U.S. Fish & Wildlife Service

Fish Lines

Region 3 - Great Lakes/Big Rivers

Leadership in Conserving, Enhancing, and Restoring Aquatic Ecosystems

Cooperation with Native Americans

(Selected articles from 2004 and 2005 issues of *Fish Lines*)

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

Coordination with Tribal Governments

The area of the United States encompassed by the Great Lakes – Big Rivers Region of the U. S. Fish and Wildlife Service is home to 35 federally recognized tribes, bands, and communities, and 3 intertribal organizations. The fish, wildlife and natural resource interests of Native Americans in our Region cover large areas included under the Treaties of 1836, 1837, 1842 and 1854. These lands and waters contain a great diversity of plant and animal life managed under authorities of tribal governments and states.

The Federal Government, Department of Interior, and Fish and Wildlife Service, have trust responsibilities to assist Native Americans in protecting, conserving and utilizing their reserved, treaty guaranteed, or statutorily identified trust assets. The Service adopted a Native American Policy in 1994 with the express purpose to articulate the general principles that will guide the service's government-to-government relationship to Native American governments in the conservation of fish and wildlife resources.

For the Service's Region 3 Fisheries Program, the most important aspects of fulfilling trust responsibilities to tribes are to provide consultation, technical assistance, cooperative partnerships and training opportunities to Native American fish and wildlife professionals, consistent with the principles of tribal self-determination and self-governance.

Effective and efficient coordination with tribal natural resource programs is therefore one of our most important goals. We will hold regular coordination meetings with tribes and continue the more frequent communication that occurs between tribes, our Fishery Resources Offices, and National Fish Hatcheries, in planning and implementing conservation activities.

In order to establish the most direct and efficient lines of communication between tribes and the Service's Fishery Program in this Region, we have assigned each of our Fishery Resources Offices the lead responsibility for supporting the needs of several recognized Native American groups in the Great Lakes – Big Rivers Region, as outlined here.

-USFWS

Alpena FRO staff set experimental gill nets as part of the fishery independent lake whitefish survey in 1836 Treaty waters of Northern Lake Huron.

The Alpena FRO is responsible for working with:

Chippewa Ottawa Resource Authority

Bay Mills Indian Community
Match-E-Be-Nash-She-Wish Band of Potawatomi Indians of Michigan
Nottawaseppi Huron Band of Potawatomi
Pokagon Band of Potawatomi Indians
Saginaw Chippewa Indian Tribe of Michigan
Sault Ste. Marie Tribe of Chippewa Indians

For additional information, see the Region 3 Fisheries Operational Plan at:
http://www.fws.gov/midwest/Fisheries/library/R3_Operational%20Plan.pdf

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Ashland FRO and Fond du Lac Band staff are ready for a lake sturgeon assessment on the St. Louis River. Fin samples are taken from captured fish for genetic analysis.

-USFWS

Tribal Game Warden Matt O'Claire releases a sora rail. The Bad River Band of Lake Superior Chippewa Wildlife Department completed the second year of a 3 year study to assess sora, Virginia, and yellow rail populations in the wild rice dominated wetlands of the Kakagon/Bad River wetland complex.

-USFWS

White Earth Department of Natural Resources Biologist Will Bement holds a lake sturgeon that was caught in Round Lake on the White Earth Reservation. Lake sturgeon have been re-introduced on the reservation by the White Earth DNR, Fish and Wildlife Service, and others.

The Ashland FRO is responsible for working with:

Great Lakes Indian Fish and Wildlife Commission
1854 Authority

Bad River Band of Lake Superior Tribe of Chippewa Indians
Bois Forte (Nett Lake) Lake Superior Band of Chippewa Indians
Fond du Lac (Lake Superior) Band of Chippewa Indians
Grand Portage (Lake Superior) Band of Chippewa Indians
Keweenaw Bay Indian Community
Lac Courte Oreilles Band
Lac du Flambeau Band of Lake Superior Chippewa Indians
Lac Vieux Desert Band of Lake Superior Chippewa Indians
Leech Lake Band of Ojibwe
Mille Lacs Band of Ojibwe
Red Cliff Band of Lake Superior Chippewa Indians
Red Lake Band of Chippewa Indians
St. Croix Chippewa Indians of Wisconsin
Sokaogon Chippewa (Mole Lake) Community of Wisconsin

The Green Bay FRO is responsible for working with:

Forest County Potawatomi Community
Grand Traverse Bay Band of Ottawa and Chippewa Indians
Hannahville Indian Community
Little River Band of Ottawa Indians
Little Traverse Bay Bands of Odawa Indians
Mohican Nation Stockbridge-Munsee Band
Oneida Tribe of Indians of Wisconsin

The LaCrosse FRO is responsible for working with:

Ho-Chunk Nation
Lower Sioux Indian Community in Minnesota
Menominee Indian Tribe of Wisconsin
Prairie Island Indian Community
Sac and Fox Tribe of the Mississippi in Iowa
Shakopee Mdewakanton Sioux Community
Upper Sioux Community of Minnesota
White Earth Band of Chippewa

List of Acronyms

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

Fiscal Year 2005

Coaster Brook Trout Planted in the Keweenaw

Biologist Steve Redman from the Iron River NFH recently stocked coaster brook trout with assistance from personnel of the Keweenaw Bay Tribal Resources Department. The crew stocked three tribal tributary streams of Lake Superior with two- to three-inch fingerling coaster brook trout reared at the Iron River NFH. Kelsey Creek and Zeba creeks each received 7,500 fingerlings and the Silver River was stocked with 15,000 fingerlings. All stocked fish had been marked with oxytetracycline and fin clipped at the hatchery prior to release. Marking allows biologists to monitor the status of the coaster brook trout in these habitats.

Since 1997, the Keweenaw Bay Indian Community and the Fish and Wildlife Service have been coordinating this annual event as part of the rehabilitation plan for Lake Superior coaster brook trout. The combined efforts have led to continued monitoring of coaster brook trout status, distribution, movement, and abundance of re-introduced fish. Along with these accomplishments, the tribe has also acquired additional land, performed stream habitat improvements, and removed barriers that impact coaster brook trout rehabilitation.

Steve Redman, Iron River NFH (Fiscal Year 2005; Vol. 3 No. 12)

-USFWS

Personnel from the Keweenaw Bay Tribal Resources Department stock fingerling coaster brook trout that were provided by the Iron River NFH. Three Lake Superior tributary streams were stocked with 22,500 fish as part of a rehabilitation plan for the Keweenaw Bay Indian Community.

Alpena FRO Assists the Chippewa Ottawa Resource Authority with Walleye Assessments

Biologist Scott Koproski assisted the Chippewa Ottawa Resource Authority (CORA) with its annual juvenile walleye assessment of the St. Marys River near Sault Ste. Marie, Michigan, in September. Using the Alpena FRO's electrofishing vessel, Koproski and two CORA staff sampled four locations in the St. Marys River system (Waiska Bay, Lake Nicolet, Lake George, and Sugar Island Side Channel). The objective of this work is to determine the percent contribution of hatchery-reared walleye to the St. Marys River walleye population and to index juvenile walleye abundance. Hatchery stocked walleye are immersed in oxytetracycline (OTC) prior to release, leaving them with marks on calcified structures like otoliths and vertebrae that can be detected in the lab. Data collected will also be used to determine appropriate stocking levels and stocking locations for this system. Staff from the Alpena FRO has been assisting CORA with this walleye assessment for the past 13 years.

Walleye are both a recreationally and commercially important species in 1836 Treaty waters. The Alpena FRO will continue to evaluate stocking success by CORA in the future, which will benefit the resource and all harvesting parties.

Scott Koproski, Alpena FRO (Fiscal Year 2005; Vol. 3 No. 12)

-USFWS

Walleyes were the focus of an assessment in 1836 Treaty waters. Alpena FRO assisted the Chippewa Ottawa Resource Authority with their annual juvenile walleye assessment of the St. Marys River.

Fish and Wildlife Service Biologist Chairs Subcommittee Meeting

Biologist Aaron Woldt of the Alpena FRO attended and chaired the September meeting of the Modeling Subcommittee of the Technical Fisheries Committee. The primary focus of this meeting was to generate preliminary 2006 harvest limits for lake whitefish management units in 1836 Treaty waters of lakes Huron, Superior, and Michigan, although the group discussed other technical matters as well. As stipulated in the 2000 Consent Decree, preliminary lake whitefish harvest limits must be calculated by the subcommittee, reviewed by the committee, and presented to the parties to the decree by November 1 each year.

In addition to performing lake whitefish model analyses, Woldt ran the modeling subcommittee meeting, ensuring that the group discussed all agenda items and kept meeting minutes. A preliminary draft of the meeting minutes was mailed to subcommittee members for review.

Preliminary lake whitefish harvest limits were presented to the Technical Fisheries Committee for review on October 4. The subcommittee will complete final lake whitefish harvest limits and present them to the committee at its December 2 meeting. Harvest limits produced at this meeting, when approved by the parties, will become binding 2006 lake whitefish harvest limits for 1836 Treaty waters. These harvest limits will allow lake whitefish fisheries to be executed while still protecting the biological integrity of the lake whitefish stocks.

Aaron Woldt, Alpena FRO(Fiscal Year 2005; Vol. 3 No. 12)

Brook Trout Run for the Border

On August 15, 46,000 coaster brook trout fingerlings found themselves on the way to Grand Portage, Minnesota. Iron River NFH supplied the coaster fingerlings to the Grand Portage tribe as part of a new restoration plan. Of the total, 11,000 Tobin Harbor strain coaster brook trout were stocked into Grand Portage Creek and 35,000 Siskiwit Bay strain coaster brook trout were driven nearly to the United States/Canada border check station, and then down a dirt road to where they were stocked into the Pigeon River. The Pigeon River helps to form part of the international border and flows into Lake Superior.

Angela Baran, Iron River NFH (Fiscal Year 2005; Vol. 3 No. 12)

Midwest Tribal Aquaculture Network Features Fish Ponds

The Ashland FRO has the distinction of providing technical assistance for the development of numerous tribal fish hatchery programs. One contribution to these programs is publication of a quarterly newsletter, the Midwest Tribal Aquaculture Network (MTAN), which is dedicated to assisting tribal hatchery programs by sharing cool/cold water fish culture information. The most recent addition of the MTAN (Volume 53) is now available on the Internet at http://www.fws.gov/midwest/ashland/mtan/mtanhome.html. This quarter's newsletter discusses repairing fish pond levees, renovating leaky ponds, a new and innovative aerator system, and reference material from the American Fisheries Society.

The MTAN has been assisting tribal fish hatchery programs for the past 13 years. The reward from this kind of technical assistance is in knowing we are providing information that enables hatchery programs to better use their resources and provide a healthier product for the fishery. The MTAN has also helped to educate fish hatchery workers and direct them to other areas of opportunity so they can better research their specific needs. Previous issues of the MTAN newsletters are also accessible at the above web site.

Frank Stone, Ashland FRO (Fiscal Year 2005; Vol. 3 No. 12)

The Midwest Tribal Aquaculture Network (MTAN) is dedicated to assisting tribal hatchery programs by sharing cool/cold water fish culture information.

Fish and Wildlife Service Provides Assessment Training to Tribal Biologists

Biologists from the Great Lakes Indian Fish and Wildlife Commission, Bad River, and Red Cliff fisheries departments attended a stock assessment modeling workshop at the Ashland FRO. The participants saw presentations on fishery modeling methods and harvest policies, and learned how to use AD Model Builder software through a series of guided exercises. John Netto of the Green Bay FRO led the workshop activities while Glen Miller and Henry Quinlan from the Ashland FRO handled the logistics.

John Netto, Green Bay FRO (Fiscal Year 2005; Vol. 3 No. 12)

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 (Fiscal Year 2005; Vol. 3 No. 11)

-USFWS
This radio-tagged lake sturgeon is part of the St. Louis River lake sturgeon telemety 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 (Fiscal Year 2005; Vol. 3 No. 11)

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 Pyatskowit, Ashland FRO
(Fiscal Year 2005; Vol. 3 No. 11)

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
(Fiscal Year 2005; Vol. 3 No. 11)

-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 Pyatskowit, Ashland FRO
(Fiscal Year 2005; Vol. 3 No. 11)

Lake Whitefish Population Assessment Conducted

Ashland FRO conducted lake whitefish assessments on Lake Superior out of Grand Marais, Michigan, in July. Crews set gill nets along six randomly selected transects perpendicular to the shoreline. The areas surveyed include Grand Marais, Blind Sucker Creek, and Deer Park. Information obtained is used by agencies to manage the commercial and recreation harvest of lake whitefish, evaluate abundance and fish health, and gain a broader understanding of the lake whitefish ecological role in Lake Superior. Biological data collected by species caught included length, weight, sex, sea lamprey marks, ageing material, and stomach (diet) samples. These surveys are coordinated by the Technical Fisheries Committee formed by the 2000 Consent Decree for 1836 Treaty waters. Cooperators on this effort include the Ashland FRO, Bay Mills Indian Community, Chippewa-Ottawa Resource Authority, Michigan DNR, Pictured Rocks National Lakeshore, and Grand Marais Coast Guard Auxiliary.
Glenn Miller, Ashland FRO (Fiscal Year 2005; Vol. 3 No. 10)

-USFWS
Ashland FRO staff conducted lake whitefish assessments on Lake Superior. Henry Quinlin examines a lake trout that was also captured.

Ashland FRO Reads Oxytetracycline Marks

Frank Stone completed a brook trout evaluation project involving stocked fish from the Keweenaw Bay Tribal Fish Hatchery. The Ashland FRO received ten lots of fish to determine the presence of an oxytetracycline (OTC) mark. The 137 fish comprising this sample were collected from both hatchery-reared fish (control group retained at the hatchery) and wild fish collected during previous fishery assessments. After examining all ten lots, Stone sent a summary report to the Keweenaw Bay Indian Community. Of special interest is that several lots of wild fish showed an OTC ring on their otoliths. The conclusion was that these fish were released from the Keweenaw Bay Indian Fish Hatchery and have successfully survived into the next growing season.

A means of evaluating stocked hatchery-reared fish is an important facet of fishery management; however, the actual contributions that stocked fish provide to a fishery are often unknown. The information gained from this project will give fishery managers a better means of estimating the survival of stocked brook trout fry/fingerlings.

The treatment procedure with OTC, an antibiotic, involves keeping the fish in a small holding tank containing 700 parts per million of OTC for eight hours. During the treatment period, the OTC is incorporated into the bony structures of the fish. When these structures (otolith) are viewed using a microscope and ultraviolet light, an OTC mark will be noted as a yellow-gold band within the otolith. The use of OTC will hopefully serve as an inexpensive fish marking tool that will allow future assessments efforts to verify the recruitment levels of brook trout that originated from hatchery programs.
Frank Stone, Ashland FRO (Fiscal Year 2005; Vol. 3 No. 10)

Green Bay FRO Surveys Whitefish in Eastern Lake Michigan

The Green Bay FRO recently completed its annual gill net surveys to monitor lake whitefish near Frankfort and Elk Rapids, Michigan. These surveys are part of a larger, multi-agency effort to collect fishery-independent data on lake whitefish populations within the 1836 ceded territory waters of Lake Michigan. Unlike commercial fishing operations, the fishery-independent surveys incorporate a statistical design that can provide fishery managers with more accurate depictions of fish abundance and population age structure than would be available from commercial fishery data alone. As outlined in the Consent Decree of 2000, statistical catch-at-age models incorporate both sources of data to calculate harvest quotas for the lake whitefish management units within treaty waters of lakes Michigan, Huron, and Superior.
Dale Hanson, Green Bay FRO (Fiscal Year 2005; Vol. 3 No. 10)

Lake Superior Brook Trout Assessment for the Keweenaw Bay Indian Community

Glenn Miller and Frank Stone conducted two brook trout assessments along the shore of Keweenaw Bay and Huron Bay at the Keweenaw Bay Indian Community. The objectives of this project were to detect changes in abundance of wild and stocked coaster brook trout, describe the biological characteristics of coasters (length, weight, and age), collect tissue samples for genetic analysis (for source population assignment), and describe the abundance of other salmon and trout species within the project area.

