resources Board

Priorities and goals of *A Brook Trout Rehabilitation Plan for Wisconsin Waters in the Lake Superior Basin*, jointly written by Wisconsin DNR and the Ashland Fishery Resources Office (FRO), were presented to the DNR's Natural Resources Board on August 17 in Spooner, Wisconsin. The plan describes the life history and management of, and threats to, brook trout in Wisconsin's portion of the Lake Superior basin and its tributaries. The plan's goal is to protect and improve existing self-sustaining brook trout populations and attempt to establish several populations that exhibit life history diversity (both stream resident and migratory "coaster" life history types). The Brule, Bark, and Raspberry rivers, and Whittlesey and Graveyard creeks, all of which are on or near the Bayfield Peninsula, will receive priority attention for rehabilitation work.

Mark Dryer, Ashland FRO

La Crosse FRO Supports U.S. Geological Survey on Water Quality Study

In August, biologists Heidi Keuler and Scott Yess of the La Crosse FRO assisted the Iowa City Office of the U.S. Geological Survey (USGS) on its National Water Quality Program. Implemented in 1991 to support informational needs and decisions related to water-quality management and policy, the program is designed to answer questions concerning our nation's water resources by collecting information on water chemistry,

physical characteristics, stream habitat, and aquatic life. This allows resource managers to make science-based decisions on water quality issues. La Crosse FRO provides expertise on the fishery aspects of this project.

Crews electrofished one site along each of the Iowa and Wapsipinicon rivers in Iowa to determine the fish community structure. All fish were identified to species and enumerated, weighted, measured, and released. This information will be analyzed in combination with the other aspects of the study which will allow water resource managers to make informed decisions. The National Water Quality Program has been active for more than 10 years and 42 of the original 51 study units will be reassessed for an additional 10 years.

Scott Yess, La Crosse FRO



-USFWS

Heidi Keuler from the La Crosse FRO assists U.S. Geological Survey employees, Jason McVay and Scott Strader, with a water quality study on the Iowa River. Backpack shockers are being used to collect fish to determine the fish community structure.

Peer-Review of Fish Therapeutant Manuscript Completed

At the request of Dr. David Kennedy, Quality Assurance officer at the USGS Upper Midwest Environmental Sciences Center, La Crosse FRO biologist Mark Steingraeber peer-reviewed a journal manuscript for submission to the American Midland Naturalist. It was authored by colleagues who tested the safety of several fish therapeutant chemicals to mussel fry (glochidia) encysted on the gills of host fish. Based on several years of laboratory experience culturing endangered mussel species during early life development, Steingraeber provided detailed editorial suggestions for consideration by the authors to improve the presentation of their research findings, which can be used to increase production of threatened and endangered mussel species that are intensively cultured on host fish in public hatcheries where disease outbreaks are not uncommon.

Mark Steingraeber, La Crosse FRO

Project Leader Briefs Appropriations Committee Members and Staff

Mark Dryer had the fortunate opportunity to meet with U.S. Representatives Dave Obey (D-WI) and Maurice Hinchey (D-NY), Interior Appropriations Committee Minority Director Rob Nabors, and committee staff member Mike Stephens, who visited the Northern Great Lakes Visitor Center near Ashland, Wisconsin, on August 4 at the invitation of the National Park Service. They visited the center to

learn about this federal, state, and private partnership and about the challenges the center is experiencing in providing visitor and environmental education services in the face of declining partner budgets. Dryer is board chairman for the center and in addition to center issues, he briefed the visitors on Fish and Wildlife Service priorities and activities delivered by the Ashland FRO in the Lake Superior Basin.

Mark Dryer, Ashland FRO

DTE Energy Hosts Dinner Party at Purdy Fisheries

Lake sturgeon research was highlighted at an August 23 dinner party sponsored by DTE Energy and hosted by Purdy Fisheries in Point Edward, Ontario, near the site of one of the largest lake sturgeon spawning grounds in the Great Lakes. Approximately 50 employees and their families from DTE Energy attended the dinner. Biologists James Boase from the Alpena FRO and Bruce Manny from USGS's Great Lakes Science Center (GLSC) were guest speakers.

This event provided an excellent opportunity for Alpena FRO to highlight the continued spirit of cooperation between the Fish and Wildlife Service and its partners towards the rehabilitation of lake sturgeon in the Great Lakes.

The Purdy facility has multiple venues for viewing live lake sturgeon. The outdoor dining area is situated along the banks of the St. Clair River and within the dining area, a 12,000-gallon aquarium houses representatives of the local fish community, including lake sturgeon. While guests dined on fresh-caught lake trout, walleye, and perch, Boase

and Manny presented information about current and past sturgeon research in the St. Clair River. Following dinner, guests were taken to the fish raceways within the Purdy facility for an opportunity to handle live lake sturgeon. This was the highlight of the evening for most of the guests.

Alpena FRO, GLSC, Michigan DNR and DTE Energy have collaborated on a number of pilot sturgeon research projects, including telemetry work in Lake St. Clair, the Detroit River, and Southern Lake Huron. Findings from those pilot projects led to larger studies that resulted in the discovery of three lake sturgeon spawning sites in the St. Clair and Detroit rivers. DTE funded two new pilot projects in 2005; one project seeks to understand the diet of resident lake sturgeon in the North Channel of the St. Clair River while the other is directed at finding young-of-the-year lake sturgeon.

James Boase, Alpena FRO



-USFWS photo by James Boase

Viewing native lake sturgeon was a highlight at a dinner party hosted by Purdy fisheries. Guest speakers, including James Boase from the Alpena FRO, discussed lake sturgeon research being conducted in the Great Lakes.

Enhancing Public Beach Access on Lake Superior

Pendills Creek National Fish Hatchery (NFH) owns 85 acres in the eastern side of the Hiawatha National Forest, located in Michigan's Upper Peninsula. Ten of these acres lie on the northern side of Lakeshore Drive, a section of the Lake Superior shoreline Circle Tour. These ten acres also include the second most popular public beach site in the area.

Accessing this beach area from the small gravel parking area requires crossing a creek that brings the water flowing through the hatchery back into Pendills Creek and into Lake Superior. In the 1970s, a small wooden bridge was built by a Youth Conservation Corps (YCC) summer crew, but has deteriorated after 30 years of use.

Last fall, Alpena FRO biologist Heather Enterline wrote a grant on behalf of the hatchery, resulting in funding of \$13,000 through the Coastal Wetlands program to repair the bridge, enhance the area, and prevent further erosion of the creek bank. This money was used to purchase a new culvert and many loads of gravel, dirt, and rock to keep it in place.

In August, Pendills Creek maintenance worker John Shuman, with the help of his favorite piece of equipment—the Bobcat—began the project by pulling out the existing retaining wall and bridge. With the help of staff and Friends group volunteers, Shuman put in the culvert and repaired the edge of the creek. Now grass is beginning to grow back along the bank of the creek. The culvert is not only a safer way to get to the beach, but is more aesthetically pleasing. Large boulders placed around the parking area prevent

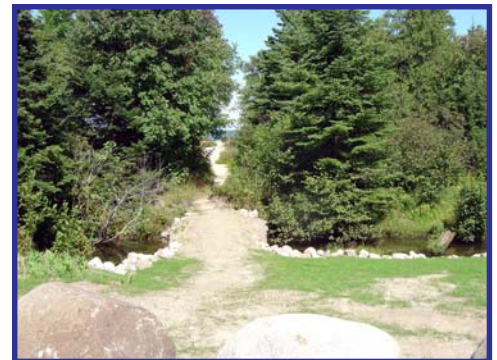
visitors from parking too close to the creek bank.

Eventually the hatchery would like to put down a boardwalk from the parking lot to the beach, which will meet accessibility standards. Enough money was available to install recycled plastic planking across the culvert. The staff hopes that additional grant funds may be obtained to continue the boardwalk all the way to the beach and place interpretive signs along the trail to add an educational element to the site. The Friends of the Pendills Creek Hatchery have pledged support for the project. Even if it takes several years to complete, everyone seems to agree that the replacement of the dilapidated foot bridge was a great start!

Tracy Roessner, Pendills Creek NFH



An unsafe, dilapidated foot bridge (top), that provides access to the Lake Superior beach at the Pendills Creek NFH, was replaced with a culvert (below). This stretch of the Lake Superior shoreline is the second most popular beach site in the Eastern Upper Peninsula of Michigan.



