PRESERVING The RESOURCE
For the Seventh Generation

"Mukwa-giizis," Bear Moon • Bimonthly Journal of the Chippewa Ottawa Resource Authority • March 2006 • Vol. 9 No. 2

ITFAP Walleye stocking a continued success

By Jennifer Dale

Almost 300,000 walleye were stocked in the upper Great Lakes by the Inter Tribal Fishery and Assessment Program (ITFAP) in 2005. Lakes Michigan, Huron and Superior all received either 2-inch spring fingerlings, 7-9 inch fall fingerlings, or a combination.

Within Grand Traverse Bay, ITFAP stocks both Northport Bay and Suttons Bay each spring. Beginning in 1998, ITFAP began stocking 80,000 spring fingerlings into Grand Traverse Bay. Following years of intense independent and commercial studies by the GTB Natural Resources Department, GTB has initiated a more aggressive stocking program, as allowed for under the 2000 Consent Decree.

The Band's new stocking plan, crafted by GTB Fisheries Biologist Erik Olsen, calls for a target range of 80,000 to 160,000 spring fingerlings to be stocked annually into Grand Traverse Bay. Northport Bay and Suttons Bay will continue as the fingerlings' new homes. In 2005, the Grand Traverse Bay was right on target, with just shy of 120,000 fingerlings being stocked.

Walleye stocking in Grand Traverse Bay has been a success, creating new opportunities for commercial and recreational fishers alike. Prior to the stocking program, walleye catch in the Bay was rare at best. From 1998 to 2003, 46,000 pounds of walleye have been harvested by tribal commercial fishers, while state recreational harvest has added up to 1,883 pounds, as reported to the Michigan Dept. of Natural Resources (MDNR). Recreational fishers reported investing zero hours angling for walleye before 1998, to an average of 210 hours per season since stocking began.

The fish community has not been adversely affected by the program, according to extensive monitoring by GTB. A 4-year diet study indicated that smelt and alewife are the predominate forage for walleye, with no salmonids present throughout the study. However, monitoring will continue in order to ensure walleye stocking does not negatively impact the state and federal stocked salmonids.

According to Olsen's report, predation is not much of a consideration since the walleye prefer a different habitat than lake trout. Walleye are a cool water fish rather than a cold-water fish like lake trout, so the two species don't commonly mix. However, the fish community may experience the added benefit of walleye predation on round gobies as the goby population in Grand Traverse Bay expands.

Monitoring activities showed that there appears to be plenty of forage for the walleye and the fish are flourishing beyond even expected growth rates. Before upping stocking numbers in Grand Traverse Bay, GTB made sure there was enough habitat to continue the walleye's success.

According to Olsen, good walleye habitat is shallow water bodies with plenty of sunny nearshore area with an abundance of islands and shoals. With 1,920 acres and 640 acres respectively in Northport Bay and Suttons Bay, increased stocking rates would yield a maximum of only 62.5 fish per acre, which is in the mid-range of the recommended Michigan DNR rate of 25-100 fish per acre. Continued monitoring will ensure that stocking rates can be adjusted as needed.

Loss of walleye stock in a 1999 flood and below target stocking numbers for the next two years caused some very real disappointment in the Bay. Over the past eight years, walleye have become an important species in Grand Traverse Bay, providing increased fishing opportunities for anglers and tribal commercial fishers alike.

Sport fishers can enjoy the fine sport and taste of a species that has not been readily available in the Bay, while commercial fishers have developed a valuable niche market for the delicious walleye.

