

Newsletter of the Chippewa Ottawa Resource Authority, 'Conserving for Future Generations'

MANISTEE PROPOSES COAL PLANT

By Jennifer Dale

MANISTEE — Manistee Salt Works/Tondu Corporation has proposed a 425-megawatt coal-burning power plant to be constructed on Manistee Lake. The controversial proposal has been publicly supported by Manistee City Manager Mitchell Diesch and just as publicly opposed by local environmental groups as well as the Little River Band of Ottawa Indians. In fact, the Traverse Group of Sierra Club and the tribe have both passed a resolution in opposition to the proposal.

At press time, officials are expected move ahead with the application and, once complete, the planning commission has 60 days to approve or deny the project, or to approve it with conditions. A public hearing will take place Feb. 19 at 7 p.m. at the Manistee Middle School cafeteria.

The Tondu Corporation has promised 60 new jobs and a community services fee in lieu of taxes. It claims that it will use coal with low mercury content and minimize pollution, and that water quality will be improved by the output of process water.

In an open letter, Little River Ogema Lee Sprague said just the opposite. Calling the proposal "regressive" and a "return to 19th century technology," Sprague said the plant will cause pollution in the form of particulates, ozone, warm water and mercury.

According to a 2000 Clean Air Task Force study, fine par-

ticle pollution from coal plants shortens the lives of more than 30,000 Americans every year and causes hundreds of thousands of asthma attacks, cardiac problems, and upper and lower respiratory tract problems.

The elderly, children, and those with respiratory diseases are most severely impacted by this pollution; people living near coal-fired plants are more at risk than those who live far from power plants, according to the study.

Sprague pointed out that Manistee is already affected by ozone originating from Wisconsin coal plants so that Manistee operation will only add to current ozone levels. Again, elderly, children, and those with respiratory diseases are most severely impacted by this pollution.

Ozone also negatively affects plant life, added Sprague.

Dumping warm water into Manistee Lake, said Sprague, will not "improve fishing" as Tondu has claimed. Manistee Lake is, in fact, part of a cold water system that would be damaged by this "thermal pollution."

Mercury is another pollutant that coal-burning plants produce, and no existing technology can filter mercury because it is expelled in a vapor. Methylmercury is produced by bacteria after the inorganic mercury vapor condenses and accumulates in aquatic systems.

According to the U.S. EPA's Mercury Report to Congress, coal-fired power plants are the single largest source of mercury



"The United States Environmental Protection Agency found that up to 74% of the mercury exposure to people 1.5 miles from a medium-sized 375-Megawatt plant came from that one power plant." National Wildlife Federation

Graphic used courtesy Little River Band of Ottawa Indians

pollution in the U.S. According to the National Wildlife Federation, a single 100-megawatt coal-fired power plant emits approximately 25 pounds of mercury per year. That means that a 450-megawatt plant would emit 113 pounds of mercury per year in addition to mercury emissions from other midwest coal-fired power plants.

According to the Centers for Disease Control and Prevention, the nervous system is very sensitive to all forms of mercury:

"Methylmercury and metallic mercury vapors are more harmful than other forms, because more mercury in these forms reaches the brain. Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus. Effects on brain functioning may result in irritability, shyness, tremors, changes in vision or hearing, and memory problems."

Sprague wrote that any amount of mercury pollution is

too much. "Adding any amount of mercury to the environment further compromises our ability to safely eat fish caught in the Manistee River watershed." Once it is emitted as a vapor, mercury bioaccumulates up the food chain and can reach high concentrations in some fish.

According to Mike Ripley, environmental coordinator for Inter Tribal Fisheries Assessment Program, one of the main concerns of the tribal fish

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Little River, Grand Traverse win wildlife grants

By Jennifer Dale

WASHINGTON, DC — Interior Secretary Gale Norton announced Jan. 27 that the U.S. Fish and Wildlife Service (USFWS) is awarding 79 grants, totaling nearly \$14 million, to help 60 federally-recognized Indian tribes conserve and recover endangered, threatened and at-risk species and other wildlife on tribal lands.

CORA-member tribes Little River Band of Ottawa Indians and Grand Traverse Band of Ottawa and Chippewa Indians took three of the awards, competing with 200 other proposals.

The Service awarded the grants under two new programs, the Tribal Landowner Incentive Program and Tribal Wildlife Grant Program. These programs are similar to cost share programs recently developed by the department to assist states, local



Interior file photo

US Interior Secretary Gale Norton spoke at a special press conference Jan. 27 to announce tribal wildlife awards and answer questions.

communities, private landowners and other partners undertake wildlife conservation projects.

"Native Americans have a unique relationship to and understanding of the land and its wildlife," Norton said. "As part of the President's over-

all Cooperative Conservation Initiative, the Interior Department is providing these grants to build on our partnership with the tribes to conserve tribal land and recover the wildlife, especially those species that are in decline."

Norton added in a special press conference that the Service has a deep commitment to work hand-in-hand with tribes on conservation goals. "These awards signal a new level of cooperation between tribes and the Interior for wildlife conservation," she said.

Michigan tribes received five of the 79 grants made this year. Although the largest single grant awarded Jan. 17 was \$250,000, Little River's total grant award is \$271,144 for both projects.

Under the Tribal Landowner Incentive Program, Little River Band was awarded \$137,644

to study the status and habitat use of bobcat, lynx rufus, in the northern counties of Michigan. The maximum award under this program was \$200,000 with a required minimum 25 percent match from non-federal funds.

Under Tribal Wildlife Grants, Little River Band of Ottawa Indians gained another award in the amount of \$133,500 for assessment of riparian habitat restoration in the Manistee River corridor; Grand Traverse Band of Ottawa and Chippewa Indians was awarded \$160,000 to evaluate and enhance American martin and other predatory furbearer populations; Keweenaw Bay Indian Community was awarded \$120,000 for Native fish species projects on the L'Anse Indian Reservation and adjacent waters; and Nottawaseppi Huron Band of Potawatomi will receive \$249,839 for a Comprehensive

Wildlife Management Plan involving three projects (plan, greenhouse and invasive species control). Although matching funds are not required for these grants, they are considered to be an indicator of a tribe's commitment. The maximum grant award under this program is \$250,000.