Conducted after sunset, the survey used an electrofishing boat. During four nights of work, Miller and Stone sampled approximately 17 miles of shore in two trips. While only brook trout were to be collected during these surveys, they observed other fish species and recorded them as few, common, or abundant. This survey is part of a Lake Superior plan to restore coaster brook trout in Lake Superior. The data collected from these ongoing surveys will help tribal and Fish and Wildlife Service resource managers develop long term management plans for this important resource.
Glenn Miller, Ashland FRO
(Fiscal Year 2005; Vol.3 No. 9)

-USFWS
Populations of adult coaster brook trout are held in National Fish Hatcheries to provide fertilized eggs for various restoration programs in the Lake Superior watershed. Biologists are assessing locations to detect changes in the abundance of wild and stocked fish.

Ashland FRO Biologist Assists with Evaluation, Scoring of 2005 Tribal Grants *(Tribal Grant)*

Frank Stone from the Ashland FRO participated on a six-member team to discuss the scoring process for the Fish and Wildlife Service's 2005 Tribal Wildlife Grants (TWG) and Tribal Landowner Incentive Program (TLIP). The team aimed to define problem areas in scoring submissions before the top ranked proposals were presented for national ranking. A total of 25 TWG and 3 TLIP proposals were submitted for regional review. All of the TLIP proposals were forwarded for the national review process. The average regional score for the TWG proposals was 70 points. Under the consensus of the team, the 16 projects that scored at or above this average were forwarded to the national review team for a competitive selection process among all seven regions.

Stone also assisted the Regional Tribal, Liaison John Leonard, in scoring all tribal grants submitted by tribes throughout the United States, reviewing 47 grant proposals (33 – TWG and 14 – TLIP).

Although the list of accepted grants has yet to be finalized, tribal resource programs throughout the United States will soon be receiving the financial help they need to initiate their programs. The TWG and TLIP programs will provide new funding opportunities to tribes for activities that protect and restore habitats that will benefit fish and wildlife species of tribal significance. These grant programs also support the efforts of tribal governments to develop or augment the capacity to manage, conserve, or protect fish and wildlife species of concern through the provision of additional funding and technical support.
Frank Stone, Ashland FRO
(Fiscal Year 2005; Vol. 3 No. 9)

The **Tribal Wildlife Grant Program** supports federally recognized Indian tribes to develop and implement programs that benefit wildlife and their habitat, including non-game species on tribal lands. The Service has approximately $5.98 million available for this program in 2005 and will fund 28 of the 121 proposals submitted. These selected grants represent 28 tribes in 16 states.

The **Tribal Landowner Incentive Program** supports federally recognized Indian tribes to protect, restore, and manage habitat to benefit species at-risk, including federally listed endangered or threatened species, as well as proposed or candidate species on tribal lands. The Service has approximately $2.14 million available for this program in 2005 and will fund 17 of the 35 proposals submitted. These selected grants represent 17 tribes in 11 states.

Largemouth Bass Transferred to Lighthouse Pond for Tribal Fishery

Frank Stone from the Ashland FRO recently completed a fish transfer for the Keweenaw Bay Indian Community (KBIC). Using a boat electrofishing system and with the help of KBIC staff members Evelyn Ravindran and Gene Mensch, Stone collected 50 largemouth bass (12-16 inches) and transferred them from Sandy Lake into Lighthouse Pond. The KBIC provided a fish hauling tank complete with an aeration system that ensured the fish arrived at Lighthouse Pond in excellent condition.

The KBIC and Tribal Biologist Todd Warner are interested in developing Lighthouse Pond into a family-oriented largemouth bass fishery. Currently, the surrounding area is used for picnicking and numerous tribal activities, including a yearly Pow-Wow. Because of the proximity of the lakes to this recreation area, the KBIC has initiated management plans with the Fish and Wildlife Service and the Michigan DNR to enhance this fishery. Lighthouse Pond is subject to winter kill conditions and options for enhancing the angling potential are limited. The option now being developed is to manage the lake as a catch and release fishery for children and elders.

Frank Stone, Ashland FRO
(Fiscal Year 2005; Vol. 3 No. 8

-USFWS
Evelyn Ravindran from the Keweenaw Bay Indian Community releases largemouth bass into Lighthouse Pond to develop a family oriented fishery near a picnicking and meeting area.

Genoa NFH Assists Tribes in Fisheries Management Programs

(Tribal Grant)

Spring means more than having to get out the lawnmower again. At Genoa NFH, spring also means that fish distribution season collides with a number of different fish and mussel reproductive cycles. Through all of this, hatchery staff also cultured more than 27,000 coaster brook trout, rainbow trout and lake sturgeon to assist five Midwestern tribes with two restoration programs and three recreational fishing programs.

Lake sturgeon was historically important to Midwestern tribes, both culturally and as a food source, during the spring spawning migration. Through habitat restoration and restocking, lake sturgeon are making a comeback on two tribal waters where they have been absent for nearly 100 years. Dam construction was a major reason for sharp declines in sturgeon populations. Sturgeon use rivers as spawning and nursery habitat, and require access to these areas to reproduce successfully.

Coaster brook trout were once abundant on the south shore of Lake Superior, but as a result of habitat destruction, over-fishing and the introduction of invasive sea lampreys, entire stream populations of brook trout were extirpated. Genoa is currently stocking two different life stages of coaster brook trout for the Grand Portage reservation in Northern Minnesota to determine the optimum stocking size to maximize survival. The hatchery supplied surplus rainbow trout, initially being raised for the Department of Army, to three area tribes to increase recreational fishing opportunities on tribal waters. Fishery resources offices play a large role in acting as a liaison between the Fish and Wildlife Service and the tribes, and incorporate fishery management plans on all stocking requests to ensure sound biology.

Doug Aloisi, Genoa NFH
(Fiscal Year 2005; Vol. 3 No. 8)

Alpena FRO Assists Huron Potawatomi with Wildlife Management Planning

(Tribal Grant)

Biologist Ben Skarp, with the Huron Potawatomi Tribe in Southwest Michigan, contacted the Alpena FRO for assistance. Skarp received funds through the Fish and Wildlife Service's Tribal Wildlife Grant program to develop a tribal wildlife and habitat management plan for the Tribe. Jerry McClain provided guidance to existing fish and wildlife management plans that will help Skarp develop his planning documents. Alpena FRO is Region 3's lead field station for assistance to the Huron Potawatomi Tribe and Skarp was given McClain's name by John Leonard, Region 3 Native American Coordinator.

Jerry McClain, Alpena FRO
(Fiscal Year 2005; Vol. 3 No. 8)

Lake Sturgeon Fin Clips Taken for Fish Health Analysis

Scott Yess from the La Crosse FRO traveled to Baudette, Minnesota, in April to collect 30 lake sturgeon fin clips for a fish health analysis, the first stage of the annual effort to restore lake sturgeon to the White Earth Reservation and the Red River watershed. A fisheries crew for the Minnesota DNR collected the 30 sturgeon from anglers and tagged the fish with Carlin tags in an effort to determine a population estimate. The fish were in a holding pen prior to tagging and fin clipping. Becky Lasee at the La Crosse FHC will test the fin clips for the Irido Virus. This test must be negative prior to transporting lake sturgeon eggs to Genoa NFH.

If the viral tests are negative, staff from the La Crosse FRO and White Earth DNR will assist Joe Hunter of Rainy River First Nations (Canada) with lake sturgeon spawning. The eggs will then be raised to fingerlings approximately 6 inches long at Genoa NFH and stocked on the White Earth Reservation.
Scott Yess, La Crosse FRO
(Fiscal Year 2005; Vol. 3 No. 7)

-USFWS

Scott Yess (left) from the La Crosse FRO works with Tom Heinrich, Minnesota DNR, to obtain a fin clip from a lake sturgeon to test for the irido virus. This test must be negative prior to transporting eggs to the Genoa NFH.

Ashland and La Crosse FROs Assist Great Lakes Indian Fish & Wildlife Commission with Spring Walleye Surveys

Staff from fishery resource offices in Ashland and La Crosse assisted the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) this spring with several walleye population surveys to estimate spawning populations of adult walleyes in Wisconsin lakes and collect fish for mercury testing from lakes in Northern Michigan. Walleye population estimates are used to set safe harvest levels, on which tribal harvest quotas are based.

Dave Wedan and Scott Yess of the La Crosse FRO and Frank Stone and Jonathan Pyatskowit from the Ashland FRO assisted in Northern Wisconsin this year. Weather conditions were fairly good during the ten-day spawning run. The team, composed of four GLIFWC boats, two Fish and Wildlife Service boats and a St. Croix Biology Department boat, tagged several thousand walleye. The majority of the fish were males in the 10- to 18-inch range.
Frank Stone, Ashland FRO
Scott Yess, La Crosse FRO
(Fiscal Year 2005; Vol. 3 No. 7)

-USFWS

Frank Stone and crew prepare their boat for a night of electrofishing for walleyes. Information gathered from these surveys will be used to set walleye harvest quotas in Northern Wisconsin. The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) requested assistance from the La Crosse and Ashland FRO's for the survey. Pictured are (left to right) Frank Stone (Ashland FRO); Lewis Plucinski and Shane Cramb (GLIFWC).

Technical Fisheries Committee Submits Recommended Lake Trout Harvest Limits for 2005

The Technical Fisheries Committee (TFC) met twice during the month of April to produce lake trout harvest limits for 2005 tribal commercial and state recreational fisheries in 1836 Treaty waters of lakes Superior, Michigan and Huron. Alpena FRO Project Leader Jerry McClain (TFC chair) and Treaty Fisheries Unit Leader Aaron Woldt, Modeling Subcommittee (MSC) co-chair, attended the meetings. On April 6, the TFC met to review preliminary harvest limits produced by the MSC and discuss lake trout population trends in the respective lake trout management units. On April 27 the committee approved the final harvest limits for the upcoming season. Using the most current and statistically valid assessment and harvest data available, the MSC uses Statistical Catch at Age Modeling to produce recommended safe harvest limits for the upcoming fishing season. McClain mailed the final harvest limit recommendations to the Parties on May 11. Interagency participation in the Modeling Sub-Committee and the Technical Fisheries Committee ensures cooperation and agreement for establishment of safe harvest limits for lake trout.
Jerry McClain, Alpena FRO
(Fiscal Year 2005; Vol. 3 No. 7)

Lake Sturgeon Restoration Program is Off and Running!

(Tribal Grant)

Spring has sprung on the rivers in Central Wisconsin and that means lake sturgeon are making their annual spawning runs in the larger tributaries of Lake Winnebago and the Mississippi and Wisconsin River systems. Genoa NFH is once again collecting gametes from this ancient species for restoration efforts across the Upper Midwest. Crews from Genoa began collecting fertilized eggs in mid-April as part of a cooperative project involving the Fish and Wildlife Service, Menominee Nation of Wisconsin and Wisconsin DNR to restore lake sturgeon populations on the Menominee Reservation in Northeast Wisconsin.

This long-term restoration program, which has been in place since the mid 1990s, has produced thousands of fingerling lake sturgeon for tribal waters. In addition to this program, Genoa NFH produces tens of thousands of fingerling lake sturgeon annually for restoration programs in Northern Minnesota and Missouri involving multiple state and tribal cooperators.

Roger Gordon, Genoa NFH
(Fiscal Year 2005; Vol. 3 No. 6)

-USFWS

Roger Gordon (center) from the Genoa NFH collects lake sturgeon eggs in a project involving the Menominee Nation and Wisconsin DNR.

Service Biologist Co-Chairs Modeling Subcommittee Meeting for 1836 Treaty Waters

Biologist Aaron Woldt from the Alpena FRO and Shawn Sitar from the Michigan DNR co-chaired the March meeting of the Modeling Subcommittee (MSC) of the 1836 Treaty Waters group's Technical Fisheries Committee (TFC). The primary focus of this meeting was to generate preliminary 2005 harvest limits for lake trout in 1836 Treaty waters of lakes Huron, Superior and Michigan. As stipulated in the 2000 Consent Decree, preliminary lake trout harvest numbers must be calculated by the MSC, reviewed by the TFC, and presented to the parties to the decree by March 31 each year.

Woldt and Ji He of the Michigan DNR presented an update of the status of Northern Lake Huron (MH-1 and MH-2) lake trout stock assessment models, model diagnostic output, and preliminary 2005 lake trout harvest limits. Lake Huron preliminary lake trout harvest limits for 2005 increased slightly from 2004 levels due to continued lower than target total mortality rates and increases in stock biomass due to decreasing mortality. In 2005, the Lake Huron models were updated to include time varying weight at age and time varying maturity at age to capture recent shifts in these parameters in Lake Huron lake trout populations. These preliminary limits were presented to the TFC for review on April 6.

The 2000 Consent Decree is 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 MSC computed final lake trout harvest numbers and presented them to the parties by April 30, as stipulated in the Decree.

Aaron Woldt, Alpena FRO
(Fiscal Year 2005; Vol. 3 No. 6)

Announcements Mailed for 2005 Tribal Wildlife Grant and Tribal Landowner Incentive Grant Programs *(Tribal Grant)*

The Ashland FRO mailed an announcement to all of its tribal contacts alerting them to the opening of the 2005 Tribal Wildlife Grant (TWG) and Tribal Landowner Incentive (TLIP) Grant programs. Our intent is to insure that tribal resource managers and biologists are aware of this resource funding opportunity and to remind them to contact the Ashland FRO for any technical assistance they may require.

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

Frank Stone, Ashland FRO
(Fiscal Year 2005; Vol. 3 No. 6)

Regional and Washington Offices Recognize Menominee Tribal Biologist *(Tribal Grant)*

For his efforts to restore lake sturgeon on the Menominee Reservation, Don Reiter, fish and wildlife biologist for the Menominee Indian Tribe of Wisconsin, received special recognition at the opening ceremony for the Menominee Tribe's first sturgeon fishery. The opening of the sturgeon fishery on February 5 marked the first time in more than 50 years that Menominee people could once again harvest lake sturgeon from their waters. Ann Runstrom, fishery biologist from the La Crosse FRO, presented Reiter an award signed by Regional Director Robyn Thorson and Hannibal Bolton, chief of Fish and Wildlife Management and Habitat Restoration in the national Division of Fisheries and Habitat Conservation.

Reiter's skill at working cooperatively with individuals of varying interests helped to make the dream of restored sturgeon populations on the reservation a reality. The lake sturgeon population in Legend Lake was established through the efforts of a team of biologists from the Menominee Tribe, Wisconsin DNR, Fish and Wildlife Service, University of Wisconsin Sea Grant Institute, and the U.S. Geological Survey. Reiter's willingness and friendly nature made it easy for this diverse group to put aside differences and work toward the good of the resource and the people. The efforts of this group working together made it possible to reach the goal of allowing tribal harvest 15 years earlier than anticipated.

Ann Runstrom, La Crosse FRO (Fiscal Year 2005; Vol. 3 No. 5)

-Menominee Nation News

Ann Runstrom presents Fish and Wildlife Biologist Don Reiter , from the Menominee Indian Tribe of Wisconsin, with a special recognition for his efforts to restore lake sturgeon on the Menominee Reservation.

Menominee Tribe Plans to Harvest Sturgeon for the First Time in More than 50 Years

A dream of several tribal elders came true on February 5 when the Menominee Indian Tribe of Wisconsin opened its first regulated sturgeon fishery on Legend Lake. During the past decade, La Crosse FRO biologists have been working with the Menominee Tribe, Wisconsin DNR, and Genoa NFH to restore lake sturgeon on the reservation. This multi-agency team reviewed the assessment data from 2003 and 2004 and supported a proposal to open a limited fishery to tribal members in the winter and spring of 2005, several years earlier than anticipated. The winter season was open from February 5-20 and a spring season will be open April 9-24. Regulations include restricting gear to spears or hook and line, minimum harvest size of 36 inches, and no use of artificial lights during the winter season. Participants were required to apply for a sturgeon tag with one tag issued per person and a maximum of 100 tags issued. Those who harvest fish are required to register with the Menominee Department of Conservation.

The Menominee people once relied heavily on lake sturgeon as an important food source, and the importance of the lake sturgeon as a Menominee totem remains today. Lake sturgeon were extirpated from the Menominee Indian Reservation in Northeast Wisconsin during the 1950s, and sturgeon have been absent from the diet of Menominee Tribal members since that time, with the exception of a small number of ceremonial fish provided to the tribe by the Wisconsin DNR each year since 1995.