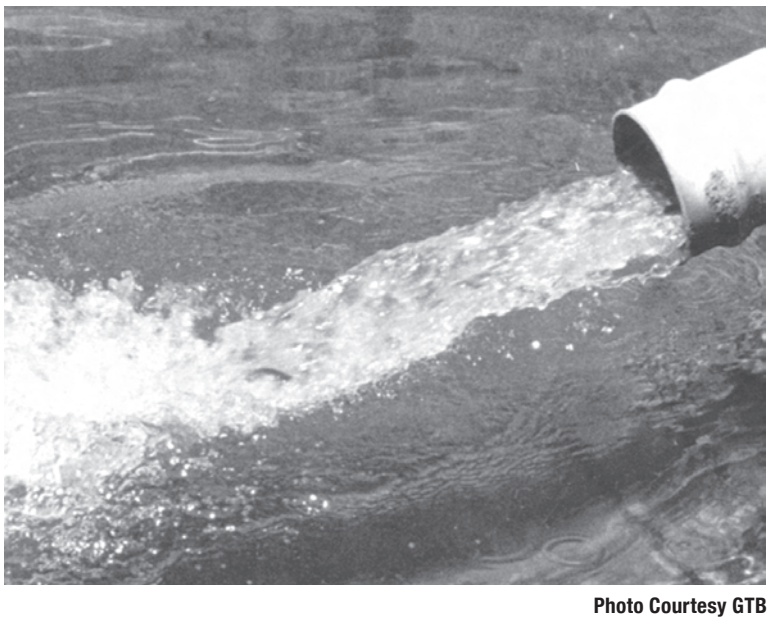


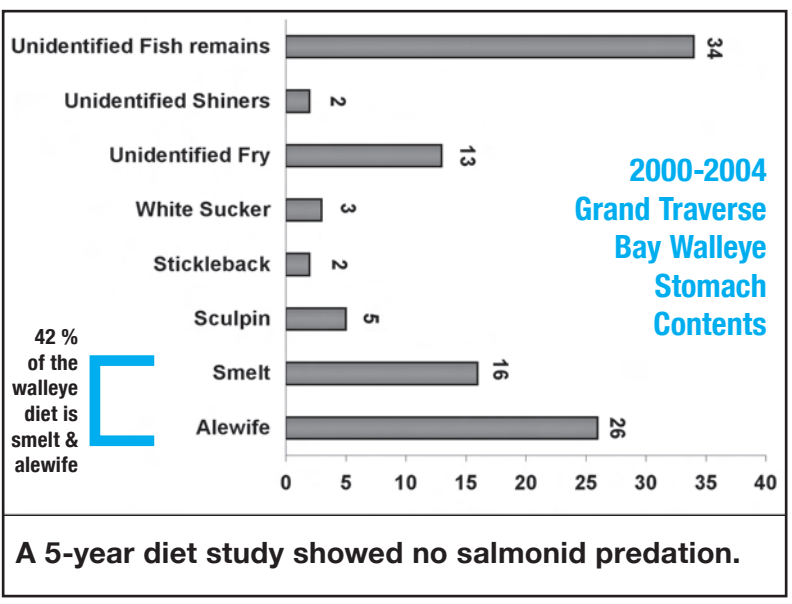
Photo Courtesy GTB

Above, walleye fingerlings swim to their new home in Grand Traverse Bay. As of last spring, the annual stocking of spring walleye fingerlings rose from 80,000 to 120,000. A multi-year study shows more than adequate forage and habitat for the fingerlings, hopefully leading to more than adequate harvest for commercial and sport fishers.

CORA 2005 Great Lakes Walleye Stocking

AREA	LAKE	2-inch	7-9-inch	TOTAL
BMIC*	Superior	107,113	0	107,113
St. Martin's Bay	Huron	0	20,000	20,000
St. Mary's River	Huron	0	6,000	6,000
Grand Traverse Bay	Michigan	119,500	0	119,500
Epoufette Bay	Michigan	20,150	8,000	28,150
Grand Total		246,763	34,000	280,763

* Bay Mills Indian Community Waishkey Bay area



A 5-year diet study showed no salmonid predation.

Grand Traverse Bay gets extra lake trout

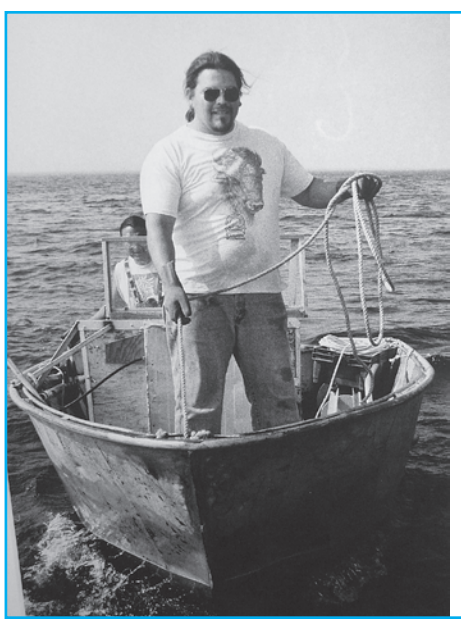
IRON RIVER — Due to space limitations, the Iron River National Fish Hatchery (NFH) stocked additional lake trout in Grand Traverse Bay last fall. About 140,000 Green Lake lake trout strain were released at the Maritime Academy site in November.