"Indian peoples were North America's first stewards," said USFWS Director Steve Williams. "For generations, they have lived close to nature, depending on wildlife for economic, cultural, and spiritual fulfillment. The Service, through these two special grant programs, will strengthen its conservation partnerships with tribes across the United States on behalf of traditionally important wildlife species and their habitat."

See "Grant Awards," page 6

CORA, its committees hold meetings Feb. 20

CORA Dec. 4

The Chippewa Ottawa Resource Authority met Dec. 4 at the beautiful Little River Band Casinos and Resorts Three Fires Convention Center in Manistee, Mich. All CORA Board members were present. An invocation was given by Bucko Teeple followed by a wonderful lunch and a pipe ceremony conducted by Jack Chambers.

Jennifer Dale, public information officer, reported the publication of a December 2003 newsletter. She, CORA Resource Developer Bucko Teeple and Environmental Coordinator Mike Ripley attended a Michigan SeaGrant meeting proposing a five-year strategic plan — Dale felt the tribal personnel had a significant impact at the meeting. She reported that she and Ripley were proceeding on work for the Centers for Disease Control Wise Fish Consumption grant, which funds more fish monitoring and updated public information materials for fish consumption in the Upper Peninsula.

As CORA's interim executive director, Jane TenEyck gave a report. The CORA board granted TenEyck's request to approved a 2004 budget after receiving \$300,000 in litigation funds. The board also agreed to a one-year renewal of Professor Susan Gray's contract.

The board discussed lobbying for reoccurring funding and unmet needs for CORA tribes. Money had already been allocated but no lobbyist was selected. After discussion, and without any formal

action, TenEyck was directed to look into names and fees for board members to take back to their councils.

A Little River Band-CORA subcontract for ITFAP services was approved.

TenEyck said CORA is looking for the same funding levels as in 2003. Grand Traverse Band has already signed its contract. Bay Mills chair Jeff Parker said Bay Mills is contracting \$69,000 for 2004; Sault Tribe Unit Director/Chief of Police Fred Paquin said the same of Sault Tribe. Paquin asked if Little River and Little Traverse would do the the same; Little River Band Chair Lee Sprague and and Little Traverse Bands Chair Frank Ettawageezhik agreed.

Under phone votes, Jane's status as CORA interim executive director and Parker's severance package were reaffirmed. Parker resigned after being elected as the Bay Mills chairman, a full time job.

Election of a CORA chair and vice chair was next on the docket. Nominations for Paquin as chair and Sprague as vice chair were approved.

The next meeting will take place March 4 hosted by Grand Traverse Band.

GLRC Dec. 4

The Great Lakes Resource Committee of CORA met immediately following the CORA meeting with all present.

Jack Chambers addressed the committee, urging Anishinabe to gather together before negotiation with the state.

CORA Resource Developer Bucko

Teeple reported on the status of access sites. Teeple is working with the state DNR on

Whitefish Point Harbor: Teeple is working with the state DNR to make improvements.

McKay Bay tribal access: Waiting for dredge permit.

Little Lake Harbor: There is a \$5,000 allocation for launch and ramp; the DNR is waiting for DEQ permit to dredge so ramp can be placed. Teeple said he is tentatively looking at July 1.

A Save the Earth Anishinabe Youth Camp took place August 8-16 with 42 youth attending. It went well.

Bay Mills Conservation Committee Chairman Dave Menominee asked Teeple about Cross Village. Teeple said United Design was working on a plan to be issued to the Village. There is a \$5,000 allocation.

Menominee asked if Teeple was seeking new grant monies. Teeple said he can apply to the Great Lakes Fishery Trust for access site funding after engineering reports are received for the two main sites, Whitefish Point and Cross Village.

Menominee asked if Teeple was seeking new grant monies for access. Teeple told the ones they were working on now were cited as the highest priority sites by the tribes. He added that, besides GLFT, there is not much money is out there for access.

Paquin asked if Teeple is pursuing marketing issues. Teeple said he is trying to. Two years ago, he brought a marketing effort to the table but wasn't instructed to go anywhere with it.

Sault Tribe Conservation Committee Chairman Vic Matson Sr. said Sault Tribe is trying to establish something. He didn't know what Bay Mills was planning, but the fishers need help and something has to be done.

Menominee invited Matson and the other tribes to meet with Bay Mills concerning a marketing plan. Paquin added he like all the tribes involved and committing marketing money.

The committee discussed getting the tribes together for a meeting.

The US Fish and Wildlife Service reps Jerry McClain, Mark Holey, Rich Westerhouse and Bob Adair made a fisheries vision presentation. The USFWS has a national plan; regional plans break down the details of the national plan by region. Plans stress working with partners; they've met with GLIFC, today with CORA, and would like to meet with each CORA tribe natural resource entity.

The vision is a commitment to protect, restore and provide opportunity to enjoy. Focus areas are partnerships, accountability, aquatic species, conservation and management, public use and other items. Partnership heavy on tribal partnership, the reps added. They have a new monthly report called fish lines.

McClain said under old agreement (1985 Consent Order), a USFWS rep was an ad hoc member of the CORA board. The USFWS did not continue that after new agreement (2000 Consent Decree) was signed. He wanted to know if the CORA board would like to resume the old practice.

Matson, who was chairing the GLRC meeting, said the USFWS was welcome as far as he was concerned; it would be helpful.

The USFWS reps fielded numerous questions about the USFWS role and

responsibilities in the tribes' areas of interest, such as aquatic exotic species, increase lake trout stocking as required by the Consent Decree, sewage overflows, coal plants and air monitoring, and restoration of native species such as lake sturgeon and grayling.

The GLRC passed a stocking proposal to change from one time stocking of 25,000 brook trout coasters in as fall fingerlings, to some in stocked in the spring and some in fall.