-USFWS photos

Aquatic Species Conservation and Management

Michigan Islands National Wildlife Refuge Survey Conducted

Biologists from Alpena FRO completed a gillnet survey at Michigan Islands National Wildlife Refuge (NWR) in August after Scott Koproski received funding through the Fish and Wildlife Service's Challenge Grant Program to obtain fishery data on four islands located in Lake Huron's Thunder Bay. The goal of the study is to obtain baseline data to monitor future trends caused by disturbances to fish such as habitat alteration, invasive species, and double-crested cormorant predation. The high number of fish species encountered illustrates the importance of the habitat protected by Michigan Islands NWR to maintain species diversity.

This is a cooperative project between the Michigan DNR and the Fish and Wildlife Service. The Alpena FRO sampled three islands and Michigan DNR sampled one island. Two of the four islands sampled are part of the Michigan Islands NWR; however, all four islands are important to coastal fish species and recreational fishing opportunities in Thunder Bay. These islands provide important feeding, spawning, and nursery habitat for a variety of fish species, but the status of these populations is unknown.

To accomplish the survey, Alpena FRO staff set two to four 1,000-foot variable mesh gill nets on each of three islands, for a total of 8,000 feet of effort. This project was postponed from earlier in the field season because of algae in Thunder Bay that clung to the nets and reduced catch rates significantly. By August, the bay was algae-free and a variety of

game and non-game fish were collected during the survey. All species encountered were measured to the nearest millimeter and weighed to the nearest gram. Additionally, aging structures were removed from game fish and stomach contents were recorded from all fish eaters.

Scott Koproski, Alpena FRO



-USFWS photo by Aaron Woldt
Scott Koproski from the Alpena FRO keeps the boat positioned as the crew sets a gill net. The survey was conducted at the Michigan Islands NWR to obtain fishery data on four islands located in Thunder Bay, Michigan.

2005 Lake Trout Distribution Season Complete

The last load of lake trout for the Upper Great Lakes was released into Lake Michigan on July 5 from the Jordan River NFH. Overall, it was a very successful year. Biologists stocked in excess of 2.15 million fish – more than 350,000 over the target for Jordan River NFH. Approximately 95 percent were released offshore via the stocking vessel M/V Togue, with which the Fish and Wildlife Service has the ability to directly introduce fish to historically

productive lake trout habitat (rocky reefs and shoals). Fish stocked offshore have been found to survive at higher rates than those stocked from trucks at the shoreline.

Fish were nearly evenly divided between lakes Huron and Michigan. The following lake trout strains and quantities were released: Seneca Lake – 678,802; Superior Apostle Island – 361,438; Lewis Lake – 980,819; and Superior Traverse Island – 130,563 for a total of 2,151,622 fish. As always, our thanks and appreciation go to our fellow Fish and Wildlife Service employees from cooperating hatcheries who helped with truck driving duties: Angela Baran, Nick Grueneis, and Steve Redman (Iron River NFH); and James Anderson, Tracy Roessner, and John Shuman (Pendills Creek NFH). Special thanks to the crew of the M/V Togue: Mike Perry, Bob Bergstrom and Jim Page. For more information on the Togue, see this month's feature article.

Wayne Talo, Jordan River NFH



-USFWS

The M/V Togue departs dock with a load of lake trout. Destination - historically productive lake trout habitat in Lake Michigan.

Pallid Sturgeon Recovery at the Neosho NFH

The 2005 year class of endangered pallid sturgeon being reared at the Neosho NFH was inventoried during the month and a total of 10,000 fry were counted. They are being fed a combination of brine shrimp and chopped bloodworms. As the fry reach three inches and larger, they will make a full conversion to whole bloodworms. At present, the biggest lot uses four 6 by 24 foot tanks and the smaller lots use two 3 by 24 foot tanks.

Staff needed to upgrade the hatching unit for brine shrimp during the month. The hatching set-up is critical for the successful hatching of the brine shrimp required for the pallid sturgeon fry. The brine shrimp arrive at the hatchery as eggs and as needed, a certain amount is put in heated water with salt, borax, and lighting for 24 to 30 hours to induce hatching.

It is critical to have enough brine shrimp hatched and available for the pallid sturgeon fry. A break in the feeding schedule can cause excessive mortality for the young pallid sturgeon.

Roderick May, Neosho NFH



-USFWS photo

Roderick May puts the finishing touches on the brine shrimp hatching unit. Brine shrimp are used as food for newly hatched pallid sturgeon at the Neosho NFH.

State Monitoring Water Quality in Neosho's Hearrell Springbox

The Missouri Department of Conservation's Endangered Species Division is monitoring water quality in Hearrell Springbox, one of the water supplies for Neosho NFH. The focus is on the blind cavefish, an endangered species that lives in Hearrell Springbox. This unique little fish is known in nature as a water-quality indicator because of its vulnerability to poor water quality. The Department of Conservation, working with the hatchery, will monitor water quality data monthly and note any changes that may be critical to the cavefish's survival.

Roderick May, Neosho NFH

Columbia FRO Completes Sampling Season at Fort Leavenworth

In August, Columbia FRO biologists Geno Adams, Andy Staroska, and Cliff Wilson assessed the fish communities in and around the Fort Leavenworth Army Post, marking the end of the sampling season at the installation. Crews sampled Missouri River bends bordering the military land three times and performed sport fish management surveys on two ponds during the sampling season. River sampling used trammel nets, mini-fyke nets, seines, and otter trawls. Catches consisted primarily of shovelnose sturgeon, smallmouth buffalo, shortnose gar, silver chubs, and young-of-the-year channel catfish, blue catfish, river carpsuckers, and freshwater drum. Sampling the waters associated with Fort Leavenworth has given the Columbia FRO the opportunity to work with the Department of Defense to improve health of the aquatic resources, which will

provide quality fishing for the families living on the post, and to determine the presence or absence of the Federally endangered pallid sturgeon in the Missouri River bordering the installation.

Geno Adams, Columbia FRO



-USFWS

Biologists from Columbia FRO drift a net on the Missouri River near Fort Leavenworth to assess the fish community.

Heat Wave Hits the Upper Peninsula of Michigan

Michigan's Upper Peninsula is known for its cold winters and mild summers, but this summer's weather has made the Lake Superior beach feel more like a beach in Florida. Air temperatures reached a high of 102 degrees Fahrenheit in July, causing water temperatures at Pendills Creek NFH to reach into the low 60s.

Lake trout prefer water temperatures between 48 and 54 degrees, the warm water agitated the population being reared at the hatchery. Assistant manager Crystal LeGault-Anderson and biologist Tracy Roessner began their workdays at 5:30 a.m., not only to get fish work done before the water temperature peaked and the fish became stressed, but also to keep themselves from having to work in the heat of the day. The Pendills Creek raceways are covered by four metal structures to keep the lake trout out of the direct sunlight. But on a clear day,

when temperature is above 80 degrees, working inside the structures can be like working in ovens with little ventilation.

Another issue that arises as the temperature soars is a lack of dissolved oxygen in the warmer water. The hatchery staff was able to keep the fish stress level down during the hottest parts of the day by minimizing contact.

Another odd twist to the summer weather was lack of rain. July's total rainfall barely reached one inch, two inches less than the average, and most came in one large downpour at the end of the month. After a month with little rain, the downpour turned the creek that provides water to the hatchery into mud. Poor water quality is a contributing factor of bacterial gill disease.

Both problems—lack of oxygen and muddy water—will be addressed by a new filtration system currently under construction. It will not only filter sediment and debris from the water, but will incorporate liquid oxygen to increase the oxygen content of the warmer water.
Tracy Roessner, Pendills Creek NFH

Sullivan Creek NFH Finds New Use for Ziploc Bags

A few weeks ago, Pendills Creek NFH assistant manager Crystal LeGault-Anderson cleaned out the Ziploc bags shelf at a local retail store, getting a few strange looks from other shoppers. Why? The “spawning crew” of Sullivan Creek and Pendills Creek hatcheries is doing something a little different this year. The eggs and milt taken from the Klondike strain of lake trout are being shipped unfertilized and separate to the Allegheny NFH in

Pennsylvania and White River NFH in Vermont—in Ziploc bags.