Prior to the release, the USFWS worked with the Grand Traverse Band of Ottawa and Chippewa Indians to evaluate the impacts of additional lake trout being stocked. The answer was even with so many unexpected fish, the USFWS was still well below levels stipulated in the 2000 Consent Decree.

"The fish were welcome," said GTB Fishery Biologist Erik Olsen. "The additional lake trout help bring us closer to targeted stocking levels."

Iron River personnel were assisted by Pendills Creek National Fish Hatchery staff to haul the lake trout, totalling 3,150 pounds, down Grand Traverse Bay.

According to an USFWS newsletter article by Kurt Schelling, Iron River NFH, the "extra fish support the U.S. v. Michigan 2000 Consent Decree and add to the Fish and Wildlife Service's rehabilitation efforts in Lake Michigan."



Fishing Families of the Grand Traverse Band of Ottawa & Chippewa Indians,

an exhibition of photographs by Cindi John, a Grand Traverse Band of Ottawa and Chippewa Indians fisher, photographer and natural resource commissioner, is on display at the Nokomis Learning Center in Okemos. Mich., from March through September. at 5153 Marsh Rd. in Okemos, Mich. See http://www.nokomis.org for more information about the exhibit. The exhibit includes this shot of William Fowler and Ed John fishing in Grand Traverse Bay.

Good News for Great Lakes: BioBullets target zebra mussels

CAMBRIDGE, England — Zoology and chemical engineering have united to fight the invasion of the zebra mussels. Cambridge scientists from the Departments of Zoology and Chemical Engineering are testing what they call "BioBullets" — microscopic particles that zebra mussels will ingest. Instead of food, the microencapsulates contain chemicals toxic to zebra mussels without killing other organisms.

The zebra mussel invaded the Great Lakes via ballast water of ocean-going vessels in the 1980s. The invaders have overrun native mussels and out-competed native species — including whitefish — for food, and spread wildly with high reproductive rates and no real natural enemies.

Zebra mussels cost U.S. industry billions annually. At such cost to the economy and environment, the fight has been on for some time. While numerous treatments — physical, chemical and biological — have been proposed and even tested, no viable solution has been found.

The zebra mussel can sense toxic substances and close its valves to the outside world for weeks at a time. Chemical treatments are therefore unfeasible.

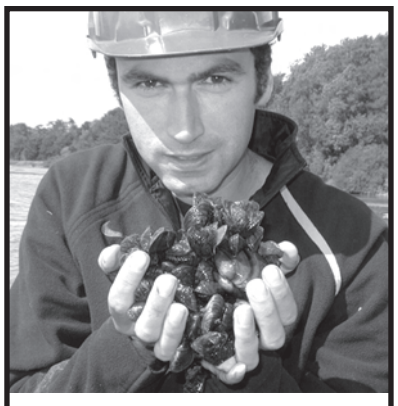


Photo courtesy University of Cambridge

Dr. David Aldridge with zebra mussels. The researcher and his team came up with the promising BioBullet — a Trojan horse method to get inside zebra mussels with toxin. Once ingested, the toxin goes to work to kill the aquatic invader, which causes billions annually to U.S. industry, and incalculable damage to our native species.

Researcher David Aldridge and his team realized they needed to devise a technique to get a toxic compound past the mussels' defenses. The researchers packed potassium chloride, which is deadly to zebra mussels but doesn't affect most other organisms, into microscopic particles made of fats. The mussels transfer the particles, or "BioBullets," along their gills and into their mouths. The particles rapidly dissolve in the mussels' stomachs, releasing a lethal dose of potassium chloride. The microencapsulates dissolve, degrading and dispersing rapidly, the scientists reported.

Testing showed some of the bullets had been ingested, and more adhered to the food groove while others seemed to be rejected. There was a 60 percent mortality rate with one 12-hour release of the bullets. Researchers found results within their expectations.