Gorenflo added that a procedure is needed to consider stocking proposals. (All parties must be consulted on stocking proposals, per the 2000 Consent Decree.) Matson directed Gorenflo to draft a process.

Conservation Committee Reports
Dave Menominee for Bay Mills reported approval of Alpena trap net permits and looking into the Grand Traverse band request concerning the king anchor. The rest was in house.

Jim Chambers for Little River reported restructuring regulations. The council established the Natural Resource Commission as the hearing body for infractions, which seems to work out.

Chambers also reported that a proposed Manistee coal plant would have a 600 mile radius plume and output 420 pounds of mercury each year. Little River wants CORA to pass a resolution to fight the plant.

Grand Traverse Band, Little Traverse Bay Bands and Sault Tribe were all in-house matters.

LAW ENFORCEMENT COMMITTEE

Kevin reported for the Law Enforcement Committee. The net retrieval committee met six times to address abandoned nets. He said the committee his a dead end on how to pay for removal of nets that can't be identified. It can cost up to \$1500.

He added that joint patrols went fairly well.

BIOLOGIST REPORTS

For Bay Mills, Paul Ripple reported looking at hrgs.

For Little River, Archie Martell reported attending a Technical Fishery Committee meeting and finishing fall assessments.

For Grand Traverse, Brett Callahan reported walleye fall assessments, fall lake trout spawning surveys, lake trout spawning nets and collection devices retrieval and registering six fishers for HACCP training.

The Army Corps of Engineers approved the marina expansion in Cleland, he added.

For ITFAP, Gorenflo reported starting whitefish research grants. The crew reached over three-quarters of target per site in the Lake Michigan and Lake Huron tagging process — 2,000 per site for four sites. Considering the weather, they were pretty successful, he said, and he has big appreciation for the crew. They also met most tissue sample targets, for wf health and growth. These are three-year studies, he added.

For Little Traverse, Steve Lanart reported completing lake trout fall spawning assessment and egg deposition in MM-3. For the and the Biological Services Division, he referred the GLRC to the provided sheet and advised each tribe to see their BSD reps. Whitefish limits is a larger issue, he added.

Chippewa Ottawa Resource Authority

CORA Board, Officers and Committee officers

Bay Mills Indian Community (BMIC or Bay Mills)

Jeff Parker, tribal chairman

Dave Menominee, Conservation Committee chairman

Grand Traverse Band of Ottawa and Chippewa Indians (GTB)

Robert Kewaygoshkum, tribal chairman, ILWRC chairman

John Concannon, Natural Resource Committee chairman

Little River Band of Ottawa Indians (LRB)

Lee Sprague, tribal chairman, CORA vice chairman ILWRC** vice chairman

Jimmy Mitchell, Natural Resource Commission chairman

Little Traverse Bay Bands of Odawa Indians (LTBB)

Franl Ettawageshik, tribal chairman, GLRC* vice chairman

John Keshick Jr., Natural Resource Commission chairman

Sault Ste. Marie Tribe of Chippewa Indians (Sault Tribe or SSMTCI)

Fred Paquin, Tribal Unit 3 director, Chief of Police, Law Enforcement Committee, and CORA chairman.

Vic Matson Sr., Conservation Committee chairman, GLRC chairman

* "Great Lakes Resource Committee," which serves as the inter-tribal management body for the treaty fishery in 1836 treaty waters.

** "Inland Land and Waters Committee," which oversees inland resource matters.

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Bev Aikens, executive secretary

Deanna Bowen, secretary

EPA rule on mercury announced January 30; public comments to be taken before final rule

BIRMINGHAM, Ala. (AP) — A new federal rule aimed at lowering toxic mercury pollution gives industry the flexibility on planning it sought, but critics say it's vulnerable to legal challenges and doesn't call for any urgent solution.

The U.S. Environmental Protection Agency rule published on Jan. 30 would require coal-burning power plants such as those in Alabama to lower toxic mercury emissions. EPA would reduce mercury emissions nationally by 69 percent in 14 years.

"The nice thing about it is it gives us flexibility to plan and to make emission reductions at the most efficient places to do it, as opposed to a mandatory program where you have to put specific controls on this particular power plant," Alabama Power Co. vice president Willard Bowers told The Birmingham News for a story Jan. 31.

Alabama Power's six plants discharged 4,057 pounds of mercury in 2002. Three others in the state, including two owned by the Tennessee Valley Authority, contribute about 640 pounds annually, according to EPA data compiled by the Environmental Working Group.

Environmentalists said the new rule is not enough to protect the public health because it won't improve air and water quality as quickly or dramatically as possible.

Plants that burn coal to produce energy emit about 48 tons of mercury each year in the United States, which the EPA said can be cut to about 15 tons by 2018. A related proposal would cut emissions that cause fine-particle pollution. Both types of pollutants are considered serious threats to the public health.

Ron Gore, chief of the air division at the Alabama Department of Environmental Management, said he expects the rule to be challenged in court because it suggests a new interpretation of the Clean Air Act.

While ADEM does not have an opinion on the

amount of the cap or the deadline, Gore said the agency supports the proposed change because it has been successful in reducing pollutants that cause acid rain.

The EPA proposal, known as a cap-and-trade plan, would divide the allowable mercury emissions among the nation's power plants. Plants wishing to exceed their individual emissions caps could buy pollution credits from other plants that fell below their allowed limits.

Gore said if too many Alabama plants buy credits and not reduce mercury emissions, the state could step in and limit the amount of trading.

"It's buying and selling the right to pollute," said Eric Schaeffer, a former

Plants that burn coal to produce energy emit about 48 tons of mercury each year in the United States, which the EPA said can be cut to about 15 tons by 2018.

EPA official who runs the Environmental Integrity Project. "You will not feel better if your plant bought its way out of mercury controls."

Federal regulators plan to hold public hearings on the proposed rules, and the public will be allowed to submit comments before they become final.

Mercury is a toxic and persistent pollutant that humans consume mostly through contaminated seafood. Children and women of childbearing age are particularly vulnerable. According to Physicians for Social Responsibility, low-dose mercury exposure can impair brain development.