The opening of the fishery is a result of the willingness of individuals to work together for the benefit of the resource and the people. The multi-agency team began stocking Legend Lake in 1994. Annual stocking rates and size of fish varied with availability, and 56,000 lake sturgeon have been stocked through 2004. Harvest success during the winter fishery was low (total catch=0), but participants began to learn the habits of the fish and best use of their gear. In hopes of spreading knowledge, Menominee Department of Conservation searched unsuccessfully for living elders that had experience harvesting lake sturgeon. Hopes are high that the open water season in April will be more productive.

Ann Runstrom, La Crosse FRO (Fiscal Year 2005; Vol. 3 No. 5)

-USFWS by Duane Raver

Lake Sturgeon

Alpena Staff Make Experimental Gill Net Repairs

Biologists Scott Koproski and Adam Kowalski from the Alpena FRO repaired experimental assessment gill nets used during the 2004 fishery independent lake whitefish survey in 1836 Treaty waters. The experimental gill nets do not have lead weights secured to the net frame as standard bottom-set gill nets do, and have a three foot dropper line from the bottom of the net frame tied to a continuous piece of lead core line. The dropper lines are tied every 18 inches between the frame and the lead core line. This results in a "mesh free" area at the bottom three feet of the water column which helps reduce lake trout bycatch, since trout typically associate themselves with the lake bottom.

During the 2004 fishery independent lake whitefish surveys, biologists fished the standard and experimental assessment nets simultaneously. Preliminary results indicate that lake whitefish catch per unit of efforts (CPEs) increased slightly using the experimental assessment nets, and lake trout CPEs dropped significantly. Another gang of experimental assessment nets will be built prior to the 2005 fishery independent lake whitefish survey and fished to further compare catch rates in each net type. Maintenance of gill nets and other equipment is performed annually to ensure assessment activities can be completed.

Scott Koproski, Alpena FRO (Fiscal Year 2005; Vol. 3 No. 5)

-USFWS photo by Aaron Woldt

Gill nets are used for fishery surveys for lake whitefish. Alpena FRO biologists Scott Koproski and Adam Kowalski began repairing experimental assessment gill nets which will be used during the 2005 fishery independent lake whitefish survey in 1836 Treaty waters.

Bad River Natural Resources Department Holds Open House

The Bad River Natural Resources Department hosted an open house in January to discuss environmental projects, program areas, and work being done on the reservation by the department and with area partners. Ashland FRO presented posters describing work the Fish and Wildlife Service conducts to monitor lake sturgeon populations in the Bad River. One poster described assessment activities that characterize the lake sturgeon spawning population, including capture methods, population estimates, aging information, and tagging. The second poster described the collaborative effort between the FRO, U.S. Geological Survey, and the tribe to characterize juvenile nursery habitat in the lower 4.4 miles of the river through the use of sonar, trawl data, aerial photography, and geographic information systems. Agency staff answered questions regarding the display and followed up on a request for additional information.

Jonathan Pyatskowit,AshlandFRO (Fiscal Year 2005; Vol. 3 No. 5)

Joint Fishery Assessment Steering Committee Meets at the Great Lakes Indian Fish & Wildlife Commission

Frank Stone from the Ashland FRO participated in an annual meeting of the Joint Fishery Assessment Steering Committee held at the Great Lakes Indian Fish & Wildlife Commission. Representatives from the commission, Wisconsin DNR, Bureau of Indian Affairs, and Red Cliff and Bad River Indian Reservations discussed inland walleye population surveys from 2004 that were funded in part by the steering committee. Assessment data collected from spring, summer, and fall surveys were presented, as well as 2005 assignments and the projected 2005 budget.

The data collected from the 416 surveys reflect the lake's recruitment values. These values are combined to determine the number of adult walleye that can be safely harvested.

Frank Stone, Ashland FRO (Fiscal Year 2005; Vol. 3 No. 5)

-USFWS

A dorsal spine is collected from a walleye. Walleye sampling in northern Wisconsin is a critical component to estimate adult populations, determine recruitment, and establish harvest levels.

Ashland Fishery Resources Office can now read Oxytetracycline Marks *(Tribal Grant)*

Thanks to a recent Tribal Wild life Grant (TWG) that was awarded to the Keweenaw Bay Indian Community (KBIC), the Ashland Fishery Resources Office (FRO) and the Tribe will be working together to help determine the contribution of hatchery reared brook trout in KBIC waters. KBIC recently purchased equipment required to read oxytetracycline (OTC) marks in the otolith of fish. This compound microscope and ultraviolet light system will be housed at the Ashland FRO. Our staff will read the samples provided by the KBIC Natural Resources Department and will also be able to use this equipment for other programs.

The Ashland FRO and the KBIC Natural Resources Department have been working together in the marking of brook trout with OTC since 1998. A means of evaluating stocked fish is an important facet of fishery management. Now that the OTC reading equipment is available, the KBIC Natural Resources Department will have a better means of estimating the survival of stocked brook trout.

Glenn Miller, Jonathan Pyatskowit, and Frank Stone recently traveled to the Wisconsin Department of Natural Resources (DNR) office in Spooner, Wisconsin for OTC training. Technician Gene Hudsonmiller (Wisconsin DNR) presented our staff with the techniques needed to prepare otoliths and read the OTC marks.

Frank Stone, Ashland FRO
(Fiscal Year 2005; Vol. 3 No. 4)

-USFWS

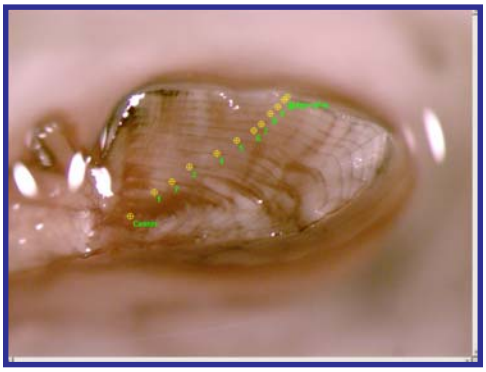
The Keweenaw Bay Indian Community purchased this equipment for reading oxytetracycline marks on bony structures (otoliths) of fish. Personnel from the Ashland Fishery Resources Office were trained to use this specialized equipment as an important fishery management tool.

Lake Whitefish Age Determination

Biologist Scott Koproski finished aging lake whitefish otoliths collected during the 2004 fishery independent lake whitefish survey. The Alpena Fishery Resources Office (FRO) is responsible for assessing lake whitefish populations in two management units (WFH-04 and WFH-05) in Northern Lake Huron. The study sampling design was established by the Modeling Subcommittee (MSC) of the Technical Fisheries Committee (TFC). The MSC is responsible for developing lake whitefish harvest limits in 1836 Treaty Ceded Waters.

In 2004, the Alpena FRO collected 128 lake whitefish during assessment activities in Lake Huron lake whitefish management units WFH-04 and WFH-05. Scales and otoliths were collected from all lake whitefish sampled. Koproski used the "crack and burn" technique to identify annuli present in the otoliths. This technique allows researchers to differentiate two distinct growth patterns within the structure: broad summer growth and narrow winter growth. By counting the bands of winter growth, age estimates can be obtained from the otoliths. Ages, along with other biological parameters, are used in the statistical catch at age models used by the MSC to develop safe harvest limits in 1836 Treaty Waters. The Alpena FRO is fulfilling the Fish and Wildlife Service's obligations as a signatory to the 2000 Consent Decree by serving as members of the Technical Fisheries Committee and the Modeling Subcommittee, and by assessing lake whitefish populations in 1836 Treaty ceded waters.

Scott Koproski, Alpena FRO
(Fiscal Year 2005; Vol. 3 No. 4)



-USFWS photo by Scott Koproski

A bony structure in whitefish (otolith) is being examined to determine age . The growth rings (annuli) are marked on this sample.The process is similar to counting growth rings on a tree stump. Biologist Scott Koproski aged lake whitefish otoliths collected during the 2004 fishery independent lake whitefish survey in Lake Huron. The Alpena Fishery Resources Office is responsible for assessing lake whitefish populations in two management units in Northern Lake Huron.

Technical Fisheries Committee finalizes Lake Whitefish Harvest

The Technical Fisheries Committee (TFC) met in Roscommon, Michigan in December to finalize lake whitefish harvest limits for 2005. Model generated harvest limits, based on the most current biological and harvest data, are produced annually by the TFC's Modeling Subcommittee (MSC) for management units where fisheries are shared between the five Chippewa Ottawa Resource Authority (CORA) tribes and the State of Michigan in 1836 Treaty waters of lakes Superior, Michigan, and Huron. The Consent Decree requires the TFC to provide these final harvest limits to the Parties by December 1 each year. In management units where the whitefish fishery is reserved for the CORA tribes, harvest regulation guidelines (HRG) are established by the tribes according to terms of a Tribal Management Plan. Final HRG's will be provided to the Parties once CORA has established them. Alpena Fishery Resources Office (FRO) Project Leader Jerry McClain (TFC Chair) and Treaty Fisheries Unit Leader Aaron Woldt (MSC co-Chair) attended the meeting. McClain mailed the final harvest limit recommendations to the Parties on December 10.

Jerry McClain, Alpena FRO
(Fiscal Year 2005; Vol. 3 No. 3)

-USFWS photo by Aaron Woldt

Alpena Fishery Resources Office conducts whitefish assessments as part of a data set which is used to determine safe lake whitefish harvest levels in management units where fisheries are shared between the five Chippewa Ottawa Resource Authority tribes and the State of Michigan. Pictured is Aaron Woldt.

Lake Superior Angler's Creel Lake Trout Scales Read

The Ashland Fishery Resources Office (FRO) has completed ageing a set of lake trout scales collected from anglers at various creel check points on Lake Superior. The creel is run by the Marquette Fisheries Station, Michigan Department of Natural Resources (DNR). Scales were collected in both 1836 and 1842 treaty waters of Lake Superior. The information is used in conjunction with the biological data in models regulating harvest of lake trout. About 1,000 lake trout scales from the 2004 creel were read. This was the fourth year the Ashland FRO has assisted with scale reading for the Michigan DNR. Data collected from the creels and surveys will ensure that biological information is available for restoration programs in Lake Superior.

Glenn Miller, Ashland FRO
(Fiscal Year 2005; Vol. 3 No. 3)

Red Lake Walleye Restoration Effort

The Ashland Fishery Resources Office (FRO) continues to work with the Red Lake Band of Chippewa, Minnesota Department of Natural Resources (DNR), Bureau of Indian Affairs, and the University of Minnesota to restore a naturally spawning population of walleye in Red Lake in Northern Minnesota. During a December meeting, Frank Stone met with the Red Lake Task Force Committee to discuss the walleye restoration program and performance indicators of this long term restoration effort.

Frank also presented additional information for an internet web page that he developed for the Red Lake Recovery program. The web page will highlight the history, decline, and recovery of this important resource. The proposed web page will contain several links; Resource Fact Sheet, Progress Reports, Recovery and Fishery Assessment Data, Media and Agency Links, Image Library, and a Tribal Profile.

Several additional topics were also discussed at this meeting: The Minnesota DNR and the Red Lake Nation are focusing on selecting one of several different harvest models to be used for the Red Lake walleye fishery; The Red Lake DNR is reviewing a questionaire that will attempt to define preferred harvest options/ methods by the Tribe; The Minnesota DNR and the Red Lake Band will continue with an experimental walleye fry stocking next spring (10 million) to study fry survival rates.

Frank Stone, Ashland FRO
(Fiscal Year 2005; Vol. 3 No. 3)

Lake Whitefish Survey in Northern Lake Michigan

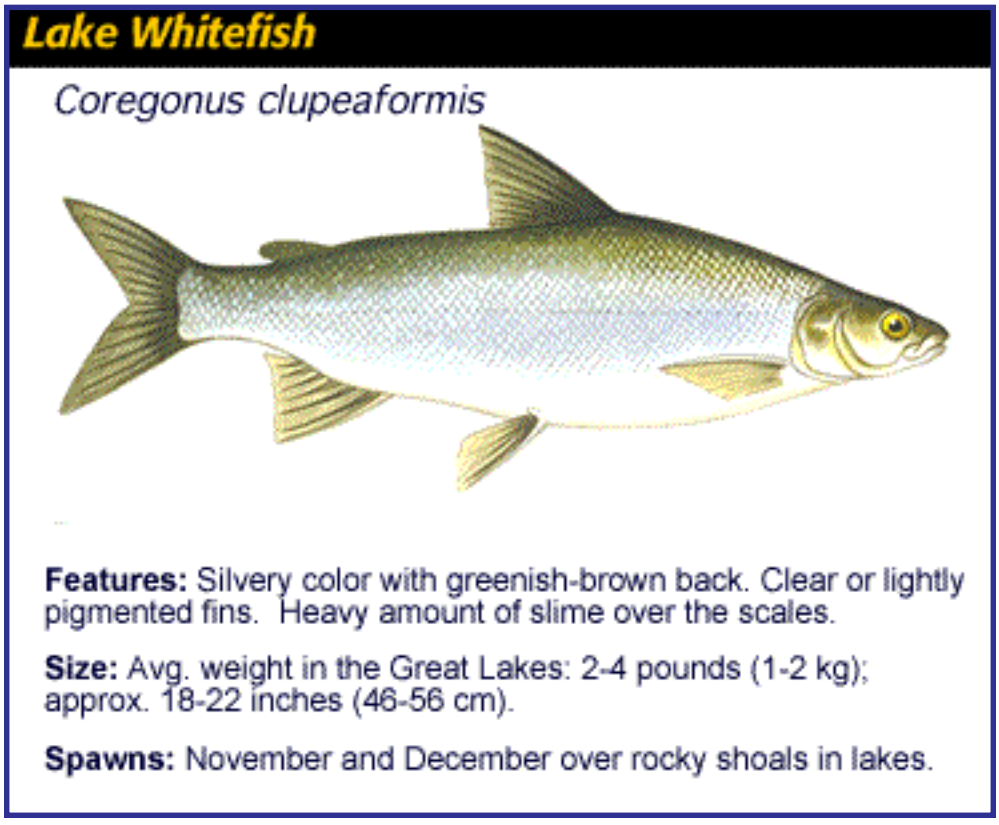
The Green Bay Fishery Resources Office (FRO) completed an annual lake whitefish survey in Whitefish Management Unit 1 (WFM-01) of Lake Michigan near Escanaba, Michigan. The survey utilized graded mesh gill-nets, ranging between 2" and 6" mesh, to sample lake whitefish, lake trout, and other species. Biologists collected information on relative abundance, size and age structure, reproductive potential, and invasive sea lamprey induced mortality. This information is used to manage the lake whitefish and lake trout fisheries in Great Lakes waters within the jurisdiction of the Consent Decree of 2000 (Decree). The Decree outlines a cooperative management program between the Fish and Wildlife Service, five Native American Tribes, and the Michigan Department of Natural Resources to set harvest guidelines for parts of lakes Michigan, Superior, and Huron. The information collected from this survey is combined with data from other whitefish management units collected by biologists from cooperative agencies. An inter-agency team of biologists then use statistical catch-at-age models to assess the status of fisheries stocks and project safe harvest quotas that protect the fishery from over-exploitation.

Dale Hanson, Green Bay FRO (Fiscal Year 2005; Vol. 3 No. 2)

Fish and Wildlife Service Biologist attends Modeling Sub-Committee meeting

John Netto attended the fall meeting of the Modeling Sub-Committee (MSC) of the Technical Fisheries Committee to the 2000 Consent Decree in Roscommon, Michigan. At this meeting, the MSC reviewed the status of the lake whitefish models and discussed other business related to the stock assessment process in the treaty waters. John presented the modeling results for whitefish management unit 2 (WFM-02) in Lake Michigan, the estimates of abundance and fishing mortality and the calculated quota for 2005, and the results of diagnostic procedures performed on the model including an automated procedure for running retrospective analyses he developed for all of the whitefish models. Every year, the Modeling Sub-Committee meets prior to setting white fish harvest limits to allow peer review and discussion of the data analysis and modeling that is required to set a quota each year.