"A proportion of zebra mussels will not be feeding at a given time, and so may avoid exposure during a one-off dosing period," they reported. "We may therefore predict that a second dosing of BioBullets would result in a greater overall mortality (e.g., 84 percent compared with 60 percent overall.)"

Results showed that the capsules could be further adjusted to the zebra mussels' preference.

Potassium chloride is particularly toxic to zebra mussels. Testing showed that the BioBullets used in the testing had no effect on one sensitive species of native mussels, Anadonta anatina. Other testing cited in the study showed no mortality of mosquitofish, snails, rainbow trout, channel catfish, and two other native mussels, at the level needed to kill zebra mussels.

BioBullets could also be loaded with other cargo to control other pests or to feed useful species.

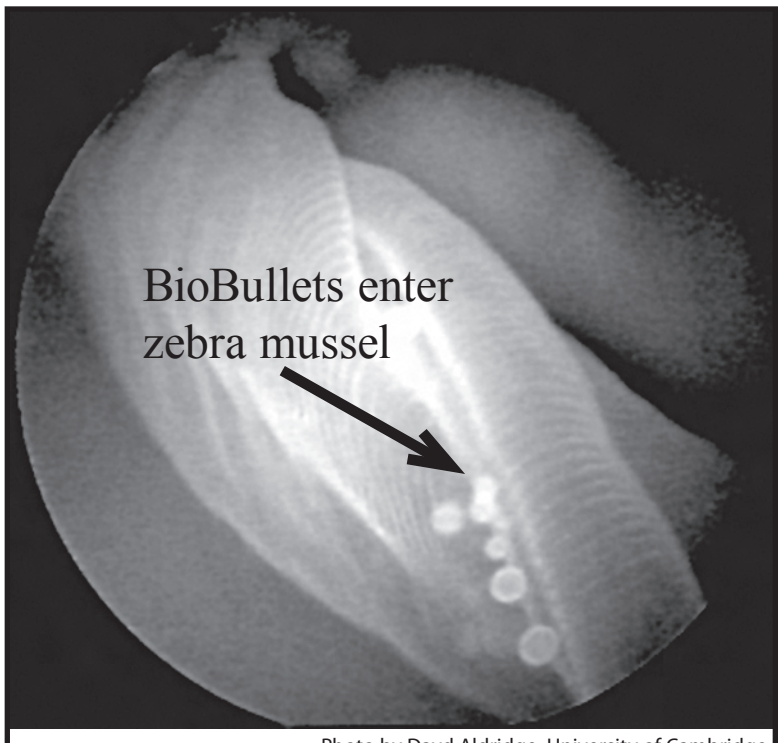


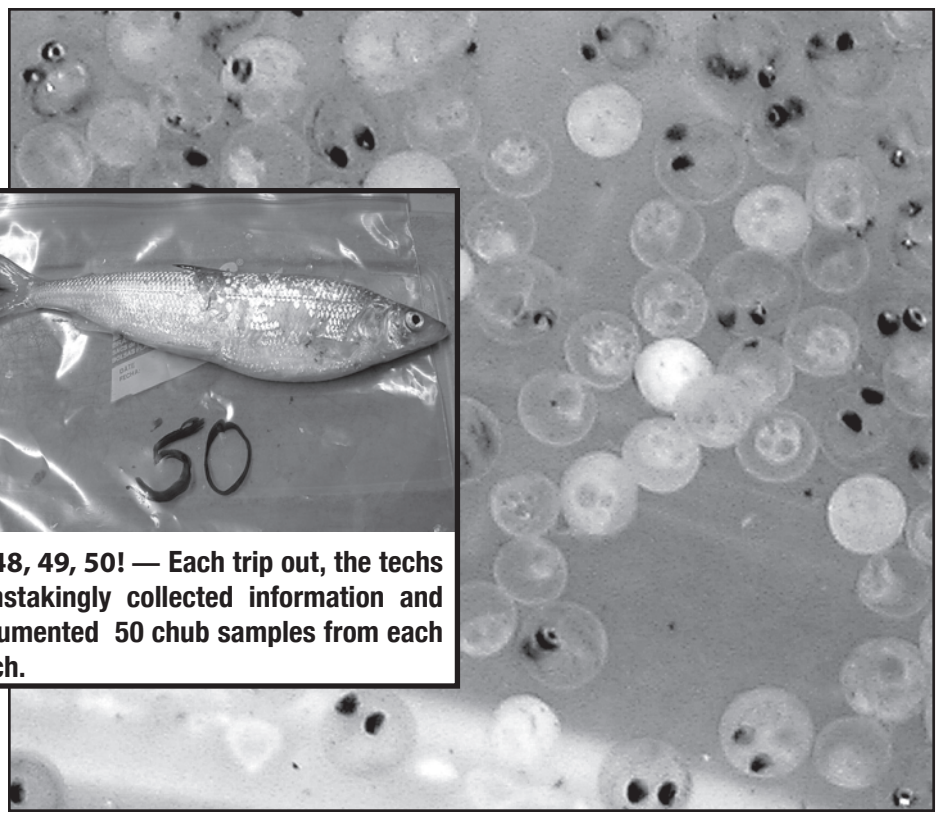
Photo by Davd Aldridge, University of Cambridge