Coal-Burning power plant proposed for city of Manistee faces opposition

From "Coal Plant," Page 1
eries is contaminants in fish. As little as 0.002 pounds of mercury a year can contaminate a 25-acre lake to the point where the fish are above fish consumption advisory guidelines

"Although whitefish and lake trout commercially caught in the 1836 Treaty waters of the Great Lakes remain well below the guidelines," wrote Ripley in a recent edition of Tribal Fishing, "CORA is especially concerned with the proliferation of new coal-fired power plants and the weakening of clean air regulations by the Bush administration."

Even using the latest technology, called circulated fluidized bed (CFB) technology, not all pollution can be removed from coal burning plant emissions, according to the Department of Energy (DOE). Further, reports the DOE, there is no economically

feasible method of removing mercury from emissions.

But, Tondou hasn't even promised to use the best technology. Tondou Corporation spokesperson Meagan Kempf would not discuss specific emission levels with the Traverse City Record Eagle, saying only that the plant would meet all regulations necessary to operate.

The debate over the merits of constructing a coal-burning power plant in Manistee is also a debate over a way of life. The city, once known for its industry, began a shift to a tourism-based economy about a decade ago.

Sprague wrote that, "Here in Manistee, the sun rises over the National Forest and it sets over Lake Michigan, and in between we have two beautiful rivers, and what can slowly but surely become a jewel — Manistee Lake. For anyone who likes to hunt, fish,

hike, ski, boat, canoe, swim, snowmobile, golf, or just be outdoors — this place is a recreationer's dream."

But City Manager Mitchell Diesch was quoted in the Traverse City Record Eagle as saying, "We live in northern Michigan, where there is phenomenal natural beauty all around us. But we need more than the natural beauty," and, "it might be time for a slight shift back to industry."

Citizens now have choice to make that will have far reaching consequences — affecting not only their own lives but those of future generations. As a recent editorial in the Traverse City Record Eagle put it, "Tondou can dress its proposal with jobs-and-prosperity talk, but it can't gloss over the fact the plant each year would belch thousands of tons of sulfur dioxide, nitrogen oxide and hundreds of pounds of mercury into the air."

October 2003: Mining company visited Upper Peninsula to discuss proposed sulfide mining

BIG BAY, Mich. (AP) — Kennecott Mining Company officials visited the Upper Peninsula to further discuss a copper and nickel prospect on the Yellow Dog Plains near the headwaters of the Salmon Trout River.

Adrian Jackman, president of the Kennecott Minerals Co., public relations executive Fred Fox and local project leader Dave Simpson met Tuesday with local groups, including those that oppose new mining.

Eagle Alliance, a joint effort of the National Wildlife Federation and the Yellow Dog Watershed Preserve, were the first to meet with the Kennecott representatives while about three dozen protesters gathered outside chant-

ing "No sulfide mines" and "Not our waters."

Kennecott has named the prospective mine "Project Eagle." Eagle Alliance members hope to head off the project and obtain a statewide moratorium on sulfide mining.

Michelle Halley, a National Wildlife Federation attorney working with Eagle Alliance, called Tuesday's meeting "troubling."

"There was very little substance," Halley told The Mining Journal of Marquette. "Kennecott continues to tell us they haven't made key decisions."

Kennecott officials declined to comment following the meeting. The company has sent an informational mailing to Big Bay residents

and officials have said the company will continue to do so as developments occur.

Kennecott began exploring for nickel in the Marquette area in 1994 and drilled its first test holes in 1995. The test cores found a mineral deposit Kennecott is trying to learn more about.

The company, owned by London-based Rio Tinto, owns thousands of acres of land and public and private mineral rights in Marquette County.

Kennecott officials have said they expect to complete drilling and testing on the mineral deposits this year. The test drilling will determine the full extent of the mineral deposit and whether the minerals can be extracted.

Next round for USFWS tribal wildlife grant awards upcoming, says USFWS head

From "Grant Awards," page 1

Indians and Indian tribes have a controlling interest in more than 52 million acres of tribal trust lands and an additional 40 million acres held by Alaska native corporations. "Ninety million acres — that's a lot of habitat," said Norton, stressing the cultural, spiritual and economic importance of the continental array of wildlife species and habitat on tribal land.

She added that the Interior is calling for proposals from

tribes for next year.

USFWS Deputy Director Marshall Jones said 79 of 200 proposals were selected and that the next round starts in about a month. He said the Service would like to "help additional tribes develop strong proposals that will qualify for funding." Grants provide strengthened basis for partnerships in conservation activities for game and non game species, he added.

Only federally recognized Indian tribes may apply, but

Norton hopes that inter-tribal organizations will join in as partners. "We greatly encourage partnerships," she said. "The actual grantees, though, would be the tribes."

Norton said that although it depends on appropriations, she view the Tribal Landowner Incentive Program and Tribal Wildlife Grant Program as programs that should become regular part of a working relationship with tribes for their continuing needs.

How Power Plant Combustion Waste Contaminates the Environment



Local vs. Regional Mercury Deposition

Coal-Fired Power Plants	Distance from Plant (miles)	Humid Eastern Site % of Mercury Deposition		Arid Western Site % of Mercury Deposition	
		From Local Plant	From Regional Plant	From Local Plant	From Regional Plant
Large Facility (975 MW)	1.5	87	13	90	10
	5	50	44	75	25
	15	31	69	73	27
Medium Facility (375 MW)	1.5	74	26	84	16
	5	44	56	78	22
	15	31	73	70	30
Small Facility (100 MW)	1.5	41	59	74	26
	5	20	80	55	45
	15	5	92	29	71