John Netto, Green Bay FRO (Fiscal Year 2005; Vol. 3 No. 2)



Fall Walleye Surveys with the Great Lakes Indian Fish & Wildlife Commission

Frank Stone from the Ashland Fishery Resources Office (FRO) finished an eight-week project assisting the Great Lakes Indian Fish and Wildlife Commission in collecting walleye using a boat electrofishing system. The objectives of these surveys are to estimate relative abundance of young-of-the-year walleye in several lakes of northern Wisconsin and Michigan. The data from the surveys will be used in conjunction with spring population estimates, to set walleye safe harvest levels for the 2005 spring spearing season. A total of 31 lakes were surveyed during this period.

Frank Stone, Ashland FRO
(Fiscal Year 2005; Vol. 3 No. 1)

-USFWS

Great Lakes Indian Fish and Wildlife Commission staff Dale Corbine (left) and Lewis Plucinski prepare to collect walleye using an electrofishing system. Ashland FRO assisted in these surveys to estimate the relative abundance of young-of-the-year walleye in several lakes in northern Wisconsin and Michigan.

White Earth Department of Natural Resources Fishery Survey

Fishery surveys are always exciting and the survey conducted on Tea Cracker Lake was no exception. Tea Cracker is a small lake which borders the White Earth Reservation and Tamarac National Wildlife Refuge, two management areas which the La Crosse Fishery Resources Office (FRO) provides assistance. Randy Zortman, White Earth Department of Natural Resources (DNR), requested assistance from Scott Yess, La Crosse FRO, on this fishery survey. Randy and his crew have a very active walleye management program on the Reservation and Tea Cracker is one of the lakes currently being stocked with walleye. Tea Cracker has had some tremendous years providing anglers with many hours of exceptional fishing; however, this lake winterkilled in 2003 so it is currently on the rebound. The survey indicated low to moderate numbers of one and two year old fish so it will take a couple more years to provide good fishing. It is worth putting the effort in on Tea Cracker, Zortman explains, because it will have several good years before a major winterkill occurs and they have to start over. This fishery survey data will be used to make management recommendations regarding the walleye fishery in Tea Cracker Lake.

Walleye fingerlings are normally stocked in Tea Cracker from grow out ponds that Randy and his crew harvest each fall. This year the lake received hundreds of walleye fingerlings which hopefully will provide a recreational fishery in two years. The White Earth DNR manages over 40 lakes on the Reservation for walleye which are some of the best walleye producers in Northwest Minnesota.

Scott Yess, La Crosse FRO
(Fiscal Year 2005; Vol. 3 No. 1)

Coasters on the Border

Biologist Steve Redman from the Iron River National Fish Hatchery (NFH) stocked coaster brook trout with assistance from personnel of the Grand Portage Tribal Resources Department. The Pigeon River, which is a tributary to Lake Superior on the United States/Canada border, was stocked with 20,000, 5 inch coaster brook trout reared at the Genoa NFH. All fish were marked with oxytetracycline dye in addition to a fin clip at the hatchery before stocking. This will allow biologists to monitor the status of the coasters in these habitats. This multiple year stocking event, which is coordinated between the Grand Portage Indian Community and the Fish and Wildlife Service, was established to fulfill the rehabilitation plan for Lake Superior coaster brook trout. The combined effort has led to continued monitoring of coaster brook trout status, distribution, movement, and the abundance of re-introduced fish. In addition to these accomplishments, the Tribe has also acquired additional land, improved stream habitats, and removed barriers that would impact coaster rehabilitation.

Steve Redman, Iron River NFH
(Fiscal Year 2005; Vol. 3 No. 1)

Fiscal Year 2004

Biologist Co-Chairs Modeling Subcommittee Meeting for 1836 Treaty Waters

Biologist Aaron Woldt from the Alpena Fishery Resources Office (FRO) attended and co-chaired the September meeting of the Modeling Subcommittee (MSC) of the Technical Fisheries Committee (TFC). The primary focus of this meeting is to generate preliminary 2005 harvest limits for lake whitefish management units in 1836 Treaty waters of lakes Huron, Superior, and Michigan. As stipulated in the 2000 Consent Decree, preliminary lake whitefish harvest limits must be calculated by the MSC, reviewed by the TFC, and presented to the parties to the decree by November 1 each year.

Preliminary lake whitefish harvest limits will be presented to the TFC for review on October 6. The MSC will complete final lake whitefish harvest limits and present them to the TFC at its December 1 meeting. Harvest limits, when reviewed by the parties and finalized, will become binding 2005 lake whitefish harvest limits for 1836 Treaty waters. These harvest limits will allow lake whitefish fisheries to be executed while still protecting the biological integrity of the lake whitefish stocks. This outcome is consistent with the Fish and Wildlife Service's goal of building and maintaining self-sustaining populations of native fish species while meeting the needs of tribal communities under the "Aquatic Species Conservation and Management" and "Cooperation with Native Americans" priorities of the Fisheries Program Vision for the Future.

Aaron Woldt, Alpena FRO
(Fiscal Year 2004; Vol. 2 No. 8)

-USFWS

Jerry McClain holds a lake whitefish captured during a fishery assessment. Alpena Fishery Resources Office provides some of the data which is used in an analysis to develop a harvest limit for this native species in 1836 Treaty waters of the Great Lakes.

Chippewa Ottawa Resource Authority Walleye Assessment in 1836 Treaty Waters

Biologist Scott Koproski assisted the Chippewa Ottawa Resource Authority (CORA) with their annual juvenile walleye assessment of the St. Marys River near Sault Ste. Marie, Michigan. Using the Alpena Fishery Resources Office's (FRO) electrofishing vessel, Koproski and two CORA staff sampled four locations in the St. Marys River system (Waiska Bay, Lake Nicolet, Lake George, Sugar Island Side Channel) over four nights. The objective of this work is to determine the percent contribution of hatchery reared walleye to the St. Marys River walleye population and to index juvenile walleye abundance.

To differentiate hatchery produced walleyes, fish are immersed in oxytetracycline (OTC) prior to release. OTC leaves a mark on calcified structures like otoliths and vertebrae that can be detected in the lab. Data collected will also be used to determine appropriate stocking levels and stocking locations for this system. Staff from the Alpena FRO has been assisting CORA with this walleye assessment for the past 12 years.

Scott Koproski, Alpena FRO
(Fiscal Year 2004; Vol. 2 No. 8)

Ashland Fishery Resources Office takes on Fall Walleye Surveys

Frank Stone from the Ashland Fishery Resources Office (FRO) assisted the Great Lakes Indian Fish and Wildlife Commission in determining recruitment levels of juvenal walleye this fall. The objectives of these surveys are to estimate relative abundance of young-of-the-year walleye in several lakes of northern Wisconsin and Michigan. The data will be used in conjunction with spring population estimates to set walleye safe harvest levels for the 2005 spring spearing season. Frank will be conducting fishery surveys on a total of 32 lakes over an eight-week period.

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 effort values are calculated by dividing the number of fish collected by the total minutes of effort. These data reflect the lake's recruitment values and are combined with the spring population surveys to yield information needed to help determine a safe harvest limit for adult walleye.

Frank Stone, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 8)

Lake Sturgeon Assessment on the St. Louis River *(Tribal Grant)*

The restoration of lake sturgeon to historic areas is a high priority to the people of the Fond du Lac Band of Lake Superior Chippewa. Using set lines, gill nets, and Windemere trap nets, the Ashland Fishery Resources Office (FRO) concluded a five week project assisting the Fond du Lac Band in assessing the recruitment of these fish. Several river sections within a 20 mile section of the Upper St. Louis River, upstream of Cloquet, Minnesota, were sampled for sturgeon. This study was first conducted in 2001, but it needs to be repeated periodically to determine the survival and recruitment from four years of stocking (1998, 1999, 2000, and 2003).

The primary objective of this study was to determine if lake sturgeon stocked as eyed eggs have recruited into this fishery. The secondary objective was to gather length and growth data for channel catfish in the Upper St. Louis River. Although no sturgeon were collected, length and age data for channel catfish were obtained as a result of this survey. Our study has indicated that considerably more sturgeon eggs will need to be stocked before a detectable population of fish will be found.

Frank Stone, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 7)

-USFWS

Frank Stone (left) from the Ashland FRO and Terry Perrault from the Fond du Lac Band of Lake Superior Chippewa are ready for a lake sturgeon assessment on the St. Louis River.

Lake Whitefish Surveys in Eastern Lake Michigan

Green Bay Fishery Resources Office (FRO) conducted gill-net assessments of lake whitefish populations within the 1836 ceded territory waters of Lake Michigan. These surveys were conducted in June near the port towns of Frankfort and Elk Rapids, Michigan. The work was part of a larger multi-agency effort to obtain biological data on lake whitefish populations. Over 12,000 feet of gill-net was set within both general survey locations to collect data on relative abundance by age-class, length at age, juvenile recruitment, and sea lamprey wounding rates of lake whitefish and other species in the survey area. These data are used in stock assessment models from which harvest limits in all shared lake whitefish management units are derived.

Dale Hanson, Green Bay FRO
(Fiscal Year 2004; Vol. 2 No. 7)

2004 Fishery Lake Whitefish Survey on Lake Huron

From August 2 to August 30, staff from the Alpena Fishery Resources Office (FRO) completed a fishery lake whitefish survey in 1836 Treaty waters of northern Lake Huron. Staff included Treaty Unit Coordinator Aaron Woldt; biologists Adam Kowalski, Scott Koproski, Anjie Bowen, and Susan Wells; and Project Leader Jerry McClain. The goal of this survey was to collect fishery abundance and biological data for lake whitefish stocks in treaty waters. The data is used in statistical-catch-at-age population models that are updated annually to determine harvest regulation guidelines for tribal commercial fishers in 1836 Treaty waters. The Modeling Subcommittee of the Technical Fisheries Committee annually collects data and conducts model runs to determine lake whitefish harvest guidelines for 5 management units in Northern Lake Huron.

In August, using the Alpena FRO's 30' research vessel and staff, 18 overnight, variable mesh gill net sets were conducted at randomly selected sites between Alpena and Hammond Bay. Standard bottom set survey nets as well as legged nets were set. All lake whitefish and non-target fish collected were measured for length, weighed, checked for lamprey wounds, sexed, assessed for maturity and visceral fat content, and sampled for ageing.

In 2004 the Alpena FRO evaluated; 1) whether legged nets increased lake whitefish catch rates and decreased lake trout by catch, and; 2) whether executing the survey in July and August affected lake whitefish and lake trout catch rates. In previous years, this survey was conducted

in mid-May to mid-June. 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. Average lake whitefish and lake trout catch rates showed no significant differences between June (N=6 sets), July (N=8), and August (N=14). This survey will continue annually and be tailored to meet needs identified by the Modeling sub-committee. 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 current population models being used to set lake whitefish harvest guidelines in 1836 Treaty waters of Northern Lake Huron.

Aaron Woldt, Alpena FRO
(Fiscal Year 2004; Vol. 2 No. 7)

Red Lake Forage Fish Numbers continue to Decline

In cooperation with the Red Lake Band of Chippewa and the Minnesota Department of Natural Resources (DNR), Ashland Fishery Resources Office (FRO) continued bottom trawling to monitor abundance of juvenile walleye and forage fish in the Upper and Lower Red Lakes, Minnesota. In accordance with the Red Lake Walleye Restoration Plan, this monitoring is used by the tribe and Minnesota DNR to aid in the assessment of walleye recruitment, the success of walleye stocking, and the status of forage fish stocks for supporting walleye (walleye carrying capacity).

A total of 60 tows of 5-minute duration were completed along index transects on August 16-17. Young-of-the year catches of spottail shiner, freshwater drum, bluegill, and black crappie were observed to have declined significantly from a previous assessment. Catches of adult spottail and emerald shiners, trout-perch, and juvenile freshwater drum were also observed to have declined significantly. Species diversity included a few juvenile whitefish, and these were observed to be rare in catches. Year class strength of yellow perch continues to be good as indicated by abundant catches, possibly enhanced from the stocking of 10 million walleye fry last spring. Results of tribal seine hauls indicated a good natural recruitment from the 1999 walleye stocking. Since 1999, approximately 129 million walleye fry have been stocked in the Red Lakes. The Red Lake walleye fishery is scheduled to reopen in spring, 2006.

Gary Czypinski, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 7)

-USFWS

Gary Czypinski from the Ashland FRO adjusts trawling equipment. Bottom trawling in Red Lake indicated a decline in forage fish abundance. In accordance with the Red Lake Walleye Restoration Plan, monitoring is used to aid in the assessment of walleye recruitment, the success of walleye stocking, and the status of forage fish stocks for supporting walleye.

Stock Assessment of Lake Trout in 1842 Treaty Waters of Lake Superior

Biologists from the Great Lakes Indian Fish and Wildlife Commission, Red Cliff Tribal Fisheries Department, Keweenaw Bay Indian Community, and Michigan Department of Natural Resources have been developing stock assessment models to estimate the abundance of wild lake trout in the 1842 treaty waters of Lake Superior. The Green Bay Fishery Resources Office (FRO) assisted with this process and recently estimated the sea lamprey mortality estimates for modeled areas from data collected by these agencies. The results of the modeling effort will be used to assess the health of the native aquatic populations and assist with managing the lake trout fisheries in these waters.

John Netto, Green Bay FRO
(Fiscal Year 2004; Vol. 2 No. 7)

Keweenaw Bay Brook Trout get Oxytetracycline Markings

Frank Stone from the Ashland Fishery Resources Office (FRO) recently completed a brook trout marking project at the Keweenaw Bay Indian Community Fish Hatchery. A means of evaluating stocked hatchery reared fish (regardless of life stages) is an important facet of fishery management. However, the actual contributions that stocked fish make to a fishery are often unknown. The information gained from this project will give fishery managers a better means of estimating the survival of stocked brook trout fingerlings.

The treatment procedure with oxytetracycline (OTC) involves keeping the fish in a small holding tank containing 700 parts per

million (ppm) of OTC for several hours. During the treatment period, the OTC is incorporated into the bony structures of the fish. When these structures (otolith) are viewed using a microscope and ultraviolet light, the presence of an OTC mark will be noted as a yellow-gold band within the otolith. The use of OTC will hopefully serve as an inexpensive fish marking tool that will allow future assessment efforts to verify the recruitment levels of brook trout that originated from hatchery programs.
Frank Stone, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 7)

Green Bay Fishery Resources Office assists with Forest County Potawatomi Stream Surveys

The Green Bay Fishery Resources Office (FRO) worked cooperatively with the Forest County Potawatomi to perform stream electroshocking surveys on Tribal land in Forest County, Wisconsin. Surveys were conducted during the summer of 2003 and 2004. The North Branch of the Oconto, Colburn Creek, Otter Creek, Newman Creek, and the Rat River were all sampled using a backpack electroshocking unit. In addition to collecting biological data that will be used by Tribal biologists to monitor streams, the surveys were intended to provide training for Tribal biologists. In the near future, Tribal biologists will perform the surveys independently.
Stewart Cogswell, Green Bay FRO
(Fiscal Year 2004; Vol. 2 No. 7)

-USFWS

Nick Legler from the Green Bay FRO worked with Gretchen Watkins from the Forest County Potawatomi to perform stream electroshocking surveys on Tribal land.

Planning continues for a Tribal Fish Hatchery at the Grand Portage Reservation *(Tribal Grant)*

The Fish and Wildlife Service has chosen a grant proposal from the Grand Portage Lake Superior Band of Chippewa for funding under the Tribal Wildlife Grants program. Part of the activities under this grant will be to construct a 20' by 40' fish hatchery facility that will be utilized as an egg incubation and fry rearing facility for walleye, coaster brook trout, and perhaps lake sturgeon. The hatchery will be located on an existing parking area near the shores of Lake Superior.