BioBullets being transported along the gill of a live zebra mussel. The mussel has been fooled into treating the bullets as food, and will ingest their toxic payload.

(Sources: "'Sugar-coated pill' helps the medicine go down," University of Cambridge Office of Communications. Environmental Science and Technology, 2006, V40 Issue3, pp 975-979; "Microencapsulates BioBullets for the Control of Biofouling Zebra Mussels," David C. Aldridge, Paul Elliott (Department of Zoology), Geoff D. Moggridge (Department of Chemical Engineering), Cambridge University.)

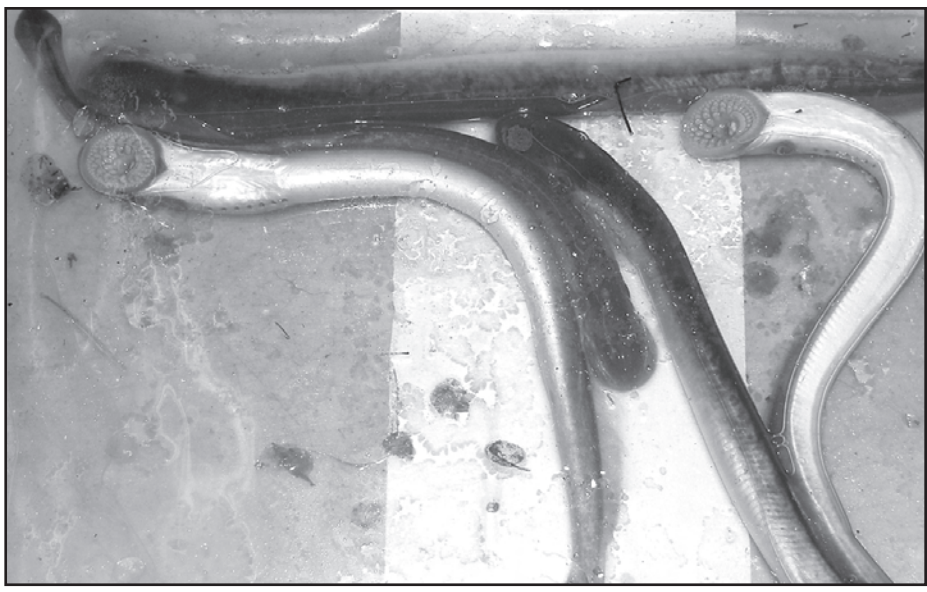
ITFAP studies deepwater ciscoes for restoration effort

SAULT STE. MARIE — Inter Tribal Fisheries and Assessment Program (ITFAP) staff monitors deep-water ciscoes as part of a research project to introduce deep-water siscowet into Lake Ontario. As part of the project, the staff is monitoring these fish off Whitefish Point for sexual maturation, collecting gametes and shipping them off to a Wellsboro, Penn., U.S. Geological Survey (USGS) research lab, and sending away adults to be tested for disease. The ITFAP is working with the USGS, the Ontario Ministry of Natural Resources (OMNR), the New York Department of Environmental Conservation, and the Great Lakes Fishery Commission. ITFAP was contracted to monitor the ciscoes by the OMNR.