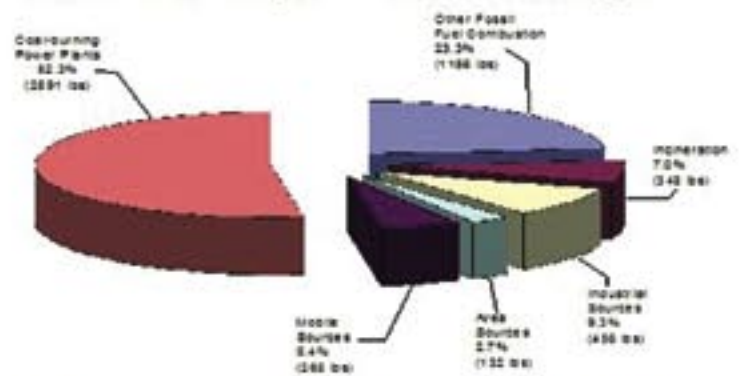
Source: U.S. EPA, 1990 Study of Hazardous Air Pollutant Emissions from Electric Utility Steam-Generating Units - Final Report to Congress

For more information please log on to:

www.epa.gov
www.nwf.org

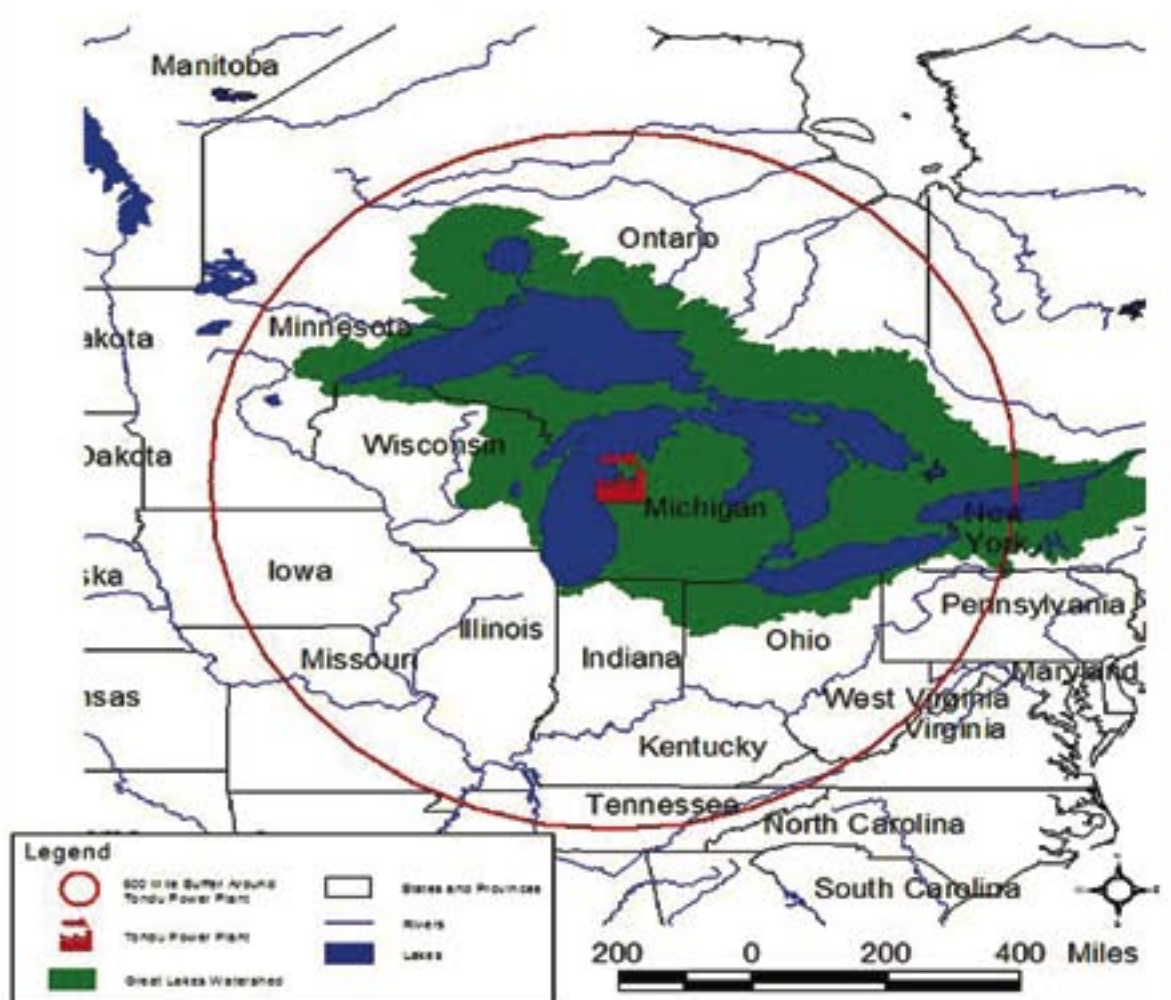
www.ccap.org
www.nrdc.org

Sources of Mercury Air Emissions in Michigan



Michigan Department of Environmental Quality

"50% of the mercury emitted from coal-fired power plants can travel up to 600 miles from the power plant." Center for Clean Air Policy, *Power Plant Emissions and Water Quality*, October 1997, Part 1.



Health Effect of Power Plant Pollutants

Mercury: Causes neurological problems and developmental delays in children.

Sulfur dioxide: Is the primary cause of acid rain. It also reduces lung function, triggers asthma, causes low birth weights in infants, and is associated with premature deaths.

Nitrogen oxides: Is the primary cause of ozone smog. It also changes lung function, increases respiratory illness, and increases respiratory illnesses.

Particulate Matter: Causes asthma attacks, heart rate variability, heart attacks, cardiovascular disease, pneumonia, and chronic obstructive pulmonary disease. Linked to at least 45,000 premature deaths annually.

This information was provided by the Little River Band Indians after consulting with many area citizens

How People Are Exposed To Mercury

Mercury travels various ways that tie industry, agriculture and the food chain together. The most common way

people are exposed to the toxic metal is through fish consumption. Here's how it gets to your dinner plate.