Frank Stone, Ashland Fishery Resources Office (FRO), traveled to the Grand Portage Reservation to discuss the Tribe's plans to construct this facility and to begin designing the floor plan for the hatchery. The design will include several egg hatching jars, circular rearing tanks, and a pumping system that will provide 200 gallons of water per minute. The facility will only be used during the spring and summer months. The intent of this project is to provide walleye and brook trout fingerlings for stocking in local waters.
Frank Stone, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 7)

New Office for the Bureau of Indian Affairs - Great Lakes Agency in Ashland, Wisconsin

Mark Dryer from the Ashland Fishery Resources Office (FRO) attended the dedication of the new Bureau of Indian Affairs (BIA) office building for the Great Lakes Agency (Agency) in Ashland, Wisconsin. The Agency supports tribes and tribal organizations in Minnesota, Wisconsin, and Michigan. The new office will be staffed by nearly 100 BIA employees. Assistant Secretary for Indian Affairs, Dave Anderson, spoke at the dedication.
Mark Dryer, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 7)

-USFWS

The new Bureau of Indian Affairs office building for the Great Lakes Agency in Ashland, Wisconsin

Prairie Island Indian Community Prairie Restoration Project

The restoration of native prairie is a high priority of the Prairie Island Indian Community (Community). The island is located near Red Wing, Minnesota and was historically dominated by prairie plants but has since been converted to cropland or pasture. The Ashland Fishery Resources Office (FRO) provided technical assistance and funding through the Partners for Fish and Wildlife Program, and the Bureau of Indian Affairs provided funding through the Circle of Flight Program.

The native prairie grass restoration will also provide expanded opportunities for the Community's bison herd. Bison are an important cultural symbol to the Community, and there are plans to use the restoration area for flash grazing by the herd. Native plants evolved under pressure from large ungulate grazers and short term grazing will provide a unique management opportunity for the native landscape. The project site also contains historic Native American cultural sites dating back hundreds of years. Tribal elders are pleased that areas around these sites will no longer be disturbed by farming practices and the landscape will be protected for future generations.

Ted Koehler, Ashland FRO (Fiscal Year 2004; Vol. 2 No. 6)

-USFWS

The Prairie Island Indian Community prairie restoration project provides expanded opportunities for their bison herd. The restoration was funded through the Partners for Fish and Wildlife and Circle of Flight programs.

Crossing the Border

Iron River National Fish Hatchery (NFH) partnered with the Grand Portage Band of Chippewa Indians, Ashland Fishery Resources Office, and Ontario Ministry of Natural Resources to stock coaster brook trout. On June 15th, hatchery staff transported 55,500 fingerling fish to the border waters of Minnesota as part of a plan to restore populations to Lake Superior waters. The fingerlings were divided and stocked into 5 streams: Reservation River, Hollow Rock Creek, Grand Portage Creek, Pigeon River, and the Upper Pigeon River. The fingerlings were all marked with the chemical oxytetracycline (marks the ear bone of the fish) and were Superior Isle Royale Siskiwit Bay (SSW) strain coasters. The fingerlings were hatched and raised at the Iron River NFH where a brood population is maintained of two Isle Royale strains.

The brood fish were created by spawning wild fish at Siskiwit Bay and collecting a small percentage of the eggs. After clearing three disease inspections, the resultant fish were transferred to Iron River NFH. Wild brood eggs are collected periodically to maintain the genetic diversity of the strains and also to keep a current brood population. This stocking event is part of a cooperative agreement with the Grand Portage Tribal Hatchery to restore a naturally reproducing coaster brook trout population.

Angela Baran, Iron River NFH (Fiscal Year 2004; Vol. 2 No. 6)

2004 Fishery Independent Lake Whitefish Survey in Northern Lake Huron

From July 12 to July 30, staff from the Alpena Fishery Resources Office (FRO) conducted a fishery independent lake whitefish survey in 1836 Treaty waters of northern Lake Huron. Staff involved included Treaty Unit Coordinator Aaron Woldt, Project Leader Jerry McClain, and biologists Adam Kowalski, Scott Koproski, Anjie Bowen, and Susan Wells. Assistant Regional Director for Fisheries Gerry Jackson also participated in the survey. 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 (SCAA) population models that are updated annually to determine harvest regulation guidelines (HRG's) 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 (TFC) annually collects data and conducts model runs to determine

lake whitefish HRG's 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 identified by the MSC.

Using the Alpena FRO's 30' research vessel and staff, 13 overnight, variable mesh gill net sets were conducted 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). Net sets included standard bottom set survey nets as well as legged nets with a 3' gap near the substrate. The Alpena FRO is evaluating whether these legged nets increase lake whitefish catch and decrease lake trout bycatch.

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 as well. We took scale and otolith samples from each lake whitefish for age determination and removed stomachs whole. The stomach contents will be identified and counted by staff at the Great Lakes Environmental Research Lab in Muskegon, Michigan. This survey will be completed in August.

Data collected in this survey will improve the accuracy of current population models being used to set lake whitefish harvest guidelines in 1836 Treaty waters of northern Lake Huron. Good model output is essential to sound and sustainable management of the lake whitefish resource in northern Lake Huron, and lake whitefish is the central component to the Native American commercial fisheries in 1836 Treaty waters. Harvest limits allow lake whitefish fisheries to be executed while still protecting the biological integrity of lake whitefish stocks. This outcome is consistent with the Fish and Wildlife Service's Fisheries Program Vision for the Future element for Aquatic Species Conservation and Management by maintaining self-sustaining populations of native fish species while meeting the needs of tribal communities.

Aaron Woldt, Alpena FRO
(Fiscal Year 2004; Vol. 2 No. 6)

-USFWS

Assistant Regional Director Gerry Jackson assisted the Alpena Fishery Resources Staff with a whitefish survey in 1836 Treaty waters of northern Lake Huron.

Huron Bay Fish Assessment completed for the Keweenaw Bay Indian Community *(Tribal Grant)*

The Ashland Fishery Resources Office (FRO) completed a fish assessment of Huron Bay, Lake Superior for the Keweenaw Bay Indian Community. The assessment is part of a Quality Assurance Project funded by the Environmental Protection Agency. Experimental gillnets, trawls, and modified Windermere traps were used to identify the fish community over each of three major substrates described in the bay (cobble, sand, or mud). Species diversity consisted of 16 species over cobble, 15 species over sand, and 22 species over mud. A total of 27 species were collected. At least two additional species, lake sturgeon and northern pike, are known to occur in Huron Bay but were not collected in this survey. The majority of species overlapped the three substrates, but coaster brook trout, longnose dace, and pearlnose dace were collected only over cobble; chinook salmon was collected only over sand; and brook stickleback, smallmouth bass, yellow perch, and the invasive threespine stickleback were collected only over mud.

Gary Czypinski, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 6)

-USFWS

The Ashland Fishery Resources Office conducted a fishery assessment of Huron Bay, Lake Superior for the Keweenaw Bay Indian Community.

Sturgeon Assessment on the St. Louis River

The restoration of lake sturgeon to historic areas is a high priority to the people of the Fond du Lac Band of Lake Superior Chippewa. Using set lines (baited with squid), gill nets, and Windemere trap nets; the Ashland Fishery Resources Office (FRO) is assisting the Fond du Lac Band in assessing the recruitment of these fish. This study will be conducted in 2004, 2006, and again in 2008. Several river sections within a 20 mile section of the upper St. Louis River, upstream of Cloquet, Minnesota, will be sampled for sturgeon. This study was conducted in 2001, but it must be repeated periodically to determine the survival and recruitment from four years of stocking (1998, 1999, 2000, and 2003). The sturgeon stocked between 1998 and 2000 should be of a size that make them more susceptible to capture gear.

The objectives of this study are to determine survival, recruitment, growth rate, distribution, habitat use, and the best capture techniques for this lake sturgeon population. The assessment program began in June as the first of five surveys to be conducted this summer. Although only catfish and red suckers were collected during this first assessment, the crew is optimistic that they will soon be able to locate juvenile sturgeon.
Frank Stone, Ashland FRO (Fiscal Year 2004; Vol. 2 No. 5)

-USFWS

Set lines, baited with squid, are used as an assessment tool for lake strugeon. Ashland Fishery Resources Office is assisting the Fond du Lac Band of Lake Superior Chippewa with sturgeon assessment in the upper St. Louis River, upstream from Cloquet, Minnesota.

Lake Trout for Keweenaw Bay, Lake Superior

Biologist Steve Redman from the Iron River National Fish Hatchery (NFH) stocked approximately 90,000, 6" yearling lake trout with assistance from personnel of the Keweenaw Bay Tribal Resources Department. Fish were planted in the evenings at two locations in Keweenaw Bay waters of Lake Superior. The stocking fulfills a cooperative agreement that began in 1997 between the Fish and Wildlife Service and the Keweenaw Bay Indian Community. The Tribal Community provides a disease free isolation facility to rear future brood lots for the National Fish Hatchery System and the Fish and Wildlife Service stocks coded wire tagged and clipped yearling lake trout. This joint collaboration contributes to the conservation of the Great Lakes fishery resources.

The fish distribution truck was loaded in the afternoons with lake trout of the Superior Traverse Island Wild (STW) strain. These yearlings were then driven to specific sites to be shore planted at sunset, preventing the newly released fish from being preyed upon by predators such as gulls or terns. The fish arrived at their new homes in great condition and happily swam off into the sunset! The Iron River NFH raises approximately 1.4 million lake trout annually for stocking programs in the Great Lakes. The majority of the fish are raised for stocking lakes Michigan and Huron, but a portion is reserved for Lake Superior. While most of Lake Superior is considered to be fully restored, there are still areas needing assistance.
Steve Redman, Iron River NFH (Fiscal Year 2004; Vol. 2 No. 5)

Biologist Style "Caviar"

Lake sturgeon once inhabited the Red River of the North and its tributaries. In 1926 a lake sturgeon weighing 176 pounds was caught in White Earth Lake. However, since the turn of the century lake sturgeon populations have declined due to over harvest, pollution, and water development projects. The last record of a lake sturgeon in this area came from Lake Lida in 1957. In 1997 the White Earth Natural Resources Department assisted by the Fish and Wildlife Service, Rainy River First Nations, and Minnesota Department of Natural Resources (DNR) entered into an agreement to restore lake sturgeon in White Earth Lake and Round Lake on the White Earth Reservation.

Lake sturgeon are primitive fish that historically inhabited many of Minnesota's large rivers and the lakes associated with those rivers. Native American cultures were dependent on the availability of lake sturgeon. Indian villages were often located near waters were sturgeon spawned. Early European settlement on Lake of the Woods was due to commercial fishing for lake

sturgeon when their caviar and fine flesh were known worldwide.

It is a goal of the resource agencies to restore lake sturgeon to this part of its original range. The management plan calls for 8,000 fingerlings to be stocked in White Earth Lake and another 5,000 fingerling to be stocked in Round Lake. Prior to stocking fingerlings, a significant team effort takes place. One huge hurdle is to test the sturgeon for viral infections prior to shipping the eggs. First, Rick Nelson (La Crosse Fish Health Center) negotiated an agreement with the Minnesota DNR to conduct the viral sampling. Then, Scott Yess from the La Crosse Fishery Resources Office (FRO) traveled to Emo, Canada to work with Joe Hunter and his staff at the Rainy River First Nations Hatchery to collect 30 sturgeon fin clips. The fin clips were delivered to Joe Marcino (Minnesota DNR) on April 27th by Dave Wedan (La Crosse FRO). Results of the viral tests proved negative and were completed on Friday, May 7th. On May 9th Randy Zortman and Tom McCully (White Earth Natural Resources Department) along with Scott Yess assisted Joe Hunter and his staff with spawning over 18 adult lake sturgeon. On May 13th the eggs were delivered to the Genoa National Fish Hatchery. In late summer the sturgeon will be tagged and then transported to the White Earth Reservation. This was an incredible team effort and thanks to all who participated.
Scott Yess, La Crosse FRO (Fiscal Year 2004; Vol. 2 No. 5)

-USFWS
Scott Yess (center) from the La Crosse Fishery Resources Office poses with Randy Zortman (left), White Earth Natural Resources Department, and Joe Hunter (right) from Rainy River First Nations during an egg collection project for lake sturgeon. In 1997, the White Earth Natural Resources Department assisted by the Fish and Wildlife Service, Rainy River First Nations, and the Minnesota Department of Natural Resources entered into an agreement to restore lake sturgeon in White Earth Lake and Round Lake on the White Earth Reservation..

Alpena Fishery Resources Office conducts Lake Whitefish Netting

From June 3 to June 16 staff from the Alpena Fishery Resources Office (FRO) conducted experimental gill net sets as part of the fishery independent lake whitefish survey in 1836 Treaty waters of northern Lake Huron. Staff involved included Treaty Unit Coordinator Aaron Woldt, Biologist Adam Kowalski, Biologist Scott Koproski, Assistant Project Leader Tracy Hill, and Project Leader Jerry McClain. Three types of gear were set: bottom-set, variable mesh 6' deep survey nets, thermocline oriented 12' deep nets, and variable mesh survey nets legged 3' off the bottom. The purpose of these sets was three-fold: 1) to document early June lake whitefish and lake trout gillnet catch rates to compare with historic and July/August 2004 survey data; 2) to test the utility and effectiveness of thermocline oriented nets in catching lake whitefish; and 3) to determine if nets legged 3' off the bottom catch less lake trout and more lake whitefish than conventional bottom set survey nets.

The Alpena FRO has been conducting a fishery independent lake whitefish survey in 1836 Treaty waters of Lake Huron since 2002. In 2002, the Modeling Subcommittee (MSC) of the Technical Fisheries Committee identified fishery independent lake whitefish data as a critical information need. The MSC annually collects data and conducts model runs to determine lake whitefish harvest regulation guidelines for five management units in northern Lake Huron under the Year 2000 Consent Decree.

In 2003 the Alpena FRO began paired setting of legged nets with bottom set nets to determine if legged nets reduced lake trout bycatch in the survey. The legged nets provide a 3' gap near the substrate that allows the strongly bottom oriented lake trout to pass under the net. Limited 2003 results showed that legged nets reduced lake trout catch rates without significantly reducing lake whitefish catch rates. However, lake whitefish catch rates were low in both gears. This year we intend to fish more legged nets to expand our data set set and thermocline oriented nets to evaluate if lake whitefish are foraging in or near the thermocline more due to lack of diporeia on the lake bottom. In 2002 and 2003 we conducted the fishery independent lake whitefish survey in mid-May to mid-June. At the spring 2004 MSC meeting, researchers agreed to move the survey to mid-July to mid-August to see if lake whitefish catch rates would be higher at this time. We conducted sets at a limited number of our 2004 survey

sites in June so that we could make temporal comparisons between June and July/August catch rates. This survey will continue annually and will be tailored to meet the needs identified by the MSC. 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 current population models being used to set lake whitefish harvest guidelines in 1836 Treaty waters of northern Lake Huron. Good model output is essential to sound and sustainable management of the lake whitefish resource in northern Lake Huron, and lake whitefish is the central component to the Native American commercial fisheries in 1836 Treaty waters. Harvest limits allow lake whitefish fisheries to be executed while still protecting the biological integrity of lake whitefish stocks. This outcome is consistent with the Fish and Wildlife Service's goal of maintaining self-sustaining populations of native fish species while meeting the needs of tribal communities.

Aaron Woldt, Alpena FRO
(Fiscal Year 2004; Vol. 2 No. 5)

-USFWS

Alpena Fishery Resources Office staff set experimental gill nets as part of the fishery independent lake whitefish survey in 1836 Treaty waters of northern Lake Huron.

Red Cliff Tribal Members assist Fish and Wildlife Service in Battle against Invasive Sea Lampreys

Members of the Red Cliff Tribe of Lake Superior Chippewa Indians, Natural Resource Department assisted personnel from the Fish and Wildlife Service's Marquette Biological Station in a lampricide treatment of Red Cliff Creek in northern Wisconsin. The Tribal members observed and documented non target mortality during the course of the two day treatment which prevented thousands of invasive sea lampreys from escaping to Lake Superior. The results of the Tribe's efforts will be detailed in a written report which will be submitted to the Fish and Wildlife Service.

Terry Morse, Marquette Biological Station
(Fiscal Year 2004; Vol. 2 No. 5)

-GLFC

Tribal members from the Red Cliff Tribe of Lake Superior Chippewa Indians assist sea lamprey control staff during the lampricide treatment of Red Cliff Creek in northern Wisconsin.

Menominee Reservation Lake Sturgeon Committee considers Opening Fishery

The La Crosse Fishery Resources Office (FRO) facilitated the annual meeting of the Menominee Reservation Lake Sturgeon Enhancement Committee on June 8. Additional participants on the committee include representatives from the Menominee Conservation Department, Menominee Environmental Services Office, Wisconsin Department of Natural Resources, Genoa National Fish Hatchery (NFH), and the Green Bay Field Office. The group reviewed the past year's progress, plans for 2004, and discussed the possibility of a limited lake sturgeon fishery for 2004-2005. This would be the first fishery since implementation of the Menominee Reservation Lake Sturgeon Management Plan and the first opportunity for the Menominee people to harvest lake sturgeon since the 1950s.