The Klondike is the first of five strains at Sullivan Creek NFH to spawn in the fall. Normally, these eggs are incubated at the hatchery with chilled water produced by a mechanical chiller. The colder, chilled water slows the development of the eggs so that they begin hatching closer to the same time as eggs taken later. Because the water at the Sullivan Creek NFH comes straight from the creek, it contains an abundance of sediment, which clogs the filters on the chiller and causes it to shut down, raising the temperature of the water running through the incubation trays. So throughout the fall, the eggs continue to be temperature shocked as the water temperature rises and falls, hindering their development.

This year, biologists decided to have the eggs incubated at the hatcheries that would be raising them—Allegheny and White River. The plan was to ship the eggs the day they were taken in Styrofoam coolers, the way eyed eggs are typically shipped. However, once eggs are fertilized, disinfected, and water hardened there is only a 24-hour window to ship them. After 24 hours, the eggs become sensitive to light and movement until they reach the eyed egg stage of development. This means that the eggs would have to be water hardened, packaged, and shipped, and arrive at Allegheny in time to be put into incubation trays within 24 hours. Hatchery managers were unsure that this would be a feasible plan and came up with a different one. If the eggs could be shipped unfertilized and separate from the milt, they could be fertilized upon arrival and immediately start the incubation process.

Enter those Ziploc bags. Eggs were stripped from each female by hand into a container; the eggs from each female were put into individual Ziploc bags. Before being sealed, oxygen was pumped into the bag. This bag was then placed into a larger bag and sealed. The milt was taken and sealed in the same manner. The bags were then put into Styrofoam coolers and covered with ice. After being sealed, each cooler went in a box for shipping. In all, five boxes marked “Fragile” were shipped overnight to the hatcheries, three full of fish eggs and two full of fish milt.

While this procedure has been done in the past with eggs and milt from one or two pair of fish, it has never been done in such great numbers, at least in the Midwest region. Sullivan Creek's assistant manager estimates at least two more weeks of spawning and shipping with this method to meet the commitment. I'm sure the makers of Ziplocs knew their bags had many uses, but I doubt they ever imagined fish eggs as one of them!

Tracy Roessner, Pendills Creek NFH



-USFWS

Assistant manager Crystal LeGault Anderson (right) injects oxygen into a bag of unfertilized lake trout eggs while biologist Tracy Roessner double-bags each one. Eggs and milt from dozens of individual fish are being bagged and shipped to Region 5 hatcheries where the eggs will be fertilized and incubated.

Aquatic Invasive Species

Lamprey Consultations Conducted and Electrofishing Strategy Developed

Sea lamprey management and personnel from the East Lansing Field Office completed an Intra-Service Section 7 Biological Evaluation for proposed electrofishing in the Carp Lake River in Emmet County, Michigan. The resulting strategy will help minimize damage to four listed species. Through the Section 7 process, the two offices worked together to develop an electrofishing strategy to assess the population of larval sea lampreys and minimize their effects on Federally listed species.

The staff developed the electrofishing strategy to assess the population of sea lampreys in most of the stream, avoiding three areas where suitable habitat for the endangered Hungerford's crawling water beetle existed. All involved agreed that conservation measures are in place to protect, minimize adverse effects on, and avoid disturbance to the endangered Hungerford's and threatened dwarf lake iris, Houghton's goldenrod, and Pitcher's thistle in or near the Carp Lake River in accordance with the Endangered Species Act. *John Weisser, Marquette Biological Station*



-photo by Susan Crispin

Pitcher's Thistle

Sea Lamprey program staff worked closely with the East Lansing Field Office to minimize disturbance to habitats of several listed species including the Pitcher's thistle during sea lamprey assessments on the Carp Lake River in Emmet County, Michigan.

The Numbers Are In... Sea Lamprey Spawning-Phase Assessment Complete for 2005

Each year, the Marquette Biological Station assesses adult spawning-phase sea lamprey populations to determine the long-term effectiveness of control actions throughout the Great Lakes. During 2005, assessment traps placed in 50 tributaries of the five Great Lakes captured 60,000 adult sea lampreys. Biologists estimated spawning populations at about 378,000 sea lampreys (Lake Superior – 121,000; Lake Michigan – 85,000; Lake Huron – 121,000; Lake Erie – 10,000; Lake Ontario – 41,000).

The sea lamprey management program continues to work closely with partners to control populations of sea lampreys in tributaries of the Great Lakes to protect the fishery and related economic activities in the basin, an estimated annual benefit of \$4 billion to \$6 billion year to the region.

Jessica Richards, Marquette Biological Station

Psst... Asian Carp Surveillance Conducted

Staff from the La Crosse FRO and Chicago Field Office conducted two days of surveillance for invasive Asian carp in the Chicago Sanitary and Ship Canal and the Des Plaines River during mid-August, with assistance from members of the U.S. Army's Joliet Training Center and the Forest Preserve District of Cook County, Illinois. Crews did not capture any Asian carp species or detect any at the five sites surveyed. This Fish and Wildlife Service-led effort completed surveillance requirements for August to determine whether Asian carp are approaching an electrical fish barrier designed to help prevent these fish from entering Lake Michigan. The responsibility for conducting Asian carp surveillance is rotated from month to month among the Fish and Wildlife Service, Illinois DNR, U.S. Army Corps of Engineers, and Metropolitan Water Reclamation District of Greater Chicago. *Mark Steingraeber, La Crosse FRO*



-photo by Chris Young - State Journal Register
An invasive Asian carp leaps out of a boat's wake in the Illinois River. During the mid-August Asian carp surveillance in the Chicago Sanitary and Ship Canal and the Des Plaines River, no Asian carp were detected in the study area.

Carp Presentation Provided for Inland Seas Seminar Series

The Inland Seas Education Association hosted a presentation on “Asian Carp – A Threat to the Great Lakes,” by Anjanette Bowen, as a part of its 2005 Seminar Series held in Traverse City, Michigan.

There is rising concern about the effects Asian carp may have on ecosystems if they become established in the Great Lakes. Bowen’s presentation provided information on Asian carp introduction and history in the United States, identification, food preferences, behavior, and current and potential range of expansion within North America. It also provided information on attempts to prevent the movement of Asian carp into the Great Lakes through the Chicago Ship and Sanitary Canal.

Four species of Asian carp—bighead, black, grass and silver—were introduced into captivity in the United States to control mollusks, plankton and vegetation at aquaculture facilities. Some carp escaped captivity, in many cases due to high water, and are becoming established in stretches of the Mississippi River drainage. These invaders have reduced fish biodiversity and threaten native mollusks. They also have been a hazard to water users because of their tendency to leap into the air in boat wakes. Several Asian carp species are spreading upstream in the Mississippi River drainage toward the Great Lakes.

Anjanette Bowen, Alpena FRO



-photo by Bill Reeves-Tennessee Wildlife Resources Agency

Invasive Asian carp species (top to bottom) include silver carp, grass carp, bighead carp.



-USFWS

Black carp

Ruffe Samples Collected for University of Toledo

Alpena FRO collected genetics samples from invasive Eurasian ruffe for a study being conducted by Dr. Carol Stepien at the University of Toledo in Ohio. Dr. Stepien is studying the genetic diversity between invasive species captured from the Great Lakes and their Eurasian source populations in an effort to provide a diagnostic tool for invasive species risk assessment.

Alpena FRO removed pectoral fins from frozen ruffe collected in past years. Genetic information will be extracted from the fins. DNA sequences from this Great Lakes population will be compared to DNA sequences from native populations. The genetic variability will be used to determine risk assessment.

Anjanette Bowen, Alpena FRO



-USFWS photo by Anjanette Bowen

This invasive Eurasian ruffe was collected as part of a genetics study being conducted by Dr. Carol Stepien of the University of Toledo.

Public Use

Tourists Discover Pendills Creek

Pendills Creek NFH, though situated along the popular Lake Superior Circle Tour, is nonetheless considered to be “off the beaten path.” This summer; however, more than the usual number of visitors found their way to the hatchery, thanks in part to a reference on the U.S. Forest Service’s website about activities in the area near the Bay View Campground.

The unusually hot weather this summer that drove tourists and locals alike out to the beaches of Lake Superior is likely another reason for the increase in visitors to Pendills Creek. The hatchery owns 10 acres on the Lake Superior shoreline, which is one of the more popular public beaches in the Eastern Upper Peninsula.