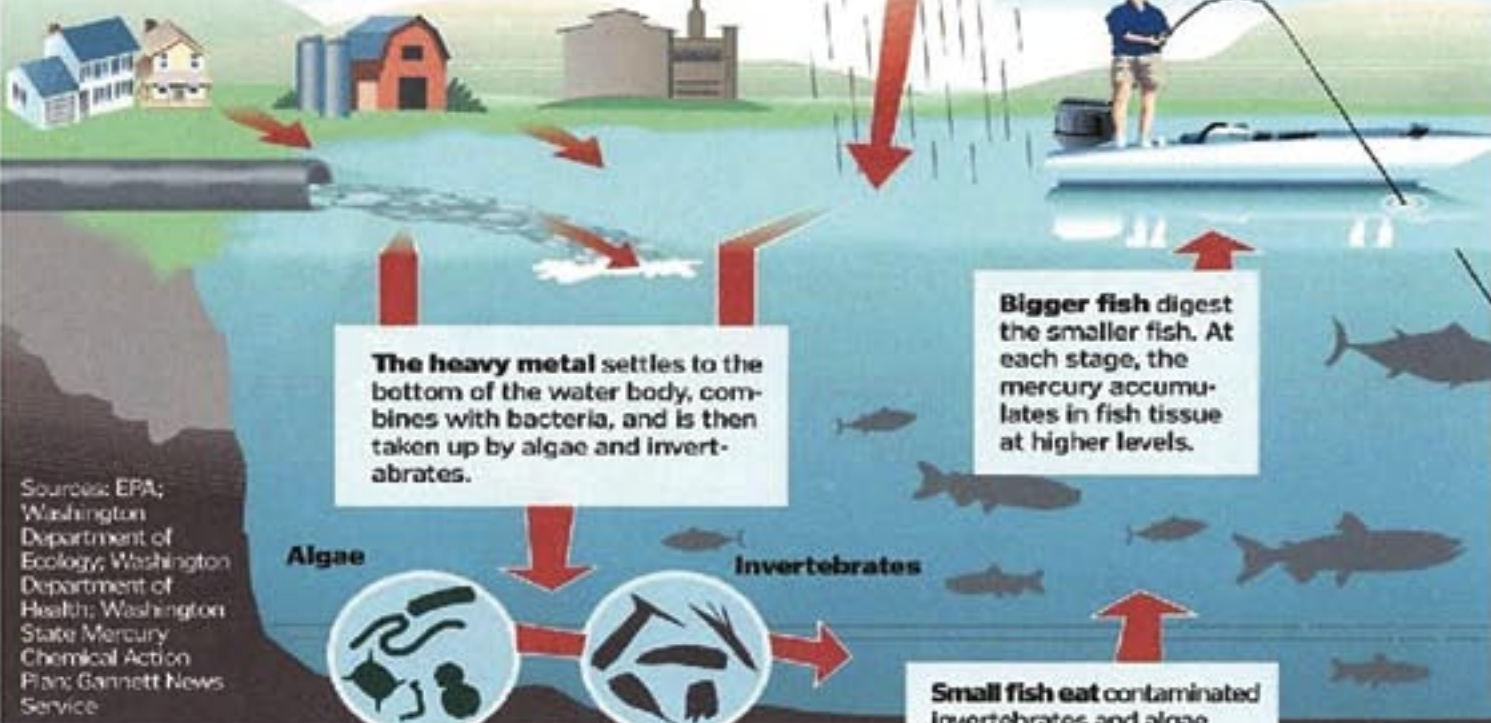
The most common sources of mercury in air are coal-burning power plants, municipal waste combustors, medical waste incinerators and hazardous waste combustors.

Tiny particles of mercury travel through smokestacks into the air. They then fall onto soil or water.

Urban, agricultural and mining runoff can also have mercury particles present.

target larger fish, which leads to mercury exposure in humans.

Fish-eating birds generally have high levels of mercury contamination.



Fish that may have high levels of mercury:



- ▶ Sturgeon
- ▶ Bass
- ▶ Northern Pike
- ▶ Lake Trout
- ▶ Muskie
- ▶ Walleye

Fish that generally have low levels of mercury:



- ▶ King Salmon
- ▶ Coho Salmon
- ▶ Bluegill
- ▶ Pollock
- ▶ Steelhead
- ▶ Smelt
- ▶ Lobster
- ▶ Scallops

Sources: EPA; Washington Department of Ecology; Washington Department of Health; Washington State Mercury Chemical Action Plan; Gannett News Service





Mercury in Fish

Mercury is found in nature. It is also released by burning coal and wastes, and improper disposal of mercury containing products such as thermometers, batteries, and older thermostats. Small amounts can dissolve in water. Bacteria changes it into a more toxic form called methyl mercury.

Fish pick it up as they feed and absorb it from water as it passes over their gills. Larger predator fish accumulate more as they eat other fish. Methyl mercury is stored in fish flesh. **Special trimming and cooking do not remove it.**

Manistee Lake Mercury Advisory



For more information please see the 2003 Michigan Family Fish Consumption Guide or contact: MDCH Environmental & Occupational Epidemiology Division at 1-800-648-6942.

For fish greater than 8 inches		General Population	Women & Children
	Walleye	▼	●
	Crappie	▼	●
	Largemouth Bass	▼	●
	Smallmouth Bass	▼	●

▼ One meal per week ● One meal per month

General Inland Lake Mercury Advisory

No one should eat more than one meal a week of these kinds and sizes of fish from any of Michigan's inland lakes. Women of childbearing age and children under the age of 15 should not eat more than one meal per month of these fish.

-  Rock Bass, perch, or crappie over 9 inches in length
-  Any size largemouth bass, smallmouth bass, walleye, northern pike, or muskie

The Michigan Department of Community Health has issued a special advisory for all inland lakes in Michigan due to mercury. This is a widespread problem throughout the north central United States and Canada.

NO DETECTABLE RISK FROM LOW LEVELS OF MERCURY IN SEAFOOD, STUDY SHOWS

ROCHESTER, NY (Univeristy of Rochester, May 16, 2003) — An exhaustive study of 643 children from before birth to 9 years of age shows no detectable risk from the low levels of mercury their mothers were exposed to from eating ocean seafood, according to a study in the May 16 issue of *The Lancet*.