Lake sturgeon from Genoa and Neosho NFHs have been stocked annually into Legend Lake since 1994. Over 56,000 lake sturgeon have been stocked to date. Data collected by the La Crosse FRO in the fall of 2003 indicate that these fish have grown to a large enough size to be harvestable. The Lake Sturgeon Enhancement Committee is now drafting proposals for a limited winter spear fishery for the Tribal Conservation Committee to consider. The Tribal Conservation Committee will then make recommendations to the Tribal Legislature who will vote and make the final decision on the type of fishery and related regulations.

Ann Runstrom, La Crosse FRO
(Fiscal Year 2004; Vol. 2 No. 5)

Ashland Fishery Resources Office assists with Scoring the 2004 Tribal Wildlife Grants and Tribal Landowner Incentive Program Grants *(Tribal Grant)*

Frank Stone from the Ashland Fishery Resources Office (FRO) assisted in the scoring of the Fish and Wildlife Service's 2004 Tribal Wildlife Grants (TWG) and Tribal Landowner Incentive Program (TLIP) grants. This was a regional scoring of resource projects submitted by Region 3 tribes. A total of 23 grant proposals were received (18 – TWG and 5 – TLIP) from 17 tribes. The proposals represented a variety of resource concerns including a wide range of wildlife and plant species; black bear, cougar, bald eagles, walleye, wild rice, and lake sturgeon.

The TWG and TLIP programs provide new funding opportunities to tribes for activities that protect and restore habitats that will benefit fish and wildlife species of tribal significance. These grant programs also support the efforts of tribal governments to develop or augment the capacity to manage, conserve, or protect fish and wildlife species of concern through the provision of funding and technical support.
Frank Stone, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 5)

Fish Health Inspection at the Lac du Flambeau Tribal Fish Hatchery

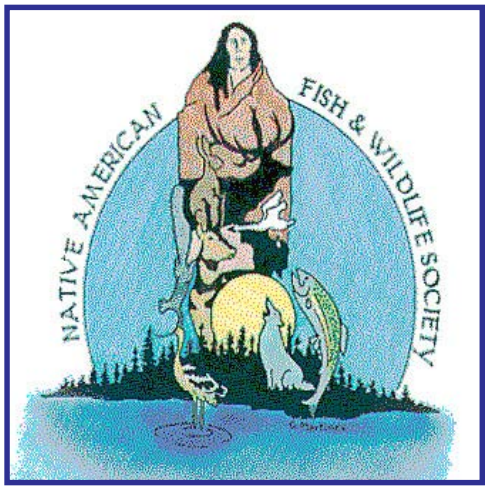
The Lac du Flambeau Tribal Fish Hatchery in Woodruff, Wisconsin requested a fish health inspection by the La Crosse Fish Health Center (FHC) as part of a Memorandum of Understanding for diagnostic services in 2004. Rick Nelson, project leader for the La Crosse FHC sampled rainbow trout being raised at the facility. The facility has had an excellent record of fish culture sanitation, obtaining disease free eggs, and training staff. They have a fee fishing operation that is very successful and draws lots of tourists from the area. They also hatch walleye eggs and stock fry in most of the 120 lakes on the reservation creating an excellent fishery.
Rick Nelson, La Crosse FHC
(Fiscal Year 2004; Vol. 2 No. 5)

Development of Walleye Rearing Ponds at the Keweenaw Bay Indian Community

Frank Stone from the Ashland Fishery Resources Office (FRO) traveled to the Keweenaw Bay Indian Community to discuss the Tribe's plan to construct two walleye rearing ponds. Also in attendance were representatives from the Lac du Flambeau Band of Lake Superior Chippewa and the Natural Resources Conservation Service. The plan calls for each pond to be approximately ½ acre in size and lined with a high density rubber mat. Each pond will receive water from surface runoff, and a small reservoir that will be constructed at the site. Two water control structures will be installed to maintain consistent water levels. Harvest kettle designs are now being reviewed. Under consideration is the use of one external kettle rather then separate kettles for each pond. The intent of this project is to provide walleye fingerlings that could be stocked in nearby lakes.
Frank Stone, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 5)

Ashland Fishery Resources Office helps to Schedule Tribal Grant Workshop *(Tribal Grant)*

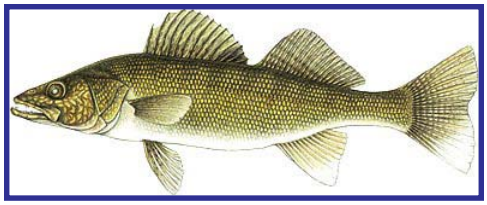
Frank Stone, Ashland Fishery Resources Office (FRO), attended a planning meeting of the Great Lakes Region of the Native American Fish & Wildlife Society (GLNAFWS) to schedule the events for the 2004 Regional Conference to be held at Lac du Flambeau, Wisconsin. Frank presented a proposal to include a Tribal Wildlife Grant (TWG) and Tribal Landowner Incentive Program (TLIP) workshop to be held during the conference's biological session. The two regional presenters for this workshop will include John Leonard (Region 3 Tribal Liaison) and Bud Fuchs (Office of Federal Aid). Frank's proposal was well received and the committee scheduled a full day workshop for both John and Bud to discuss the grant programs.
Frank Stone, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 5)



Mille Lacs Lake Walleye Survey – "A Cold Operation"

The spring walleye spawn came on strong during April and that meant survey time. The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) requested assistance from both the La Crosse and Ashland fishery resources offices (FRO). Dave Wedan and Scott Yess (La Crosse FRO) and Gary Czypinski (Ashland FRO) assisted on Mille Lacs Lake this year. Weather conditions were cold and rainy during the 9 day spawning run. The team, which consisted of 2 GLIFWC boats, 2 Fish and Wildlife Service boats, and a Fond Du Lac boat, tagged over 10,000 walleye. The majority of the fish were males in the 17-22 inch range.

This effort was conducted in conjunction with a Minnesota Department of Natural Resources project which involved fyke netting. The information will be used to estimate the walleye population and set future harvest regulations. Mille Lacs Lake is the premiere walleye lake in Minnesota, and the harvest is allocated for both sport fishing and tribal spearing and netting. Harvest limits are set based on population estimates and the surplus that can be removed without depleting the population.
Scott Yess, La Crosse FRO
(Fiscal Year 2004; Vol. 2 No. 4)



Walleye

The La Crosse and Ashland fishery resources offices assisted the Great Lakes Indian Fish and Wildlife Commission with a population surey of walleye at Mille Lacs Lake, Minnesota. The information attained will be used to set future harvest regulations.

Ashland Fishery Resources Office assists with Lamprey Control

Ashland Fishery Resources Office (FRO) employees assisted the Great Lakes Indian Fish & Wildlife Commission (GLIFWC) and the Marquette Biological Station while receiving some hands-on experience with adult lamprey. Jessica Krajniak and Jonathan Pyatskowit aided GLIFWC Biologist Mike Plucinski with checking nets and marking captured lamprey in the Bad River, Wisconsin. Over 40 lamprey were caught, a surprisingly lower number compared with previous catches. Jessica also supported Marquette's Lamprey Control Team member, Sara Ruiter, by checking traps in the Middle, Amnicon, Poplar, and Brule rivers, but caught only one adult lamprey. Agencies work together to monitor the movements and characteristics of invasive sea lampreys while attempting to estimate the number of spawners in Lake Superior's tributaries.
Jessica Krajniak, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 4)

Midwest Tribal Aquaculture Newsletter

The Ashland Fishery Resources Office (FRO) provides technical assistance to help numerous tribes develop fish hatchery programs. One aspect of this program is to publish a quarterly newsletter. The Midwest Tribal Aquaculture Network (MTAN) is dedicated to assist tribal hatchery programs through the sharing of cool/cold water fish culture practices.

This quarter's newsletter discusses: Marking System using Oxytetracycline, Experimental Treatment Used on Lake Trout Eggs, Aquaculture References from the World Wide Web, Blowers - Air Pumps or Compressors, and Minnesota Fish Producers Report Losses to Cormorants and Other Birds.

The MTAN has assisted tribal fish hatchery programs for the past 12 years. The rewards from this kind of technical assistance is providing information that enables hatchery programs to better utilize their resources and provide a healthier product for the fishery. The MTAN also helps to educate fish hatchery workers and direct them to other areas of opportunity so they can better research their specific needs. Issues of the MTAN, plus tribal hatchery stocking information, is accessible from the Ashland FRO web page. Readers can access this information by pointing their web browsers to: http://midwest.fws.gov/ashland/mtan/mtanhome.html.
Frank Stone, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 4)

Red Cliff Band of Lake Superior Chippewa Indians approves Plan for Sea Lamprey Control in Red Cliff Creek

Personnel from the Fish and Wildlife Service's Sea Lamprey Management Program, located in Marquette, Michigan, presented an integrated management plan for controlling sea lampreys in Red Cliff Creek, at the April 20 Tribal Council meeting of the Red Cliff Band of Lake Superior Chippewa Indians. The Red Cliff Tribal Council approved the plan which included: 1) a lampricide treatment in June 2004, 2) intensified trapping of spawning-phase adults in spring 2004, 3) eventual elimination of "mark-recapture" efficiency studies during spring trapping operations, and 4) a draft letter from the Tribal Department of Natural Resources to the Great Lakes Fishery Commission expressing an interest in having a sea lamprey barrier constructed on Red Cliff Creek.

Terry Morse, Marquette Biological Station

(Fiscal Year 2004; Vol. 2 No. 3)

-GLFC

Invasive, parasitic sea lamprey are attached to this native lake trout. Sea lamprey control staff recently presented a plan to the Red Cliff Band of Lake Superior Chippewa Indians to treat Red Cliff Creek for lampreys.

Technical Fisheries Committee provides Final Harvest Limits for Lake Whitefish and Lake Trout

On April 28, the Technical Fisheries Committee (TFC) agreed on final lake trout harvest limits for 1836 Treaty waters of lakes Superior, Michigan and Huron. This action completed a primary role of the TFC and its Modeling Sub-Committee (MSC), the annual development of recommended safe harvest limits for State and Tribal lake whitefish and lake trout fisheries in these Great Lakes waters. Using the most current and statistically valid assessment and harvest data available, the MSC uses Statistical Catch at Age Modeling to produce recommended safe harvest limits for the upcoming fishing season. The interagency TFC reviews the recommendations of the MSC and approves the numbers, then provides the recommended limits to the parties of the 2000 Consent Decree. Final recommended harvest limits for lake whitefish were provided to the Parties on December 15, 2003. Alpena Fishery Resources Office (FRO) Project Leader Jerry McClain Chairs the TFC and Treaty Fisheries Unit Leader Aaron Woldt Co-chairs the MSC. Interagency participation in the Modeling Sub-Committee and the Technical Fisheries Committee ensures cooperation and agreement for establishment of safe harvest limits for lake whitefish and lake trout. The effort fulfills the Fish and Wildlife Service trust responsibilities to the Great Lakes natural resources (lake trout rehabilitation effort) and to the 1836 Treaty Tribes.

Jerry McClain, Alpena FRO

(Fiscal Year 2004; Vol. 2 No. 3)

Lake whitefish (above) and lake trout (below) are important fisheries in the 1836 Treaty Waters of lakes Superior, Michigan, and Huron. The interagency Technical Fisheries Committee provides recommended safe harvest limits to the parties of the 2000 Consent Decree.

-USFWS photos

Ashland Fishery Resources Office assists with processing Tribal Grants *(Tribal Grant)*

Frank Stone from the Ashland Fishery Resources Office (FRO) was recently assigned to a ten day project at the Great Lakes/Big Rivers Regional Office to assist with the processing of 21 Tribal Wildlife (TWG) and Tribal Landowner Incentive Program (TLIP) grants. Most of his time was devoted to contacting the tribal representatives that needed to submit additional compliance information. These forms and project statements were then organized and a check off list was developed to prepare the grants

for additional review by the Division of Federal Aid. During Frank's short detail, significant accomplishments were made in the processing of 12 of the 21 total grants.

The 2003 grant programs have tribal dedicated funds and are similar to other programs to assist partners to undertake fish and wildlife conservation projects. TWGs awarded to tribes in Region 3 included 17 awards totaling $2,425,586 that had in-kind non Federal match of $691,285 for a total value of these projects of $3,116,871. TLIP Grants awarded to tribes included 4 awards totaling $556,413 and included an in-kind non Federal match of $694,491 for a total value of these projects of $1,250,904.
Frank Stone, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 3)

Tribal Wildlife Grants awarded to tribes in Region 3 in FY2004 included 17 awards totaling $2,425,586 that had in-kind non Federal match of $691,285 for a total value of these projects of $3,116,871. Tribal Landowner Incentive Program Grants awarded to tribes included 4 awards totaling $556,413 and included an in-kind non Federal match of $694,491 for a total value of these projects of $1,250,904.

Fish and Wildlife Service continues Assistance With Mille Lacs Walleye Marking Study

On Mille Lacs Lake, Minnesota, the Fish and Wildlife Service continued assistance with a multi-year cooperative walleye marking study between the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) and the Minnesota Department of Natural Resources. Five electro-fishing boats participated in the study, two from GLIFWC, one from the Fond du Lac tribe, one from LaCrosse Fishery Resources Office (FRO), and one from Ashland FRO. A total of 14,000 adult walleye were tagged in 9 nights during walleye spawning in late April. The objectives of the study are: 1) obtain an independent estimate of the adult walleye population and mortality to supplement state and tribal population modeling; 2) determine angling and netting size selectivity; 3) determine if walleye return to the same spawning site each year, and if so, to what extent; 4) identify harvest impacts on spawning sites; 5) determine seasonal movements and spatial distribution of adult walleyes; and 6) identify walleye mortality by area. Electrofishing crews have tagged a total of 46,000 walleyes in Mille Lacs Lake since the study began in 2002.
Gary Czypinski, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 3)

-USFWS

This walleye is being tagged as part of a marking study on Mille Lacs Lake in Minnesota conducted by the Fish and Wildlife Service, Great Lakes Indian Fish and Wildlife Commission, and the Minnesota Department of Natural Resources.

Lake Whitefish Scales aged and entered into a Database for the Bay Mills Indian Community under the 1836 Treaty Fishery Assistance Program

Under the 1836 Treaty Fishery Assistance Program, staff at the Ashland Fishery Resources Office (FRO) aged approximately 1,200 lake whitefish scale samples and entered the information into a database. Samples were collected from tribal commercial fishers by staff of the Bay Mills Indian Community Natural Resources Department. Scales were aged and entered into a database with corresponding biological information. This information will be used to determine growth, size, and age structure of lake whitefish populations. Information from these samples is used to model the lake whitefish populations and aid to allocate the resource between tribal and state commercial fishers.
Jonathan Pyatskowit, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 3)

Fishery Management Reports completed for the White Earth Reservation and the Tamarac National Wildlife Refuge

A Lake Sturgeon Status Report was completed for the White Earth Reservation. The report highlights the lake sturgeon restoration effort being conducted by the White Earth Department of Natural Resources, Fish and Wildlife Service, and partners. Our partners on this project include Rainy River First Nations, Minnesota Department of Natural Resources, and the White Earth Land Recovery Project. Lake sturgeon have not been caught on the reservation since the early 1900's. This majestic native species is not only unique but is culturally significant to Native Americans. Since 2001, over 30,000 fingerling lake sturgeon have been stocked into White Earth and Round Lakes. Survival of these stocked fish was documented in October 2003 and we expect this project to be a restoration success story.

-USFWS

White Earth Department of Natural Resources (DNR) biologist Will Bement holds a lake sturgeon that was caught in Round Lake on the White Earth Reservation. Lake sturgeon have been restored on the reservation by the White Earth DNR, Fish and Wildlife Service, and partners.