In past years, the hatchery has had occasional visitors who just happened to see the entrance sign while driving by. These amounted to one to three families a week. This summer, especially during July, the hatchery averaged closer to three families a day. Being surrounded by the Hiawatha National Forest and dozens of dirt roads and trails means that these visitors are not only coming by car, but also by dirt bike and four-wheeler, and on horseback.

Administrative technician Debbie Jones has risen to the occasion, talking to visitors and answering questions when the biologists are busy with fish work. Over the weekend of July 30, Friends group president George Goetz spent a few hours each day talking with visitors. Summer usually means small tours to groups or simply answering questions; however, hatchery manager Curt Friez gave a tour to

about thirty campers in August, all international students and counselors who had been staying on nearby Sugar Island. Whatever the reason for the increased attention, the hatchery staff is proud to spread the message of lake trout rehabilitation in the Great Lakes.

Tracy Roessner, Pendills Creek NFH



-USFWS

Members of a women’s equestrian club from Lower Michigan stopped by the Pendills Creek NFH during their trail ride.

Hatcheries Participate in Maritime Days

Staff from Pendills Creek and Sullivan Creek NFH’s participated in Maritime Days in August, part of a summer-long celebration of the Soo Locks 150th Anniversary held in Sault Ste. Marie, Michigan.

The opportunity for the hatcheries to attend this special event came up in April 2005. While at the Sault Ste. Marie Spring Show, Maritime Days organizer Bonnie Barnes approached biologist James Anderson and asked if the Fish and Wildlife Service would be interested in attending the Soo Locks Maritime Days event. Anderson indicated that the hatchery would love to attend the event, since lake trout

are a big part of Great Lakes maritime history.

Anderson organized materials and displays with the help of Pendills and Sullivan Creek staff members, along with Jordan River NFH, Alpena FRO, Michigan Department of Environmental Quality, and Michigan Sea Grant. The public was treated to a display of live lake trout along with information about fish hatchery operations, lake trout propagation, aquatic invasive species, and sea lamprey. Anderson and administrative technician Debbie Jones fielded questions during the event.

One guest who was pleased to see the hatchery partaking in this historic event was former hatchery complex manager Pete Drake’s niece Linda, who was on the committee responsible for the Soo Locks 150th Anniversary Celebration. Maybe 50 years from now, when the 200th Anniversary is going on, the Fish and Wildlife Service will be attending and someone will come along and comment on how they worked for the hatchery or knew a relative or friend that did!

James Anderson, Sullivan Creek NFH



-USFWS

Biologist James Anderson speaks to a visitor to the Fish and Wildlife Service booth at Maritime Days held in Sault Ste. Marie, Michigan.

Lake Trout Make Road Trips to Fairs and Festivals

Who knew lake trout could drive? Well, maybe not drive themselves, but take chauffeured road trips. During the month of August, two two-year-old lake trout from Sullivan Creek NFH were busy flashing their fins to the public at the Upper Peninsula State Fair, Jordan River Hatchery Fest, and local outreach events attended by staff from Sullivan Creek and Pendills Creek hatcheries.

The first part of their road trip was to the Soo Locks 150th Anniversary Celebration attended by administrative assistant Debbie Jones and biologist James Anderson. Part 2 of the trip was participation in the Marquette Biological Station's Sea Lamprey Display at the Upper Peninsula State Fair. The fair is held each year in Escanaba, Michigan, during mid-August. As for the third and final stop, it was at the Jordan River Hatchery Fest. This was the second year for the festival, and each year Sullivan Creek has provided two-year old lake trout for the public to view. As a lake trout brood stock facility with lake trout of many different ages, Sullivan Creek a prime facility to provide larger fish for display purposes at outreach events.

James Anderson, Sullivan Creek NFH



-USFWS

An adult lake trout from the Sullivan Creek NFH makes an appearance at the Soo Locks 150th Anniversary event in Sault Ste. Marie, Michigan.

Lake Trout Take a Vegas Vacation

A small group of lake trout from the Sullivan Creek NFH made a visit to Las Vegas as part of the Great Lakes sea lamprey display from the Marquette Biological Station. Personnel from Marquette staffed the display at the International Convention of Allied Sportfishing Trades (ICAST) sponsored by the American Sportfishing Association and other partners.

This unique opportunity came about when biologist James Anderson contacted Terry Morse at the Marquette Biological Station to see whether the sea lamprey display was available for a possible outreach event that Pendills Creek and Sullivan Creek NFHs were attending. After several minutes of discussion, Terry asked if we could send him some small brood fish for ICAST. Anderson indicated that it was no problem and all he needed to know was where to send them. So Anderson went down to the raceways and asked if any of the fish wanted to go to Las Vegas. Three willing lake trout jumped right into the net with their Elvis wigs and sunglasses on, singing "Don't Step on My Blue Suede Fins."

The fish were held for two days inside the egg building without feed and perfected their Elvis impersonations. Assistant Manager Crystal LeGault-Anderson shipped them overnight to Las Vegas – where they arrived in 117-degree heat. Despite the temperature, the lake trout survived well in their chilled aquarium water in the sea lamprey display. After the show the lake trout were looking to get their fins on some chips – no, not the potato kind but the round plastic kind. Since once the fish leave the hatchery they cannot return, because of disease considerations, when the show was officially over it was announced that “the lake trout had left the building.”

James Anderson, Sullivan Creek NFH

Jordan River NFH “Hatchery Fest” Fun for All

On Saturday, August 20, Jordan River NFH held its second annual Hatchery Fest, sponsored by more than two dozen local businesses and community groups. More than a dozen state, Federal, and non-profit conservation and natural resource organizations provided displays, including the Michigan Department of Environmental Quality Water Division; Michigan DNR, Oden State Fish Hatchery and the Forest Management Division; Ducks Unlimited; Grass River Natural Area; Tip of the Mitt Watershed Council; Michigan United Conservation Clubs; Mancelona Bass Festival Committee; Iron River NFH; Alpena FRO; Ludington Biological Station; East Jordan Snowmobilers; National Wild Turkey Federation; Northland Sportsman's Club; and Bob Peterson-Great Lakes Fishing.

Wet weather did not dampen the spirits of the 100-plus who attended the event. The kids' games and contests were staffed by volunteers who did an outstanding job keeping up with the younger generation.

Perhaps the most popular booth display was provided by the Ludington Biological Station. Barry Matthews said that he attends many events per year—and it showed. Barry had a polished presentation on invasive sea lamprey in the Great Lakes, and the live sea lamprey larvae drew in many curious onlookers.

In addition, Donna Koltuniak volunteered her fly casting expertise. Her display also commanded the attention of most visitors, and Donna patiently provided instruction to youngsters and adults. Jordan River NFH biologist Tim Smigielski said of Donna, "She is already booked for next year's Hatchery Fest, she was just awesome, and I can't thank her enough."

Smigielski also noted, "It is Michigan, we were just lucky it didn't snow." Hatchery Fest 2006 is already in the works!

Tim Smigielski, Jordan River NFH



-USFWS

Rick Riley from Northland Sportsman's Club displays turkey hunting items and fields questions at Jordan River NFH's annual Hatchery Fest.

Schooner Provides Backdrop for Great Lakes Learning

The Inland Seas Education Association (ISEA) is a non-profit organization dedicated to teaching students of all ages about the science, history, and spirit of the Great Lakes. The ISEA offers education cruises aboard the schooners *Inland Seas* and *Manitou* and the friendship sloop *Liberty*, and tours of a new Inland Seas Education Center in Suttons Bay, Michigan.

The schooners visit many Great Lakes ports during the summer months and on August 5 and 6, the *Inland Seas* stopped in Ludington, Michigan. ISEA invited Fish and Wildlife Service employee Barry Matthews to participate as a volunteer instructor during the morning and afternoon sailings aboard the schooner. Instructors provided opportunity for everyone on board to gather information by collecting water and bottom samples, temperature (air and water) and atmospheric data, plankton, and fish. Students also assisted crew members in setting sail and steering the ship.

Later, students divided into five groups, each rotating to a different station until all had completed instruction in fish identification, seamanship, benthos organisms, water chemistry and plankton identification. Matthews joined the fish identification instructor to present information about the Sea Lamprey Management program to the students. His presentation included a live parasitic-phase sea lamprey which impressed all of the students as it wrapped itself around his arm. He discussed the, "what is it, and where did it come from?", as well as the animal's life cycle, current assessment, and control methods, and what the future may hold. The Sea Lamprey

Control program has a standing invitation to participate in any and all future ISEA activities.