Children born to mothers-to-be who ate an average of 12 meals of fish a week — about 10 times the average U.S. citizen eats — showed no harmful symptoms.

The study by scientists at the University of Rochester Medical Center is the latest in a series of updates on children who have been studied since their birth in 1989 and 1990 in the Republic of the Seychelles, an island nation in the Indian Ocean. The children have been evaluated five times since their birth, and no harmful effects from the low levels of mercury obtained by eating seafood have been detected.

“Consumption of fish is generally considered healthy for your heart, yet people are hearing that they should be concerned about eating fish because of mercury levels,” says lead author Gary Myers, M.D., a pediatric neurologist. “We’ve found no evidence that the low levels of mercury in seafood are harmful. In the Seychelles, where the women in our study ate large quantities of fish each week while they were pregnant, the children are healthy.”

In a commentary on the research in *The Lancet*, Johns

Hopkins scientist Constantine Lyketsos writes that, “For now, there is no reason for pregnant women to reduce fish consumption below current levels, which are probably safe.” He calls the Seychelles study a “methodological advance over previous studies.”

Questions about the health effects of mercury often boil down to seafood because fish are the primary source of exposure to mercury for most people. Scientists estimate that about half the mercury in the Earth and its atmosphere originates from natural sources such as volcanoes, and about half comes from man-made sources.

People receive most of their mercury exposure by eating ocean fish like tuna, swordfish and shark. The fish eaten by women in the Seychelles had approximately the same levels of mercury as those eaten by consumers in the United States — but they ate much more fish than most people in the United States. The Seychelles women, however, had an average of six times as much mercury in their bodies, as measured in hair samples, as most people in the US.

“This study indicates that there are no detectable adverse effects in a population consuming large quantities of a wide variety of ocean fish,” says Myers, the senior author of the Seychelles study and an internationally recognized authority on mercury. “These are the same

fish that end up on the dinner

We’ve found no evidence that the low levels of mercury in seafood are harmful. In the Seychelles, where the women in our study ate large quantities of fish each week while they were pregnant, the children are healthy.

— Gary Myers, M.D., pediatric neurologist

table in the United States and around the world.”

In the current study doctors and nurses tested the children in a variety of ways and measured 21 different cognitive, behavioral, and neurological functions such as concentration, attention span, problem solving abilities, intelligence, and motor skills. Only two functions varied slightly according to mercury level: Children of women with higher mercury levels were slightly less likely to be hyperactive, and sons of such women did slightly worse on a pegboard task. Statistically, both findings are likely due to chance, the researchers say.

The Seychelles findings apply to fish bought and sold commercially, at grocery stores, supermarkets, seafood markets, and restaurants. Those fish are already regulated based on their mercury levels. Consumers should carefully follow advisories about eating fish caught in lakes and rivers, since there are hundreds of polluted waterways whose fish are dangerous to eat in abundance, often because of pollutants like PCBs.

The Seychelles study came about as a result of previous work by the same Rochester team, which put together the first precise data showing that pre-natal exposure to mercury could harm a developing child. Their study of the victims of an accidental mercury poisoning event in Iraq more than 30 years ago spurred them to start the Seychelles study to try to pinpoint the levels at which mercury poses a danger.

Now the team is launching a new study in the Seychelles to compare the levels of nutrients pre-natally to the health of children early in their lives. The study has its roots in a finding in one of the previous Seychelles reports, that children born to mothers with slightly higher mercury levels did better on some neurological and intelligence tests than their counterparts. That may be because those children’s mothers with the high-

er mercury ate more fish. This study, funded by the National Institute of Environmental Health Sciences, is being done with colleagues at the University of Ulster in Northern Ireland and Cornell University

“There are a lot of good, vital nutrients in fish,” says Myers, who is directing the team that is studying 300 children to compare their health with the levels of polyunsaturated fatty acids, selenium, and other nutrients in their mothers during pregnancy.

The Seychelles study, ongoing since 1989 with funding from the National Institute of Environmental Health Sciences, is one of the longest “longitudinal” studies ever done in children. The research has been funded by the NIH, the U.S. Food and Drug Administration, and the Republic of the Seychelles.

“The cooperation from people in the Seychelles and the Ministry of Health has been extraordinary,” Myers says. “They recognize the importance of this subject both to their own citizens and to the people around the world who consume fish.”

In addition to Clarkson and Myers, the Seychelles team includes Philip Davidson, Ph.D.; Donna Palumbo, Ph.D.; Li-Shan Huang, Ph.D.; Elsa Cernichiari; and Jean Sloane-Reeves, all of the University of Rochester; and Conrad Shamlaye of the Republic of the Seychelles. Christopher Cox, Ph.D., of the National Institutes of Health; Gregory Wilding, Ph.D., of the University at Buffalo; and James Kost, Ph.D., also took part.

Fish IS brain food: New study shows eating fatty fish reduces risk of cognitive decline

Study results published in the January issue of *Neurology* show that eating fish high in omega-3 fatty acids reduces the risk of impaired cognitive function in middle age.

The study objective was to examine the associations of fatty acid and fish intake with cognitive function. Researchers found that consumption of fatty fish was associated with a decreased risk of declining cognitive functions like memory, psychomotor speed, higher order information processing, and overall cognition.

Higher dietary cholesterol intake was significantly associated with an increased risk of impaired memory and flexibility, while an increase in saturated fat intake also increased the risk, although not significantly.