... 48, 49, 50! — Each trip out, the techs painstakingly collected information and documented 50 chub samples from each catch.

FUTURE FRY — The eyed eggs collected below were sent to a USGS lab for rearing. PHOTOS BY ITFAP STAFF.



BAGGED — ITFAP staff collects any sea lamprey they find in the project.

METICULOUS TECHS — ITFAP Fishery Techs Amanda Handziak and Jason Clingaman (L-R) collect samples from each chub.

Benefit of eating fish outweighs the risk, panel says

ST. LOUIS, Mo. — The evidence is overwhelming — the benefits of eating seafood outweigh the risks. A special panel of scientists convened last month to discuss fish consumption. Although they are not sure why, eating fish is very important to our health — trying to avoid mercury and other contaminants by not eating fish is not a solution.

A special symposium was held last month at the annual meeting of the American Association for the Advancement of Science. It was moderated by Michael T. Morrissey, director of Oregon State University's Seafood Laboratory in Astoria, Ore.

"The best science coming out over the last two years has overwhelmingly been in favor of the benefits of seafood consumption," said Morrissey in a press release.

In the past, the U.S. Food and Drug Administration has looked at safety issues without taking benefits into consideration. But now the FDA is going through a risk/benefit analysis to establish effective guidelines for fish consumption.

DHA, an omega-3 fatty acid found *only* in fish oil, is an important nutrient for mothers.

— Susan Carlson, University of Kansas Medical Center

Phil Davidson from the University of Rochester Medical School presented results of a unique 10-year study of more than 700 children living in the Seychelles Islands. The children's mothers averaged 12 meals of fish a week and those fish contained high levels of methylmercury. Yet cognitive tests on the children, taken multiple times over the years, found no cognitive defects or other maladies normally attributed to mercury absorption.

"Those results are fascinating," Morrissey said in the release. "Is there something beneficial in consuming the fish that negates any adverse effects of the mercury? The science isn't quite there yet. But it underscores the importance of looking at the issues holistically instead of formulating conclusions based on scattered evidence."

Guidelines set by the FDA and the Environmental Protection Agency for young children and pregnant women should be followed, Morrisey advised, but the rest of us should be eating fish four to seven times weekly. "The evidence still suggests that seafood plays a role in reducing coronary heart disease — and new studies suggest that it may reduce the onset of Alzheimer's as well as other mental illnesses."

According to the FDA and EPA, young children and women of childbearing years should eat two meals (about 12 ounces) of fish lower in mercury in order to get enough omega-3 fatty acids. But this group should still avoid eating shark, swordfish, tilefish and Spanish mackerel, Morrissey said.

Among the important nutrients for pregnant women and new mothers is a specific omega-3 fatty acid found only in fish oil, called docosahexaenoic acid, or DHA. DHA has been linked with visual and cognitive acuity in fetuses and newborn infants who have been breast-fed, said Susan Carlson, University of Kansas Medical Center,

Women in the United States typically consume less DHA than most other groups around the world, she added.

FOOD FOR THOUGHT

Fish demand may outweigh supply in coming years

As the consumption of seafood continues to rise, the demand may overcome the supply. On a world scale there may be a shortfall of up to 10 million metric tons by 2010. And despite rapid growth, aquaculture has yet to fill the gap, warned AAA panelist Steve Otwell.

Otwell, from University of Florida, is part of a panel commissioned by the National Academy of Science that will deliver a report on seafood consumption later this spring.

Omega-3s (DHA) in Lake Superior Fish

grams per 3 oz. serving

Lake Herring	3.6 g	Chinook Salmon	1.3
Chubs	3.5	Rainbow Smelt	1.3
Lake Whitefish	3.4	Walleye	0.4
Lean Lake Trout	3.0	Yellow Perch	0.3
Coho Salmon	1.5*	Loche	0.3

* Canned tuna also has 1.5g

Omega-3 fatty acids influence mood, impulsivity, personality, study shows

DENVER — Omega-3 fatty acids may influence mood, personality and behavior, according to results of a recent study.

In a study of 106 healthy volunteers, researchers found that participants who had lower blood levels of omega-3 fatty acids were more likely to report mild or moderate symptoms of depression, a more negative outlook and be more impulsive. Conversely, those with higher blood levels of omega-3s were found to be more agreeable.