Dennis Lavis, Ludington Biological Station



-GLFC

Barry Matthews from the Ludington Biological Station presents the Sea Lamprey Control program to students. The educational cruise was sponsored by the Inland Seas Education Association.

Bass Trend Upward at Necedah's Harvey's Pond

The La Crosse FRO has conducted late-summer fish surveys of Harvey's Pond at the Necedah NWR annually since 2001. Results of the 2005 electrofishing survey indicate that the abundance of largemouth bass has increased 30 percent during the past year and 40 percent since 2003. A bass tagged during the 2004 survey was recaptured during the recently completed survey and had grown two inches during the past year. These upward trends in the largemouth bass population follow the 2002 placement of six structures called fish cribs in what had been a structure-free pond and should provide many quality fishing opportunities for recreational anglers who visit the refuge.

Mark Steingraeber, La Crosse FRO

Cooperation with Native Americans

Sturgeon Telemetry Study Conducted in Western Lake Superior

Under a reimbursable agreement with the Grand Portage Band of Lake Superior Chippewa, and under the leadership and guidance of the 1854 Tribal Authority, Ashland FRO provided capture and equipment assistance for a lake sturgeon telemetry study in the St. Louis River, along the Minnesota-Wisconsin border. Historically, the St. Louis River supported a reproducing population of lake sturgeon. The population was eliminated by the early 1900s, and is currently being restored.

The goals of the radio tracking are to monitor movement and dispersal, and identify juvenile and sub-adult sturgeon habitat in the lower reach of the river, which empties into Lake Superior. Biologists Henry Quinlan and Gary Czypinski crewed Ashland FRO's 21-foot trawler, collecting a target goal of 25 juvenile/sub-adult lake sturgeon. Likely locations for lake sturgeon presence were obtained from previous trawl data collected by the USGS Lake Superior Biological Station. Using a predator trawl, designed to hold only large fish, Quinlan and Czypinski captured 33 lake sturgeon over five days, including two specimens over 20 pounds. Not all of the lake sturgeon captured in trawls fell within the target age classes. Some of the 25 specimens that were radio tagged were obtained from a Minnesota DNR annual assessment survey and from angler by-catch, which were occurring concurrent with the trawling. Biological Services Director Andy Edwards and other 1854 Tribal Authority biologists

attached the radio transmitters, and documented biological data. In support of a similar sturgeon recovery effort in the Pigeon River, Minnesota, and working with the Grand Portage tribe under the same agreement, Ashland FRO will attempt to capture 10 juvenile/sub-adult sturgeon for radio tracking from Pigeon Bay and the Pigeon River on the Minnesota-Canada border. *Gary Czypinski, Ashland FRO*



-USFWS
This radio-tagged lake sturgeon is part of the St. Louis River lake sturgeon telemetry study in cooperation with the Grand Portage Band of Lake Superior Chippewa and the 1854 Tribal Authority.

Fall Walleye Surveys Undertaken with Indian Fish and Wildlife Commission

Ashland FRO biologist Frank Stone began is assisting the Great Lakes Indian Fish and Wildlife Commission with an eight week project to determine recruitment levels of juvenal walleye. The objectives of these surveys are to estimate relative abundance of young-of-the-year walleye in 30 lakes of northern Wisconsin and Michigan. Data from these surveys will be used in conjunction with spring population estimates, to set safe harvest levels for the 2006 walleye spearing season.

The sampling effort takes place at night, when walleye activity is the highest and catch efficiency is

maximized. Using a boat electrofishing system, fish collection is relatively fast and efficient. Both length data and scale samples are collected. Catch per unit of effort values are calculated by dividing the number of fish collected by the total minutes of effort. These data reflect the lakes recruitment values and are combined with the spring population surveys to yield the information needed to help determine the number of adult walleye that can be safely harvested.

Frank Stone, Ashland FRO

Up a Creek with an Electrofishing Paddle

Jonathan Pyatskowit from the Ashland FRO assisted the Keweenaw Bay Indian Community in sampling two streams on the reservation for coaster brook trout. Kelsey and Little Silver (Zeba) creeks were sampled August 29 through 31, using Michigan DNR's stream status and trends program sampling protocol for fixed sites, designed to detect changes in the fish population over several survey cycles of 1,000 feet. The basis of a fixed site sampling scheme requires a mark and recapture population estimate for three years followed by three years off and then three years on. The stretch is electrofished one day and the brook trout marked with a caudal clip for identification during a subsequent recapturing event on day two. A population estimate can then be calculated from this information.

Captures included 30 brook trout in Kelsey Creek and 66 in Zeba. Biologists measured, weighed, and scale-sampled the fish, and collected tissue (the

caudal clip) for genetic analysis. All other fish caught were identified by species and counted (Kelsey had seven species and Zeba had 11). Habitat measurements were taken every 75 feet over the length of the site. Habitat work is done during year one and again in year seven, consisting of instream (discharge, width and depth, substrate, stream characteristic, and woody debris) and riparian (predominant vegetation, bank stability, and bank characteristic) measurements. Habitat characteristics are correlated with observed fish population estimates.

Jonathan Pyatskowitz, Ashland FRO

Alpena FRO Conducts 2005 Fishery Independent Lake Whitefish Survey

From July 11 to August 30, staff from the Alpena FRO conducted a fishery independent lake whitefish survey in 1836 Treaty waters of Northern Lake Huron. The goal of this survey was to collect fishery independent abundance and biological data of lake whitefish stocks in treaty waters for use in statistical-catch-at-age population models that are updated annually to determine harvest regulation guidelines for tribal commercial fishers in 1836 Treaty waters.

As dictated in the 2000 Consent Decree—a 20-year fishery allocation agreement for 1836 Treaty waters signed by the State of Michigan, United States, Bay Mills Indian Community, Sault Ste. Marie Tribe of Chippewa Indians, Grand Traverse Band of Ottawa and Chippewa Indians, Little River Band of Ottawa Indians, and Little Traverse Bay Bands of Odawa Indians—the Modeling Subcommittee (MSC) of the Technical Fisheries Committee

annually collects data and conducts model runs to determine lake whitefish guidelines for five management units in Northern Lake Huron. In 2002, the MSC identified fishery independent lake whitefish data as a critical information need. This survey meets the data need.

Using its 30-foot research vessel, Alpena FRO staff conducted 24 overnight, variable mesh gill net sets at randomly selected sites in lake whitefish management unit 4 (Alpena to Presque Isle) and lake whitefish management unit 5 (Presque Isle to Hammond Bay), as well as 12 overnight, variable mesh gill net sets legged 3 feet off the bottom. Alpena FRO is evaluating whether these legged nets increase lake whitefish catch and decrease lake trout by-catch. All lake whitefish collected were measured, weighed, checked for lamprey wounds, sexed, and assessed for maturity and visceral fat content. Non-target fish species were worked up in a similar manner. Scale and otolith samples were taken from each lake whitefish for age determination and removed stomachs whole.

Preliminary analyses show that lake whitefish catch rates were similar between bottom-set and legged nets; however, lake trout catch rates were significantly lower in legged nets than in bottom sets. Similar to 2004, 2005 lake trout catch rates were lower than in 2002 and 2003 when this survey was executed from mid-May to mid-June. This survey will continue annually and be tailored to meet needs identified by the subcommittee. All data from this survey will be compiled, maintained, and analyzed at the Alpena FRO.

Data collected in this survey will improve the accuracy of

population models used to set lake whitefish harvest guidelines in 1836 Treaty waters of Northern Lake Huron. Harvest limits allow fisheries to be executed while protecting the biological integrity of the stocks.

Aaron Woldt, Alpena FRO



-USFWS photo by Aaron Woldt
Staff from the Alpena FRO set a gill net as part of the 2005 fishery independent lake whitefish survey in Northern Lake Huron.

Getting Trained to Identify Tasty Fishes

At the Lake Superior Technical Committee meeting hosted by Bay Mills Indian Community on August 2, biologists provided training on identifying ciscoes, a species of concern in Lake Superior that is often confused with herring, bloater, and kiyi. The training provided an opportunity to handle these species and learn some of the physical characteristics from specimens. Unfortunately, smoked specimens were not provided for tasting comparisons. An identification exercise quantified individual's attempts to classify specimens that were identified by experts. This information will be used to further address the needs of agencies that may undertake work with these fish in the future.