The adjacent Tamarac National Wildlife Refuge was also surveyed in 2003 with northern pike the dominant predator in Pine, Blackbird, and South Chippewa. A baseline community survey was conducted on the Ottertail River and 21 species were collected. The report includes fishery management recommendations.
Scott Yess, La Crosse FRO
(Fiscal Year 2004; Vol. 2 No. 2)

Fish and Wildlife Service Biologists assist with the generation of Harvest Limits for 1836 Treaty Waters

Biologists Aaron Woldt of the Alpena Fishery Resources Office (FRO) and John Netto of the Green Bay FRO represented the Fish and Wildlife Service at the March 16-18 meeting of the Modeling Subcommittee (MSC) of the Technical Fisheries Committee (TFC). The primary focus of this meeting is to generate preliminary 2004 harvest limits for lake trout in 1836 Treaty waters of lakes Huron, Superior, and Michigan. As stipulated in the 2000 Consent Decree, preliminary lake trout harvest numbers must be calculated by the MSC, reviewed by the TFC, and presented to the parties to the decree by March 31 each year. The 2000 Consent Decree is 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 MSC will complete final lake trout harvest numbers and present them to the parties by April 30th as stipulated in the Decree. Woldt and Ji He (Michigan Department of Natural Resources) presented an update of the status of northern Lake Huron (MH-1 and MH-2) lake trout stock assessment models, model diagnostic output, and preliminary 2004 lake trout harvest limits. 2004 Lake Huron preliminary lake trout harvest limits increased from 2003 levels due to lower than target total mortality rates and increases in stock biomass due to decreasing mortality. These preliminary limits were presented to the TFC for review on March 30. In addition to performing model analyses, Biologist Woldt also ran the MSC meeting ensuring all agenda items were discussed and kept meeting minutes. A preliminary draft of the March 16-18 MSC meeting minutes was mailed to MSC members for review. Harvest limits produced at this meeting, when reviewed by the parties and finalized, will become binding 2004 lake trout harvest limits for 1836 Treaty waters. These harvest limits will allow lake trout fisheries to be executed while still protecting the biological integrity of the lake trout stocks.
Aaron Woldt, Alpena FRO
John Netto, Green Bay FRO
(Fiscal Year 2004; Vol. 2 No. 2)

Green Bay Fishery Resources Office produces Lamprey Mortality and Survey Catch per Effort Estimates for 1836 Treaty Waters

John Netto of the Green Bay Fishery Resources Office (FRO) assisted state and tribal biologists with data processing and provided analyses to facilitate the assessment modeling process in lakes Superior, Huron, and Michigan. Recently, John has generated estimates of sea lamprey induced mortality for the treaty management units in lakes

Superior and Huron. This year's estimate of 2002 mortality, based on 2003 data, indicates that lake trout mortality rates from sea lamprey attacks have increased slightly from last year, but are still much lower than earlier in the time series. The dramatic decline in sea lamprey mortality in Lake Huron was attributed to effective treatment efforts in the St. Mary's River. This year's estimates indicate that the sea lamprey population has rebounded slightly from the treatment induced population decline.

This year, John also ran the mixed model analyses for generating catch per effort estimates for the lake trout surveys in lakes Superior and Michigan. The mixed models provide a mean value of catch per unit of effort for the multiple surveys in each management unit. These models use the location of the survey, the year of the survey, and the depth of the survey site as factors that determine the overall catch per unit effort for each management unit.

John Netto, Green Bay FRO (Fiscal Year 2004; Vol. 2 No. 2)

Red Lake Walleye Restoration Effort

The Ashland Fishery Resources Office (FRO) continues to work with the Red Lake Band of Chippewa, Minnesota Department of Natural Resources (DNR), Bureau of Indian Affairs, and the University of Minnesota, to restore a naturally spawning population of walleye in Red Lake which is located in northern Minnesota. During a March meeting, Frank Stone met with the Red Lake Task Force Committee to discuss the walleye restoration program and performance indicators of this long term restoration effort. Frank also presented the first draft of an Internet web page that he developed for the Red Lake Recovery program. The web page will highlight the history, decline, and recovery of this important resource. The proposed web page will contain several links; Resource Fact Sheets, Progress Reports for 2002/2003, Recovery and Fishery Assessment Data, Media and Agency Links, Image Library, and a Tribal Profile.

Several additional topics were discussed at this meeting: The Minnesota DNR and the Red Lake Nation are focusing on selecting from different harvest models to use for the Red Lake walleye fishery; The Red Lake DNR developed a questionnaire for the Band members that will attempt to define future harvest options preferred by the tribe; The tribe will need significant funding increases for future fishery assessments, creel surveys, and law enforcement efforts. Frank suggested that they consider submitting a proposal with the 2004 Tribal Wildlife Grant program. The Minnesota DNR and the Red Lake Band will continue with an experimental walleye fry stocking (10 million) to study survival rates.

Frank Stone, Ashland FRO (Fiscal Year 2004; Vol. 2 No. 2)

Population Assessment of Sora, Virginia, and Yellow Rails

The Bad River Band of Lake Superior Chippewa Wildlife Department has completed the second year of a 3 year study to assess sora, Virginia, and yellow rail populations in the wild rice dominated wetlands of the Kakagon/Bad River wetland complex. Radio tracking and monitoring was conducted during the 2003 migration periods and breeding season. The cooperative project was developed and led by the Tribe in partnership with the Fish and Wildlife Service's Great Lakes Coastal Program and the Ashland Fishery Resources Office (FRO), as well as the Bureau of Indian Affairs' Circle of Flight Program.

Rails are small, secretive migratory birds of wetlands which are usually heard and rarely seen. Sora, Virginia and yellow are the three species of rails documented during this year's field season. The study area is the 16,000 acre Kakagon/Bad River wetland complex located in northern Wisconsin on Lake Superior. It is the largest ecologically intact estuary system in the upper Great Lakes and has been designated as a National Natural Landmark by the U.S. Department of the Interior.

Ted Koehler, Ashland FRO (Fiscal Year 2004; Vol. 2 No. 2)

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The Bad River Band of Lake Superior Chippewa Wildlife Department has completed the second year of a 3 year study to assess sora, Viginia, and yellow rail populations in the wild rice dominated wetlands of the Kakagon/Bad River wetland complex.

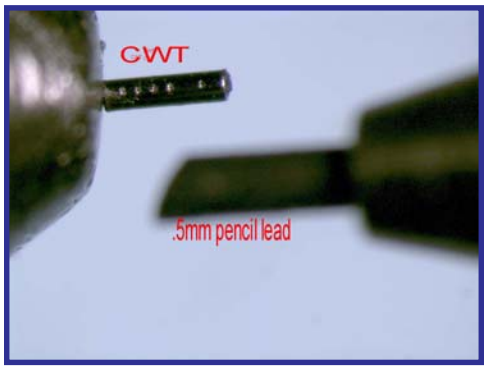
2003 Coded-Wire-Tag Data

Throughout January, 2004 Biologist Aaron Woldt from the Alpena Fishery Resources Office (FRO) compiled the 2003 lake trout coded-wire-tag (CWT) data for submission to the Lake Huron Technical Committee (LHTC) CWT database. The database was created in 1999 and includes lake trout CWT return data from 5 partner agencies: Michigan Department of Natural Resources (DNR), Chippewa/ Ottawa Resource Authority (CORA), Ontario Ministry of Natural Resources, U.S. Geological Survey (USGS), and the Fish and Wildlife Service.

CWTs are microscopic tags placed in the snouts of hatchery lake trout prior to stocking. Tags are extracted from lake trout at harvest and yield information such as hatchery of origin, year planted, fish age, and fish strain. The Alpena FRO captures CWT lake trout in its fishery independent lake whitefish surveys and its mid-lake lake trout surveys. Recreationally caught CWT lake trout sampled by Michigan DNR creel clerks and survey caught CWT lake trout sampled by CORA are also processed by the Alpena FRO. Woldt summarized all CWT returns processed by the Alpena FRO in 2003. CWT's were extracted and read by Biologists Scott Koproski and Adam Kowalski. Woldt formatted all the data to conform to common database standards developed by the LHTC and forwarded Alpena FRO data to Scott Nelson of USGS in Ann Arbor for inclusion in the database. The database is used by members of the LHTC to evaluate lake trout movement, strain survival, effects of quality at release on survival, and effectiveness of the northern and mid-lake refuges.

Woldt will use the LHTC database to update his analysis of Lake Huron lake trout movement for presentations at the 2004 Upper Lakes Meeting. Movement results will also be used to update lake trout catch-at-age models used to set harvest limits in 1836 Treaty waters. Capturing, processing, and analyzing lake trout CWT returns directly supports lake trout rehabilitation by allowing agencies to assess lake trout movement patterns, differences in strain survival, effects of hatchery practices, and effectiveness of refuges. CWT analysis also affects population models used to set sustainable lake trout harvest limits for 1836 Treaty waters. These outcomes are consistent with the Fish and Wildlife Service's goal of building and maintaining self-sustaining populations of native fish species while meeting the needs of tribal communities.

Aaron Woldt, Alpena FRO
(Fiscal Year 2004; Vol. 2 No. 1)



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This image shows the size comparison of a microtag to the lead of a pencil. The microtag is injected into the snout of a yearling fish prior to stocking. Tags have a unique numeric code etched onto the surface which allows biologists to identify fish groups when they are caught.

Ashland Fishery Resources Office's 2004 Circle of Flight Partnerships

Through the Fish and Wildlife Service's Partners for Fish and Wildlife Program (PFWP), the Ashland Fishery Resources Office (FRO) partners with the Bureau of Indian Affairs - Circle of Flight Program (CoF) and Native American Tribes to restore fish and wildlife habitat. Each year, a portion of the PFWP allocation is used to partner on CoF projects. During the annual CoF meeting, hosted by the Fond du Lac Band in February, Ashland FRO renewed its partnership with the Prairie Island Indian Community. Phase one of the Tribe's prairie restoration project, restoring 40 acres of native prairie, was completed. Phase two will restore an additional 40 acres of native prairie as well as restoring wild rice within tribal wetland and backwater areas of the Mississippi River.

Updates were also received on two ongoing projects initiated last year. We are currently assisting the Forest County Potawatomi Community restore a 5 acre wetland. This project site was impacted negatively by nearby development and restoration is on schedule for the summer of 2004. Also, in partnership with the Lac Courte Oreilles Band, we are helping to enhance and protect a 232 acre wild rice wetland. Construction is scheduled for 2004 on the lake's failing dam. The dam is unsafe and causes large fluctuations in lake levels which destroys wild rice beds.

Ted Koehler, Ashland FRO
(Fiscal Year 2004; Vol. 2 No. 1)

Lake Trout Stock Assessment Models Updated in 1836 Treaty Waters

Biologists Aaron Woldt of the Alpena Fishery Resources Office (FRO) and Ji He of the Michigan Department of Natural Resources (DNR) updated the lake trout statistical-catch-at-age (SCAA) models for 1836 Treaty waters of Lake Huron. Each year the Modeling Subcommittee (MSC) of the Technical Fisheries Committee (TFC) is charged by the Year 2000 Consent Decree with updating stock assessment models for lake trout and lake whitefish in 1836 Treaty waters to produce safe harvest limits.

The Year 2000 Consent Decree is 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. There are two lake trout SCAA models for 1836 Treaty waters in Lake Huron. The (MH-1) north-western Lake Huron model includes statistical district MH-1 in United States waters and management area 4-1 in adjacent Canadian waters. The (MH-2) north-central Lake Huron model includes statistical district MH-2 in United States waters and management areas 4-2, 4-3, and 4-7 in adjacent Canadian waters.

Woldt and He added 2003 commercial harvest, recreational harvest, biological survey, and stocking data to the Lake Huron models. They began analyzing model output, performing diagnostic tests of the models' performance, and produced preliminary 2004 harvest estimates for the state-licensed recreational fishery and the tribal commercial fishery. Preliminary model results and harvest limits will be presented at the March 16-18 meeting of the MSC and to the TFC on March 30.

Model results from these analyses will determine 2004 lake trout harvest limits for both the state-licensed recreational fishery and the tribal commercial fishery in 1836 Treaty waters of Lake Huron. The harvest limits produced will allow fishing while still protecting lake trout stocks. This outcome is consistent with the Fish and Wildlife Service's goal of building and maintaining self-sustaining populations of native fish species while meeting the needs of tribal communities.

Aaron Woldt, Alpena FRO (Fiscal Year 2004; Vol. 2 No. 1)

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Jerry McClain, Project Leader of the Alpena Fishery Resources Office, holds a lake trout captured during an assessment. Information gathered during assessments is used to help develop harvest limits for both the state-licensed recreational fishery and the Tribal commercial fishery in 1836 Treaty waters of Lake Huron.

Another Edition of the Midwest Tribal Aquaculture Network goes to Print

The Ashland Fishery Resources Office (FRO) has the unique distinction of providing technical assistance for the development of numerous tribal fish hatchery programs. One of the ways we contribute to these programs is by publishing a quarterly newsletter. The Midwest Tribal Aquaculture Network (MTAN) is dedicated to assisting tribal hatchery programs through the sharing of cool/cold water fish culture practices. The most recent addition of the MTAN (volume 47) has just been completed and is now available for review on the Internet. This quarter's newsletter discusses the use of an algicide called SCI-62, the nutritional diseases of fish, and using ultraviolet radiation (germicidal) energy to treat water.

The MTAN has been assisting tribal fish hatchery programs for the past twelve years. The rewards from this kind of technical assistance is in knowing we are providing information that enables hatchery programs to utilize their resources better and provide a healthier product for the fishery. The newsletter has helped to educate fish hatchery workers and direct them to other areas of opportunity so they can better research their specific needs. Information from previous issues of the MTAN plus tribal hatchery stocking information is accessible from the Ashland FRO web page. Readers can access this information by pointing their web browsers to: http://midwest.fws.gov/ashland/mtan/mtanhome.html.

Frank Stone, Ashland FRO (Fiscal Year 2004; Vol. 2 No. 1)

A Lake Sturgeon Success Story

A lake sturgeon success story is unfolding on the White Earth Reservation in northwest Minnesota due to the efforts of several partners. Partners such as White Earth Department of Natural Resources (DNR), Rainy River First Nations, and Fish and Wildlife Service have worked as a well oiled machine to make this a reality. Recognition should go to Randy Zortman and his staff at White Earth DNR and Joe Hunter and his staff at Rainy River First Nations who have worked with four Fish and Wildlife Service stations; Genoa National Fish Hatchery (NFH), Neosho NFH, La Crosse Fish Health Center and La Crosse Fishery Resources Office (FRO). A lake sturgeon management plan for the White Earth Reservation was completed in 1998 and after three years of successful stocking, survival and growth were documented this year. During surveys conducted in October two young lake sturgeon were collected from White Earth Lake and four were caught at Round Lake. The number of fish are not as important at this point as the fact that lake sturgeon are present and healthy. The management plan calls for two more years of stocking, then an evaluation will be made on the stocking recommendations. Monitoring of the survival and growth is critical for successful restoration projects.

Scott Yess, La Crosse FRO (Fiscal Year 2004; Vol. 1 No. 9)

-USFWS

Survival and growth were documented from lake sturgeon stockings in White Earth Lake and Round Lake on the White Earth Reservation . Tribal staff from White Earth Department of Natural Resources and Rainy River First Nations worked with Fish and Wildlife Service offices at Genoa National Fish Hatchery (NFH), Neosho NFH, La Crosse Fish Health Center, and La Crosse Fishery Resources Office to make this management plan objective a reality.

Red Lake Walleye Restoration Effort

In cooperation with the Red Lake Band of Chippewa's, and Minnesota Department of Natural Resources (DNR), the Ashland Fishery Resources Office (FRO) continued bottom trawling for the sixth year to assess abundance of juvenile walleye and forage fish in the Upper and Lower Red Lakes, Minnesota. The Red Lake Band provided funding for the trawling project. In 2000, trawling was expanded to include the eastern half of the Upper Red Lake under the jurisdiction of Minnesota DNR. In accordance with the Red Lake Walleye Restoration Plan, this survey is used by the tribe and Minnesota DNR to aid in the assessment of walleye recruitment, the success of walleye stocking, and the status of forage fish stocks. Approximately 119 million walleye fry have been stocked in this restoration effort since 1999.