The study was presented March 3 by University of Pittsburgh School of Medicine researchers at the 64th Annual Scientific Meeting of the American Psychosomatic Society in Denver, Colo.

"A number of previous studies have linked low levels of omega-3 to clinically significant conditions such as major depressive disorder, bipolar disorder, schizophrenia, substance abuse and attention deficit disorder," said Sarah Conklin, Ph.D., in a recent press release.

Of 106 healthy volunteers, those with higher blood levels of omega-3s were found to be more agreeable.

— University of Pittsburgh School of Medicine

"However, few studies have shown that these relationships also occur in healthy adults. This study opens the door for future research looking at what effect increasing omega-3 intake, whether by eating omega-3 rich foods... has on people's mood."

Conklin is a postdoctoral scholar with the Cardiovascular Behavioral Medicine Program in the department of psychiatry at the University of Pittsburgh School of Medicine.

The American Heart Association recommends that all Americans consume fish, which is high in omega-3 fatty acids, twice per week. This recommendation is based on evidence that a diet high in fish is associated with improved heart health and reduced risk for heart-related problems.

While the cardiovascular benefit of increasing omega-3 intake is well recognized, relatively little is known of the potential mental health effects among the general public.

Comparisons were made by analyzing levels of omega-3 fatty acids in participants' blood and comparing that data to the participants' scores on three accepted tests for depression, impulsiveness and personality, according to the release.

Lake Superior fish lowest in contaminants

Inter-Tribal Fisheries and Assessment Program

SAULT STE. MARIE — Testing of whitefish and lake trout from Lake Superior show levels of contaminants in those fish are well below state and federal guidelines for safe consumption. Fish were collected from commercial catches in the Whitefish Bay area and analyzed at an independent laboratory.

The fish are tested as part of a long term fish contaminant monitoring program conducted by the Inter-Tribal Fisheries and Assessment Program (ITFAP) in order to determine contaminant levels in commercially caught fish. The results of these tests are then compared to levels of contaminants determined to be safe by State and Federal agencies. ITFAP has been testing commercial tribal catch since 1991.

Lake Superior fish were tested for a wide range of contaminants including mercury, PCBs, Dioxins and pesticides such as DDT. All fish were well below the guidelines for commercial fish issued by the U.S. Food and Drug Administration and below the Michigan Department of Public Health's guidelines for consumption of sport fish by the general public.

Lake Superior whitefish were remarkably low in mercury especially when compared to levels of mercury found in many fish from inland lakes in Michigan. Mercury, mostly from sources such as coal burning electrical plants, accumulates in rain and snow and then concentrates in the smaller inland lakes. Levels of mercury found in Lake Superior whitefish were even well below those levels typically reported for canned tuna.

Whitefish and Lake Trout are also especially good sources of the Omega 3 Fatty Acids that most Americans lack in their diets. Studies suggest that Omega 3 Fatty Acids, some of which are found only in fish oils, are beneficial for heart functions, brain development and the prevention of Alzheimer's Disease. For more information, contact Mike Ripley at (906) 632-0072.

Sault Tribe Unit 1 Director Cathy Abramson joined by two Garden River Anishinabekwe perform on water drums at the White Pines health forum. Abramson was a driving force behind the event.

BPAC, Sault Tribe sponsor St. Mary's River Public Health Forum

SAULT STE. MARIE, Ontario — On February 23, Binational Public Advisory Council (BPAC) and the Sault Tribe of Chippewa Indians sponsored a public health forum about the St. Mary's River at the White Pines High School in Sault Ste. Marie, Ontario.

The main goal of the meeting was to collect signatures for a petition to local governments to take immediate action to clean up the pollution and contaminated sediment in the St. Mary's River. This meeting also educated the public concerning the St. Mary's River Remedial Action Plan.

Prompted by reports of sewage washing up on Sugar Island and other areas of the river, BPAC has been circulating a petition to the governments of Ontario and Canada and requesting them to make good on promises to address the remaining contaminated sediments. Recent investigations indicate that plenty of contaminated sediments still exist on the bottom of the St. Mary's River and periodically make their way to the surface to cause problems again.