Jonathan Pyatskowitz, Ashland FRO

Leadership in Science and Technology

New Sampling Gear Used to Collect Lake Sturgeon

With funding provided by DTE Energy, biologists from Alpena FRO and Michigan DNR Lake St. Clair Research Station purchased trammel nets and tested them in the St. Clair River.

Trammel nets have been successfully used by commercial fishers and biologists to capture, virtually unharmed, a wide variety of species and sizes of fish in large rivers such as the Mississippi and Missouri.

The goal of this demonstration effort was to collect juvenile lake sturgeon that were less than three years old. During the past decade, efforts to collect young sturgeon in the St. Clair River have utilized setlines with smaller hooks. Fewer than 25 juvenile lake sturgeon have been captured, with no young-of-year lake sturgeon captured after nine years of sampling.

Trammel nets can best be described as a small mesh gill net sandwiched between two large mesh gill nets; however, unlike gill nets, trammel nets do not typically gill the fish. Instead, the fish get caught in a pocket formed by the smaller inner mesh as they try to swim through. The trammel nets we used had a one-inch inner mesh surrounded by eight-inch outer panels. The nets can be fished in a number of ways such as anchoring or allowing the nets to drift with the current. Researchers on the large rivers have had the best results drift fishing the nets along river bottoms. One of the hazards to fishing the nets in that fashion is that they are prone to snagging debris along the river bottom.

First attempts at sampling using the trammel nets focused on areas where juvenile lake sturgeon

have been captured in the past. After a day of sampling and approximately 15 attempted transects, only one large lake sturgeon was captured. Some of the results can be explained by the number of snags that were encountered. The longest distance that the nets traveled before hooking a snag was only 219 yards, and in approximately half of the transects, large numbers of zebra mussels were encountered which resulted in fouled nets. Another explanation may be the clarity of the water. The North Channel of the St. Clair River has a higher relative clarity than would be expected in systems like the Mississippi or Missouri rivers and as a result, the fish may simply be avoiding the nets.

In August, researchers from Alpena FRO and USGS Great Lakes Science Center (GLSC) used side-scan sonar to map the North Channel, providing some insight on the best locations where the trammel nets can be deployed with minimal chances of getting snagged. Future efforts will focus on those locations of the river. This sampling effort allowed researchers from various agencies to share information about different sampling techniques. The Fish and Wildlife Service's goal is to continue working with partners from the GLSC, Michigan DNR, along with corporate sponsors. New sampling techniques will be tested to better understand the basic habitat needs of lake sturgeon in this system.

James Boase, Alpena FRO



-USGS photo by Bruce Manny
A lake sturgeon is gently released after capture in a trammel net in the St. Clair River. This type of net is being tested since captured fish are unharmed.

Local Anglers Assist with Lake Sturgeon Diet Study

Using funding from DTE Energy, biologists from Alpena FRO and Michigan DNR Lake St. Clair Research Station teamed up to study the diet of lake sturgeon captured in the North Channel of the St. Clair River. The study was designed as a pilot project to help researchers get a better understanding of what foods make up lake sturgeon diet in this system. Although many lake sturgeon have been collected in the St. Clair River, no diet information had been collected.

Recent research indicates that lake sturgeon reside in the St. Clair River year round, occupying areas of the river that are composed primarily of sand and hard-pan clay. Collection of benthic samples in those areas revealed few aquatic organisms with the exception of invasive zebra mussels. Lake sturgeon are opportunistic feeders and will consume a wide variety of foods. The purpose of this pilot project was to determine whether lake sturgeon were taking advantage of the abundance of zebra mussels found in the system.

In the past, lake sturgeon were captured in the St. Clair River on setlines fished over a 24-hour period. No diet information could be collected from those fish because during that 24-hour period, they digest most food items. To avoid those problems, this study solicited the help of local recreational anglers to capture lake sturgeon using hook and line. As soon as a fish was landed, researchers were on hand to pump the stomach and collect diet information.

The study was to take place over two weekends during July. The first date was scheduled on July 16, the opening day of lake sturgeon fishing for Michigan waters, but was canceled due to foul weather. The second weekend was July 29 and 30 using six boats. Seven lake sturgeon ranging in size from 28 to 53 inches were collected during the two nights of fishing.

The six boats helping with the study fished at various locations along the ten-mile length of the North Channel. Boat captains notified the research boat for transfer of the fish when a fish was hooked and landed. Biologists on the research boat then collected information about the fish, including length, weight, girth, and fin ray (for age and genetics). Then the fish were tagged with both an internal and an external marker. Diet information was obtained by first placing the fish in a large plastic tub, inserting a small pliable plastic hose down the gullet of the fish and flushing the stomach contents with water.

All anglers that participated in the project received ball caps made for the event. The event was covered by the media with articles appearing in various local news papers (<http://www.mlive.com/sports/statewide/index.ssf?/base/>

sports-0/112423020764270.xml&coll=1) during the month of August. Following the event, anglers were asked to participate in the Michigan DNR Angler Diary Program.

James Boase, Alpena FRO



-USFWS photo by James Boase
Anglers were recruited on the St. Clair River for a lake sturgeon diet study. Captured fish were tagged and released after diet samples and biological measurements were taken.

Great Lakes Lake Sturgeon Tagging Database Web Portal

Anjanette Bowen from the Alpena FRO has developed a draft Internet portal website that contains Great Lakes lake sturgeon tagging data in August. The portal allows researchers to enter passive integrated transponder tag numbers or external tag information recovered from lake sturgeon they have captured. The website processes the tag information in the database and provides a list of contacts that have tagged or handled that particular sturgeon. The researcher can then use the contact information to report the catch or gather more information on the fish.

The FRO's in Ashland and Green Bay, Wisconsin; Amherst, New York; and Alpena, Michigan, have contributed their lake sturgeon tagging data and contact information for this initial draft version of the web portal. The portal will eventually house lake sturgeon tagging information from

many agencies and areas around the Great Lakes as a definitive source of lake sturgeon tag information. The goal is to network researchers capturing lake sturgeon around the Great Lakes.

The tagging database and web portal were developed through a grant written by Alpena FRO biologist Adam Kowalski and funded by the Great Lakes Fishery Trust. Information on the site has been developed in conjunction and cooperation with the Great Lakes FRO lake sturgeon coordinators. The final version of the portal will be available in late 2005. The Great Lakes Lake Sturgeon Tagging Database web portal will provide for inter- and intra-agency coordination of lake sturgeon tagging efforts around the Great Lakes.

Anjanette Bowen, Alpena FRO

Shipwrecks Found During Sonar Work in St. Clair River

While mapping the North Channel of the St. Clair River, biologists from Alpena FRO and the USGS Great Lakes Science Center (GLSC) in Ann Arbor, Michigan, discovered a Great Lakes shipwreck. The side-scan research taking place in the North Channel during the summer of 2005 is part of a collaborative effort between Alpena FRO and its partners to better understand the habitat needs of lake sturgeon in the Great Lakes. Alpena FRO, GLSC, Michigan DNR Lake St. Clair Research Station, Ontario Ministry of Natural Resources, and a number of non-governmental organizations have conducted lake sturgeon research projects in the waterways connecting lakes Huron and Erie since 1996. Information derived from mark-recapture and

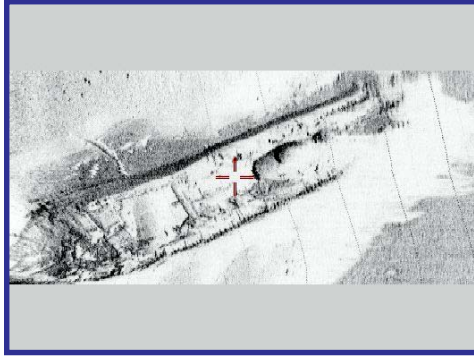
telemetry studies have indicated that the North Channel provides a habitat component important for lake sturgeon survival. In the headwaters region of the St. Clair River, shipwrecks were identified as important refuge areas for spawning sturgeon by providing breaks in the water current.

In 2004, Alpena FRO and its partners completed a lake sturgeon telemetry project studying the movement patterns of juvenile lake sturgeon in the North Channel. Preliminary results from the side-scan mapping indicate that the location where the shipwreck was recently discovered falls within the home range of a number of the fish studied in 2004.