A total of 60 tows were completed during the period of August 11-13. An average of 0.86 walleyes were captured per tow, slightly down from 2002 but comparable to other years with slightly more young-of-the-year captured than older walleyes. Year class strength of yellow perch was good, possibly enhanced by the walleye fry stocking last spring. Since these assessments began in 1998, a declining trend has been observed in freshwater drum, shiners, trout-perch, johnny darter, and adult yellow perch, potentially indicative of an increasing predator population. However, adult yellow perch become more successful in evading the trawl with age. Evasion success coupled with poor year classes from 1999-2001 is probably accounting for the continued decline in the adult perch catch. The first significant natural walleye recruitment is expected from the 1999 stocking during spring, 2004.

During a December 17th meeting, Mark Dryer and Frank Stone met with the Red Lake Task Force Committee to discuss the 2003 walleye stocking program and performance indicators of this long term restoration effort. Several key elements were discussed at this meeting: The three previous walleye fry stockings have successfully recruited into this fishery; restoration stocking as part of the long term plan are no longer needed; a small scale research stocking may yield valuable data and is currently scheduled for 2004 and 2005; Red Lake and Minnesota DNR biologists will now be focusing on establishing future harvest methods and a probable date to reopen this fishery.

Historically, the Red Lakes have provided food, recreation, cultural pursuits, and income to many people. If this restoration effort succeeds, it may well be the

single most successful walleye restoration event ever accomplished within the State of Minnesota. Government leadership, cooperation, and coordination have been paramount throughout this process. All parties have demonstrated a willingness to provide leadership by example to achieve the community support and involvement required to reach the goals of the Red Lake recovery effort.

Frank Stone and Gary Czypinski, Ashland FRO
(Fiscal Year 2004; Vol. 1 No. 9)

Technical Fisheries Committee finalizes Lake Whitefish Harvest Limits

The Technical Fisheries Committee (TFC) met in Roscommon, Michigan on December 3 to finalize lake whitefish harvest limits for 2004. Model generated harvest limits, based on the most current biological and harvest data, are produced annually by the TFC's Modeling Subcommittee (MSC) for management units where fisheries are shared between Parties consisting of the five Chippewa-Ottawa Resource Authority (CORA) tribes and the State of Michigan in 1836 Treaty waters of Lakes Superior, Michigan and Huron. The Consent Decree requires the TFC to provide these final harvest limits to the Parties by December 1 each year. In management units where the whitefish fishery is reserved for the CORA tribes, harvest regulation guidelines (HRG) are established by the tribes according to terms of a Tribal Management Plan. Final HRGs will be provided to the Parties once CORA has established them. Alpena Fishery Resources Office (FRO) Project Leader Jerry McClain (TFC Chair) and Treaty Fisheries Unit leader Aaron Woldt (MSC co-Chair), John Netto and Chuck Bronte from the Green Bay FRO, along with Bob Adair from the Regional Office attended the meeting. McClain mailed the final harvest limit recommendations to the Parties on December 15. Interagency participation in the Modeling Sub-Committee and the Technical Fisheries Committee ensures cooperation and agreement for establishment of safe harvest limits for lake whitefish and lake trout. The effort fulfills Fish and Wildlife Service trust responsibilities to the Great Lakes natural resources (interjurisdictional fisheries) and to the 1836 Treaty Tribes.

Aaron Woldt and Jerry McClain, Alpena FRO
John Netto, Green Bay FRO
(Fiscal Year 2004; Vol. 1 No. 9)

Green Bay Fishery Resources Office completes Stream Restoration Project

The Green Bay Fishery Resources Office (FRO) worked cooperatively with the Oneida Tribe of Indians of Wisconsin to complete a stream restoration project. A channelized portion of Trout Creek, located on Tribal land in Outagamie County, Wisconsin, was identified as a potential restoration site in 2000.

Funding was secured and Inter-fluve Inc., a consulting firm, was hired to design and manage the project. Ground breaking began on October 6, 2003 with the initial step of dewatering the stream completed a day earlier. Over 650 yards of channelized stream was restored using natural channel design concepts. The instream construction was completed in 11 days, while 300 trees were planted several weeks later. This project is part of an ongoing effort to restore degraded areas throughout the Trout Creek watershed. Funding for the construction portion was provided by Fish and Wildlife Service flex funds, while matching funds from the Tribe contributed toward consultant costs.

Stewart Cogswell, Green Bay FRO
(Fiscal Year 2004; Vol. 1 No. 9)

Before Restoration

Green Bay Fishery Resources Office worked with the Oneida Tribe of Indians of Wisconsin to complete this stream restoration project on Trout Creek, located on Tribal land in Outagamie County, Wisconsin. Over 650 yards of channelized stream was restored using natural channel design concepts.

After Restoration

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No Lake Whitefish or Lake Trout Eggs found in Nine Eurasian Ruffe captured during Spawning

In cooperation with the Red Cliff Natural Resources Department (NRD) and Northland College, the Ashland Fishery Resources Office (FRO) sampled for the invasive fish, Eurasian ruffe, during lake whitefish and lake trout spawning population assessments near the Apostle Islands in Lake Superior. This project began in 2001 to determine at what level ruffe may be preying on lake whitefish eggs. In Lake Constance, Central Europe, ruffe predation on whitefish eggs was identified as a potential factor in the decline of that whitefish fishery. This was the first year of assessment on lake trout spawning grounds.

Red Cliff NRD performs annual gillnet assessments on the local whitefish and lake trout populations during spawning to determine tribal harvest quotas. Single 50 foot gillnet panels capable of capturing ruffe were attached to each of 4 gangs of whitefish gillnets and to each of 4 gangs of lake trout gillnets. Red Cliff tribal biologist Matt Symbal reported that the whitefish gangs were fished for one night, and the lake trout gangs were fished for 7 nights. A total of 9 adult ruffe were captured during the lake trout assessment, and no ruffe were captured during the whitefish assessment. No ruffe have been captured in the whitefish assessments since monitoring began in 2001. Dr. Derek Ogle, associate professor of mathematics, Northland College, identified the contents of the ruffe stomachs to consist primarily of midge fly larvae (chironomids), scuds (amphipods), and caddis fly larvae (trichoptera). No eggs of any kind were found in the 9 ruffe stomachs. This study was initiated to satisfy concerns of the Chippewa Ottawa Resource Authority and the Red Cliff NRD on the potential impact of ruffe to Great Lakes lake whitefish and lake trout recruitment.

Gary Czypinski, Ashland FRO (Fiscal Year 2004; Vol. 1 No. 9)

Coded Wire Tags removed From Tribal Lake Trout

During the month of December, Fishery Biologist Adam Kowalski extracted and read coded-wire-tags (CWTs) from lake trout. CWTs are microscopic metal tags placed in the snouts of juvenile, hatchery reared lake trout. Hatchery personnel inject tags into the fish and remove the fish's adipose fin so that tagged lake trout can be identified by anglers and researchers. Lake trout heads were collected during the spring fishery independent lake whitefish survey and fall lake trout assessment conducted by the Chippewa Ottawa Resource Authority. We also extracted and read CWTs from sport-fishery caught lake trout heads collected by Michigan Department of Natural Resources personnel on Lake Huron. CWTs are extracted by cutting lake trout snouts into smaller and smaller pieces until the tag can be seen and removed. A metal detector is used to help the extractor find tags. CWTs are read under a microscope, and each tag's unique number is recorded. The tag number, when compared to stocking records, yields information such as stocking location, stocking date, fish age, fish strain, and hatchery of origin. In total, Kowalski removed and read 450 tags from approximately 500 heads. This concludes CWT extraction for the 2003 field season. All CWTs extracted and read at the Alpena Fishery Resources Office (FRO) will be entered in the Lake Huron Technical Committee CWT database which is shared among all contributing resource agencies.

Data collected from lake trout CWTs are used in several ways. First, lake trout age data are used in population models that determine lake trout harvest limits for parties to the Year 2000 Consent Decree. Second, stocking location data are used to determine lake wide lake trout movement patterns. Finally, two existing studies to determine differences in survival between large and small stocked lake trout and differences in survival of various lake trout strains depend on CWT data. These outcomes are consistent with the Fish and Wildlife Service's goal of building and maintaining self-sustaining populations of native fish species while providing recreational fishing opportunities and meeting the needs of tribal communities. The multi-agency nature of this work is consistent with our goal of establishing and maintaining open, interactive communication with partner agencies.

Adam Kowalski, Alpena FRO (Fiscal Year 2004; Vol. 1 No. 9)

-USFWS

This enlarged image shows a microtag at the base of the machine nozzle which injects the tag into the snout of a yearling fish prior to stocking. Tags have a unique numeric code etched onto the surface. Tags retrieved from adult fish are read under a microscope to yield valuable data for managers.

First Coaster Brook Trout Plant in 2003 for Iron River National Fish Hatchery

Biologist Steve Redman stocked coaster brook trout with assistance from personnel of the Keweenaw Bay Tribal Resources Department. Three streams, which are tributaries to Lake Superior, located on Keweenaw Bay Tribal Community lands, were stocked with advanced brook trout fry that were reared at the Iron River National Fish Hatchery (NFH). Kelsey Creek and Zeba Creek received 15,000 fry each and the Silver River received 40,000 fry. All fry were marked with oxytetracycline at the hatchery before release. This allows biologists to monitor the status of the coasters in these habitats. Beginning in 1997, this multiple year event which is coordinated between the Keweenaw Bay Indian Community and the Fish and Wildlife Service, was established to fulfill the rehabilitation plan for Lake Superior brook trout. The combined efforts have led to continued monitoring of coaster brook trout status, distribution, movement, and abundance of re-introduced fish. Along with these accomplishments, the tribe has also acquired additional land, performed stream habitat improvements, and removed barriers that would impact coaster recovery. Coaster brook trout are a migratory form of lake dwelling brook trout that were historically widespread and common in the near-shore waters of Lake Superior.

Steve Redman, Iron River NFH (Fiscal Year 2004; Vol. 1 No. 8)

-USFWS

Fishery Biologist Steve Redman stocks coaster brook trout fry in a stream on Keweenaw Bay Tribal lands in the Upper Peninsula of Michigan. Iron River National Fish Hatchery provided a total of 70,000 fish to stock three Tribal streams.

Ashland FRO assists Keweenaw Bay Indian Community

Ashland FRO supplied a vessel, the RV Chub, for the Keweenaw Bay Indian Community's fall lake trout assessment. Information collected during the assessment helps fisheries managers answer questions such as stocking success and population size and age structure. This information can then be used to help determine lake trout harvest allocations between tribal, commercial, and sport fishing interests while protecting against over harvesting. Information gathered is also used to evaluate stocking success and to help monitor the lamprey population. The assessment was conducted on the Traverse Island reef where three 750' graded mesh (4.5", 5.0", and 5.5") gill nets were set for a total of 4 lifts (one night set). Captured lake trout were checked for spawning condition, measured, checked for lamprey wounds, tags and fin clips, and then tagged and released. Otoliths were removed from a small sample of fish for aging. A total of 115 lake trout were captured with 79 being tagged and released.

Jonathan Pyatskowit,AshlandFRO (Fiscal Year 2004; Vol. 1 No. 8)

Lake Sturgeon Reintroduction on Menominee Indian Reservation

Fishery biologists from the La Crosse Fishery Resources Office (FRO) and Genoa National Fish Hatchery, along with the Menominee Indian Tribe of Wisconsin, Wisconsin Department of Natural Resources, and the U.S. Geological Survey, conducted efforts to restore a lake sturgeon population on the Menominee Indian Reservation in northeast Wisconsin on October 21 and 22. Lake sturgeon had been extirpated from this part of their range after construction of two dams in the early 1900s. Since 1995, the La Crosse FRO has taken the lead to restore this population of lake sturgeon and this year, as in years past, adult lake sturgeon were captured downstream from the dams, tagged with radio transmitters, and reintroduced to reservation waters of the Wolf River upstream from the dams. The fish were anesthetized to enable biologists to surgically implant transmitters that have a battery life of 4 years. The transmitters allow tribal biologists to track fish movements, habitat use, and determine whether or not individuals migrate back downstream through the dams. Although over half the 151 fish reintroduced since the first reintroduction effort in 1995 have migrated downstream, biologists are hopeful that enough fish may be present to support some natural reproduction in the abundant, high quality spawning habitat that exists in the reintroduction area. Adequate natural reproduction will hopefully someday lead to the overall goal of the project, another self-sustaining lake sturgeon population.

Ann Runstrom, La Crosse FRO (Fiscal Year 2004; Vol. 1 No. 8)

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.

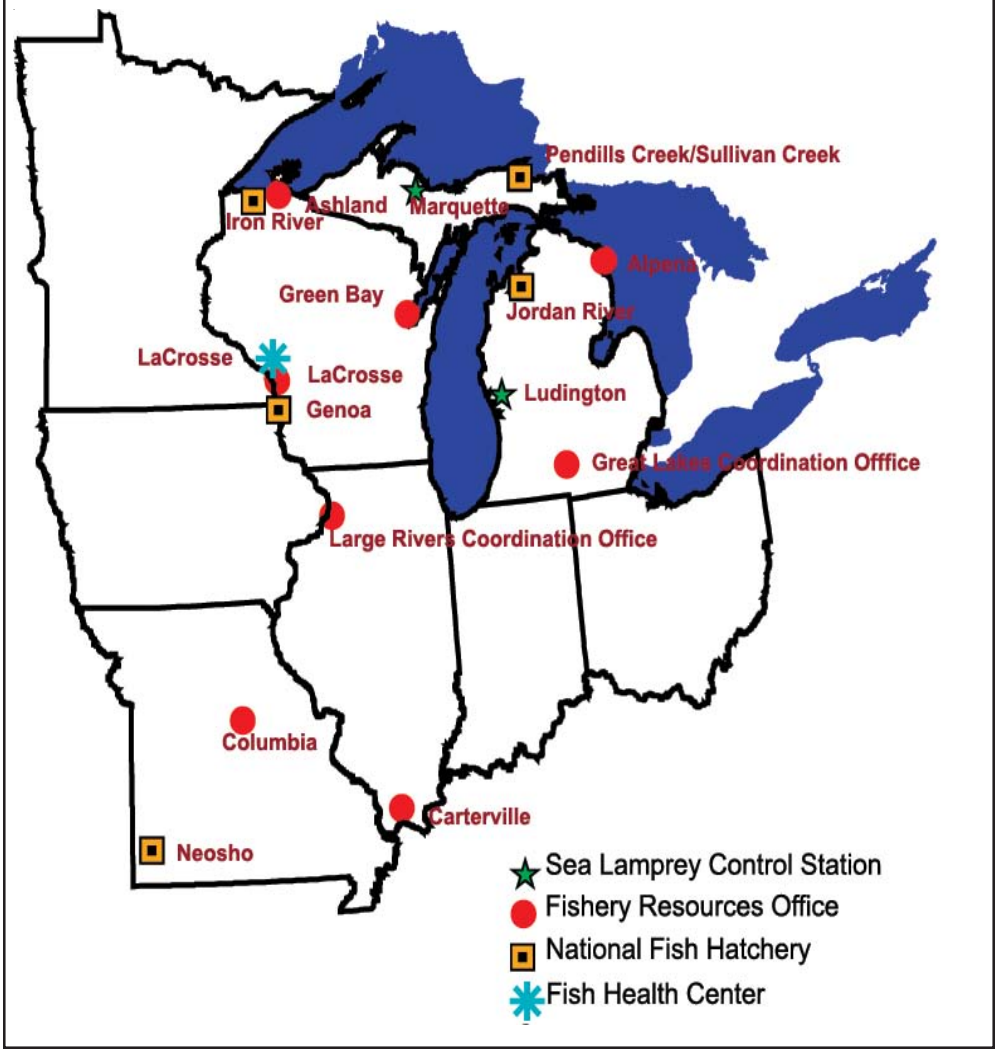
Fishery Resources Offices

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 opportunities; play a key role in targeting and implementing native fish and habitat restoration programs; work with private land owners, states, local governments and watershed organizations to complete aquatic habitat restoration projects under the Service's Partners for Fish and Wildlife and the Great Lakes Coastal Programs; provide coordination and technical assistance toward the management of interjurisdictional fisheries; maintain and operate several key interagency fisheries databases; provide technical expertise to other Service programs addressing contaminants, endangered species, federal project review and hydropower 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 referrred 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



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Fish Lines
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