Little Traverse Bay Bands Chairman Frank Ettawageshik (above) and Sault Tribe Chairman Aaron Payment both spoke at the forum.

Photos by Al Kamuda, story by Corey Wilson, courtesy Sault Tribe Communications Department.

Pollution problems in the St. Mary's River, listed as one of 47 Great Lakes Areas of Concern by the International Joint Commission, were first reported in a document published in 1992. Ontario and Canada have the bulk of responsibility to clean up the river under an agreement with Michigan and the U.S. EPA.

The St. Mary's River BPAC, chaired by ITFAP Environmental Coordinator Mike Ripley, is composed of stakeholders from both sides of the river representing local agencies, Indian tribes, municipalities, universities, industries, and citizens concerned about the river ecosystem and health of its residents.

THE MOON MOVING INTO SPRING

Namebine-Giizis • Mukwa-Giizis

The names of late winter and spring moons are highly variable. In our 1836 Treaty Ceded territory, season changes differ from the northern most boundary to the southernmost boundary. Spring spawning runs of important fish depend the rivers and tributaries in which they run.

Many places call February Bear Moon (Mukwa-Giizis). The longest Bear Moon name "Makoonsaggaa-nitaawaadi-giizis" for "When the Bear Cubs are Born Moon." Sucker Fish Moon (Namebini-giizis) could be as early as February and as late as May.

March is known in some areas as Hard Crust on the Snow Moon (Onaabani-giizis) or Snowshoe Breaking Moon (Bebookwedaagime-giizis), with variations.

Time to make maple sugar is also a wide-ranging regional event, happening in March in some parts and April in others. So, Maple Sugar Moon (Ziisibaakadake giizis) will be named regionally.

Between Late Winter and Early Spring, we are transitioning from a quiet thinking time for legend telling and teachings, to another year of new beginnings. At this time of year, the bear is having her babies in her den while she still sleeps. A hard crust is forming on top of the snow that can bear our weight. We are getting ready for our sugar camps and looking forward to getting out. We start feeling energetic — even though spring is a spiritual time, it's also a physical time.

36-foot Steel Trap Net Boat *Complete*

FOR SALE — 1980 36-foot, Steel Trap Net Boat and Gear for $65,000. 115HP Perkins, 600 Hours on Motor, 4-axle Boat Trailer, Excellent Shape. Six poly trap net, complete with ropes and anchors, $65,000 Firm. Call Tim, 906-248-2150.

39-foot Gill Net Tug

FOR SALE — Gill Net Tug, 39-feet. $15,000. For information, call 231-627-6116.

42-foot Gill Net Tug

For Sale — 42' Gill Net Tug "Niibing Nimnido" (Formerly the "Francis Clark") This steel tug was constructed in the 1950s, but has been well maintained and is very clean. The vessel is powered by a 630 Caterpillar diesel engine and has a 30" lifter. Currently docked at the Arthur Duhamel Marina at Peshawbestown, Michigan. Contact Don Chippewa or Rose Weese at 1645 S. Center Highway, Suttons Bay, MI, 49682 for more information.

Dates to Remember

CORA 2006 HOLIDAYS — In 2006, the Chippewa Ottawa Resource Authority (CORA) office will be closed on the following days: April 14, May 29, July 4, September 4, September 22, November 10, November 23, November 24, December 25, December 26, January 1, '07', January 2, '07.

BIA 2006 HOLIDAYS —The Bureau of Indian Affairs (BIA) offices will be closed during 2006 on the following dates: May 29, July 4, September 4, October 9, November 10, November 23, December 25.

PLEASE MARK YOUR CALENDARS ACCORDINGLY. To place important dates in this FAQ box, please contact Jennifer Dale at 906-632-0043 or jmdale@chippewaottawa.org.

Deadline

The next deadline for the CORA newsletter "Preserving the Resource" (formerly "Tribal Fishing") is Monday, May 1. Call or write Jennifer Dale at the CORA Public Information & Education Program 906-632-0043, or jmdale@chippewaottawa.org.

RECOMMENDED WEBSITE
http://www.fws.gov/midwest/fisheries/library/fishlines.htm
Keep up with USFWS Region 3 by reading its "Fish Lines" newsletter.