Although the discovery of the shipwreck is an important piece of the research puzzle, the primary goal is to map the entire North Channel and define all of the habitat differences within the channel. What is not fully understood about the population of lake sturgeon that remain in the North Channel year round is what foods are available, and seasonal habitat and diet preferences.

After nearly a decade of research conducting telemetry and mark-recapture studies, no lake sturgeon have been found in waters less than 25 feet in the St. Clair River. Interestingly, the most diverse and productive invertebrate populations are in the shallowest areas of the river, yet lake sturgeon have never been documented as using those areas of the river. Preliminary results of the side-scan work indicate that lake sturgeon of all sizes are found over sand or hardpan clay habitats in the North Channel. Completion of this project should help clarify important habitats needed for the survival of lake sturgeon in this part of the Great Lakes.

James Boase, Alpena FRO



-USGS photo by Greg Kennedy
This shipwreck was found while performing side-scan research in the North Channel of the St. Clair River. The research is being conducted in cooperation with the U.S. Geological Survey to better understand the habitat needs of lake sturgeon in the Great Lakes.

Fish and Wildlife Service Personnel Map Larval Sea Lamprey Habitats

Personnel from the Marquette Biological Station, in conjunction with their Canadian counterparts from the Department of Fisheries and Oceans, completed the majority of larval sea lamprey habitat mapping surveys offshore of several key sea lamprey producing Great Lakes tributaries using a remote seabed classification device. This mapping technique is expected to save considerable time evaluating larval populations by producing probability maps of larval infestation based on the quality of substrates found during the field work. In addition, the habitats are stratified on probability and larval densities are estimated using only small amounts of granular Bayluscide (a specially formulated deepwater pesticide used in the Sea Lamprey Control program), supporting the Great Lakes Fishery Commission's Strategic Vision milestone to estimate sea lamprey contribution from all sources by 2005.

Michael Fodale, Marquette Biological Station

Fish and Wildlife Service and USGS Team Up on Telemetry

During the first week of August, biologists from the Columbia FRO attempted to recapture valuable shovelnose sturgeon from the Missouri River. These shovelnose sturgeon are especially important due to the ultrasonic transmitters implanted by the USGS prior to the spawning season. The transmitters allow USGS biologists to track the sturgeon and quantify their habitat use throughout the year. Along with location data, these tags collect depth data which may be important in identifying spawning habitat for this species.

Unfortunately, these tags must be retrieved from the fish to download the depth data.

Retrieval of fish should not be a problem since the crews know the location of the fish; however, catching a bottom dwelling fish in swift water filled with snags is not an easy task. Drifting trammel nets over the located fish is one method of recapture that has worked well in the past. One particular sturgeon, occupying a large snag in about 10 feet of swift water, eluded capture. When drifted, the net would hit the snag first, making the recapture of that individual impossible. Three crews attempted recapture of these sturgeon using trammel nets and gill nets over the course of a week. The Columbia FRO is dedicating time in October for this project once the Pallid Sturgeon Community Assessment and Mitigation Projects conclude. Additional gears, such as trawling, overnight set gill nets, and baited set lines (trotlines), will be employed to capture these important fish.

Andy Plauck, Columbia FRO

Aquatic Habitat Conservation and Management

Brilla Wetland Project Restores Four Sites

Construction has finished on the Brilla Wetland Project, a Partners for Fish and Wildlife Program project consisting of four restoration sites with a total of three wetland acres. Thirty-seven upland acres of grass waterfowl nesting cover were also protected under the agreement. The restored wetlands will provide nesting and brood rearing sites for species such as mallards, wood ducks, and blue-winged teal, and protected uplands will provide rest and refueling areas for many species of migrating waterfowl, shorebirds, and neo-tropical migrant songbirds. This project will enhance wildlife habitat on the Brilla family's entire dairy farm and surrounding countryside. A Wetland Development Agreement was signed to protect a total of 40 acres for a 10 years. After the design was complete, the construction contract was awarded to Dirt Doctor Incorporated and Susienka Farms, both of Mason, Wisconsin. The landowner contributed to the success of this project by assisting with equipment operation.

Ted Koehler, Ashland FRO



-USFWS

The Brilla Wetland project, funded through the Partners for Fish and Wildlife program, restored four wetland sites for a total of three acres.

Ashland FRO Creates Web Page on Designing and Building Stream Crossings

Thanks to a grant provided by the EPA Great Lakes National Program Office, Ashland FRO biologists Lee Newman and Frank Stone created a Web page to help in the design and installation of small culverts that allow fish passage. This new Internet site, http://www.fws.gov/midwest/Fisheries/stream_crossings/, provides an outline for general planning, design, and construction of stream crossings less than 20 feet wide. Suggested procedures were derived from the best practices recommended by public and private agencies and were selected to provide practical guidelines for designing long lasting, stable road crossings that will have minimum adverse affect on fish and their stream habitats.

Building a fish-friendly stream crossing requires an understanding of not only fishery biology but also of basic engineering and construction principles. Several pictures and a video illustrate perched culverts, under-sized culverts, and soil erosion issues. The objective in developing this web site was to provide future developers and equipment operators with a better understanding of how to properly size and install roadside culverts, and to stabilize the construction site. This information will provide the tools to plan and construct a fish-friendly fish passage structure that will be efficient, safe, and conducive to fish passage.

Frank Stone, Ashland FRO



Great Lakes Coastal Program 2005 Projects

The East Lansing Field Office and the Ashland FRO jointly administer the Fish and Wildlife Service's Great Lakes Coastal Program. Twenty-two projects were funded by the program in 2005—eight for planning and research, 12 for restoration, and two for outreach and education. As a result, approximately 951 acres of coastal fish and wildlife habitat will be enhanced, restored, or protected. Three miles of stream and 51 miles of coastal beach-line will also be enhanced, restored, or protected, and two fish passage barriers will be removed, opening 18 miles of habitat. Projects will affect lakes Erie, Huron, Michigan, and Superior, and the Detroit River.

One example of the 2005 projects is the Coastal Habitat Protection Project in partnership with the Wisconsin DNR. The project focuses on the protection and management of the Federally listed Pitcher's thistle and the dwarf lake iris. Working with private and public landowners, voluntary protection agreements will be secured, management plans formalized, and population monitoring conducted. Outreach and education will also be accomplished through working with landowners, landowner groups, newsletters, and presentations. Through the Coastal Habitat Protection Project and the rest of the excellent 2005 projects, the

Great Lakes Coastal Program works cooperatively to conserve trust fish, wildlife, plants, and their habitats on coastal lands and waters.

Ted Koehler, Ashland FRO



-USFWS

Approximately 951 acres of coastal fish and wildlife habitat in the Upper Great Lakes will be enhanced, restored, or protected from 2005 funds that were provided through the Coastal program.

Surveying on the Severance

Alpena FRO biologists Susan Wells and Heather Rawlings and student employee Andrea Gray surveyed a fish passage project site on Severance Creek in Antrim County, Michigan, that is funded under the 2005 Fish Passage program. Severance Creek is a tributary to the Jordan River, a state designated trout stream that has been classified as a Natural and Scenic River. The site contains a perched culvert that prohibits fish movement into the upper stretches of the system.

The crew took photos of the culvert site for later use in before/after comparisons, measured the gradient, and classified the substrate. Heavy vegetative growth prohibited a full longitudinal profile of the stream. The Antrim County Road Commission will be replacing the perched culvert with a bottomless structure in late fall and post construction surveys will be conducted in the spring of 2006 to document changes.

Susan Wells, Alpena FRO



-USFWS photo by Susan Wells

Alpena FRO staff survey Severance Creek in Antrim County, Michigan. A perched culvert that inhibits fish passage will soon be removed through Fish Passage program funding.

Crews Tour Black River Debris Placement Work

The student work crews for the Black River and Thunder Bay River watersheds were coordinated out of the Montmorency Conservation District Office in Atlanta, Michigan. Representatives from the Conservation District Office, Canada Creek Ranch, District Office board members, and Heather Rawlings from the Alpena FRO toured reaches of the Upper Black River on August 26 where the work crews had placed large woody debris in the river to improve fisheries habitat, and to remove sediment from the river channel. Approximately five river miles were improved with the placement of these structures. Roughly 95 percent of the structures were properly placed, and should benefit the watershed. A small number of the structures will require minor modifications this fall.

Native brook trout dominate in this ecosystem, and are the primary species that will benefit from this in-stream work. The Alpena FRO has been providing funding and technical assistance to the Black River and Thunder Bay River watersheds since 1998. *Heather Rawlings, Alpena FRO*



-USFWS photo by Heather Rawlings

This is one of several large woody debris structures placed on a five mile stretch of the Black River in Northern Michigan to improve fish habitat and remove sediment from the river channel.

The Little Ocqueoc Profiled

On August 31, biologist Susan Wells and personnel from Huron Pines Resource Conservation and Development (RC&D) surveyed a fish passage project on the Little Ocqueoc Creek in Presque Isle County, Michigan, funded under the 2005 Fish Passage program. The Little Ocqueoc is a tributary to the Ocqueoc River, a state-designated blue ribbon trout stream. The site contains twin perched culverts that prohibits fish movement into the upper stretches of the system.

The biologists conducted a full longitudinal profile encompassing 500 feet of stream reach, as well as a comprehensive pebble count to document substrate above and below the structure. Kris Bruestle from Huron Pines RC&D compiled the information into a program which drew the profile and calculated the dominate substrate. This survey will be duplicated right after the culverts are replaced with a bottomless structure by the Presque Isle County Road Commission this fall and again one year from the completed date. The Michigan DNR has provided historical fishery data for this area and has plans to return to this site for a fishery assessment within the

next two years. The fishery data combined with the morphological data will provide a comprehensive look at changes in the morphology and biology of system before and after the restoration project occurs.

Susan Wells, Alpena FRO



-USFWS photo by Susan Wells
Staff from the Huron Pines Resource Conservation and Development (RC&D) and Alpena FRO survey a fish passage project on the Little Ocqueoc Creek in Presque Isle County, Michigan.

Fish and Wildlife Service Tours Property Being Considered for Preservation

Alpena FRO Project Leader Jerry McClain participated in an August 10 tour of a 680-acre tract bordering Lake Huron's Thunder Bay. The tour was sponsored by the property owner and included participation by the National Oceanic and Atmospheric Administration's Thunder Bay National Marine Sanctuary, Michigan DNR, Michigan Department of Environmental Quality, The Nature Conservancy, National Audubon Society, Alpena County and Alpena Township, as well as a district aide for U.S. Senator Carl Levin and staff from State Representative Matt Gillard's office.

With the exception of the shoreline habitat, most of the property is densely forested with limited access or development. No survey of the flora and fauna has been completed since the property

has been closed to all but private hunting access. Follow-up discussion will take place between the State of Michigan and The Nature Conservancy who showed some interest in acquiring the property for preservation.

Jerry McClain, Alpena FRO

Coleman Creek is All Dammed Up

Scott Yess of the La Crosse FRO assisted the White Earth DNR on a fishery survey of Coleman Creek, a historic brook trout stream on the White Earth Reservation. Coleman Creek is spring fed, and the section of stream containing brook trout was less than one mile long. In recent years, beaver have built seven major dams along its reach, and no brook trout were sampled from this stream reach.

Recommendations to remove beaver dams, control the beaver population, and trail construction and maintenance are first steps to restore a brook trout population throughout Coleman Creek.

Scott Yess, La Crosse FRO



-USFWS
Scott Yess from the La Crosse FRO assisted the White Earth Reservation with a fishery survey of Coleman Creek. This historic brook trout stream has several large beaver dams that are negatively impacting the brook trout population.

Columbia FRO Biologists Serve on Regional Watershed Committee

In the spring of 2005, Region 3 assembled a committee to address issues relating to the implementation of a watershed based approach to some activities in the fisheries program. The committee contains representatives from the five fisheries offices within Region 3 and the Regional Office. Nick Frohnauer and Joanne Grady represent the Columbia FRO.

The committee broke its task down into three charges. The first charge was to find current or potential projects that displayed a watershed/geographical approach for potential funding on the national level and to help guide our development of a protocol for watershed plans. The second was to write a protocol for watershed plan development. The last charge was to revisit the current fish passage funding process.

Grady and Frohnauer are serving on the committees addressing charges 2 and 3. To date, there have been approximately ten conference calls to develop drafts for charge 2 and 3 protocols. Currently, charge 2 has a draft on preparing watershed/joint venture plans and is working on ranking criteria, gathering information, prioritizing watersheds, and approaching potential partners. Charge 3 has a process developed for year 2006 funding and will be adjusting it to fit more in the watershed plan for years thereafter.

Nicholas Frohnauer, Columbia FRO

Workforce Management

Youth Conservation Corps Provides Valuable Assistance

A Youth Conservation Corps (YCC) crew worked for three days in June and one day in August, providing valuable labor to the Iron River NFH. The YCC crew is partially funded by the hatchery and shared with the Whittlesey Creek NWR.

June activities focused on pruning, brush clearing, and stump removal along recently established hiking/ski trails throughout the hatchery property. The trail maintenance added to work already done by the Friends of The Iron River National Fish Hatchery earlier in the month.

August activities focused on helping hatchery biologists move fish from the hatchery building to the production building. The YCC Crew completed nearly 160 hours of labor during their visit. This continues to be an excellent program for the hatchery, and we really appreciate all of the hard work.

Kurt Schilling, Iron River NFH



-USFWS
The Youth Conservation Corps work crew at the Iron River NFH are hard at work clearing hiking trails.

Hocking College Provides “Super Student” for the Summer

On September 8, Jordan River NFH bid a fond farewell to student worker John O’Brien, a 48-year-old student pursuing his second career, who started working at the hatchery on June 20. Although John could not recite the scientific name of the lake trout on his first day, on day two he blurted out at the break table, “*Salvelinus namaycush*.” Though he mispronounced it, John definitely showed promise. At the end of it all, John experienced many aspects of hatchery operations including fish culture and administration. John was very enthusiastic and conscientious.

John’s wife Karima was instrumental in securing donations for the hatchery fest, working out of her house while nursing a knee injury she sustained in a car accident earlier this year. Both John and Karima fit in well at the hatchery. We all wish them the best in their future endeavors.
Tim Smigielski, Jordan River NFH

Jordan River Gets Quality Volunteer Work from Ex-Teacher

Retired teacher Bob MacCord from McBain, Michigan, has been volunteering at Jordan River NFH since July. Bob retired in June after a 32-year career as a teacher of environmental science at Comstock High School near Kalamazoo, Michigan. This spring, Bob was traveling in the Upper Peninsula. He stopped by the Pendills Creek NFH where he saw a sign for volunteer programs. So, Bob came to Jordan River (which is much closer to his home) and was welcomed with a tour by

biologist Tim Smigielski. Bob must have liked what he saw; he has been showing up weekly to do fish work and maintenance ever since.
Tim Smigielski, Jordan River NFH

Motorboat Operator Certification Course in Ashland, Wisconsin

Motorboat Operator Certification Course (MOCC) instructors Stewart Cogswell (Green Bay FRO), Adam Kowalski (Alpena FRO), Aaron Woldt (Alpena FRO), Tim Peiffer (Marquette Biological Station), Dick Steinbach (Mark Twain NWR), Bob Clevensine (Rock Island Field Office), Brian Pember (Upper Mississippi River National Wildlife and Fish Refuge), and Dave Wedan (La Crosse FRO) put on a three-day MOCC course in Ashland, Wisconsin, in August. The course is designed to give operational and safety training to Department of the Interior (DOI) employees who pilot watercraft. Topics covered during the course were: surviving in the water, using floatation devices correctly, anchoring, required and recommended equipment for DOI vessels, changing a propeller, properly connecting a boat trailer to a vehicle, towing a trailer with a vehicle, U.S. Coast Guard rules of the road, use of navigational aides, interpreting waves, tides, and weather, and proper boat handling. Eight-teen students successfully completed the course. Students reported that they learned a great deal and felt that this course was a great starting point for operating vessels. MOCC training is a valuable curriculum designed to make DOI personnel competent and safe boaters.

Adam Kowalski, Alpena FRO

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Windows in time

A Glimpse into our Proud Past

A confiscated shrimp trawler arrives in Cheboygan, Michigan, in 1985. The vessel is renamed the *M/V Togue* and is retrofitted to stock lake trout in the Great Lakes.

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