Researchers worked with 1,613 subjects ranging from 45 to 70. A battery of tests was administered from 1995 until 2000 while subjects completed

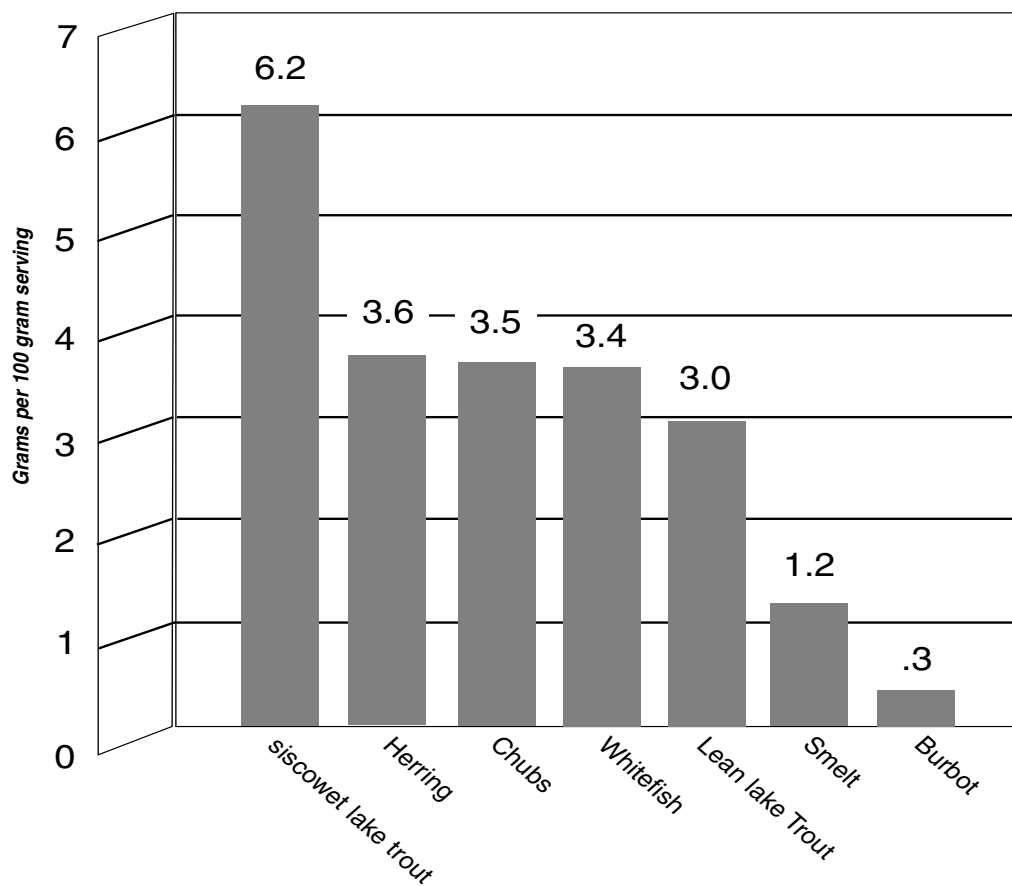
food consumption questionnaires.

Fish from a cold-water environment, like lake herring, lake trout, salmon and whitefish, are especially high in Omega-3 fatty acids. The Lake Superior study also found that Lake Superior chub, lean lake trout, fat lake trout (siscowet), smelt, whitefish, and burbot (loesch) are all good sources of the fatty acid, according to Paul B. Addis, Ph.D, a food scientist with Minnesota extension Service, Department of Food Science and Nutrition, University of Minnesota.

In a recent study of Lake Superior fish, some species were also found to be an excellent source of monounsaturated fats, like the fat found in olive oil. This sort of fat reduces blood cholesterol.

Fish that is baked, broiled, or grilled is best. The health benefits of fish are greatly reduced by battering and frying the fish.

Omega-3 fatty acid content in Lake Superior fish



Figures from Dr. Paul Addis

MICHIGAN SEAGRANT WORKS TO IMPROVE LAKE WHITEFISH MARKET

By Jennifer Dale

Ron Kinnunen and Chuck Pestis of the Michigan Sea Grant Extension have been working on Michigan commercial fisheries marketing and product development, which they recently presented at the Michigan Fish Producers conference. Before developing a plan, the two worked on identifying the challenges and developing changes to meet those challenges.

Lake whitefish was, in 2000, the most harvested fish in both U.S. and Canadian waters, yielding over 21 million pounds in harvest with a dock side value of \$18 million, from lakes Huron, Superior, Michigan, Ontario and Erie, harvested by Michigan, Wisconsin, and Canadian fishers. The largest harvest was Lake Huron and the smallest Erie.

More than half the total harvest comes from Lake Huron. According to Kinnunen and Pestis's figures, the Lake Huron harvest was pretty evenly split between U.S. and Canadian fisheries in the early '90s, but moved to a heavier harvest by the Canadian fishery in the late '90s.

In their presentation, the two SeaGrant agents identified the following challenges in marketing, where change is needed:

Product identification and consumer awareness needs increase while the impact of low cost imports needs to decrease; quality control and product consistency need improvement; value added products development needs expansion.

They also noted that today's consumers, culinary chefs, restaurant associations, and retail stores have little awareness of Great Lakes lake whitefish and therefore do not buy or promote this product — that in fact the product itself had no identity or loyalty. Lastly, poor understanding of how competitive whitefish could be compared to marketable commercial needs to be corrected.

QUALITY INCONSISTENCY

Kinnunen and Pestis think a barrier to market development is inconsistency in product quality. This can be attributed, they think, to "differing harvest methods, seasonality of production, and the difficulty in maintaining an extended shelf life for Great Lakes lake whitefish."

SEASONAL SUPPLY

Whitefish supply is seasonal; the market is flooded during a few weeks in the spring and the fall, which, they say, puts "tremendous downward pressure on fresh Great Lakes lake white-

fish prices." This, in turn, puts demands on fishers to increase harvest levels.

Attempts have been made to "smooth out" supply by freezing large quantities of whitefish. Vacuum packaging some operations are now using is the best available method to preserve freshness and to prevent oxidation and freezer burn, said the agents.

To expand value of whitefish, other products must be developed targeting other markets or easily stored and metered into the marketplace.

SIZE OF LAKE WHITEFISH

One main challenge that presents itself is one fishers may not immediately think of — small size. The population structure of whitefish favors a 17 to 19 inch fish, say the agents. This smaller size fish, which produces a 4 to 5 ounce fillet, is not favored by processors who like to present an 8 to 10 ounce fillet.

Additionally, Pestis and Kinnunen said that "the smaller Great Lakes lake whitefish are thought to serve as the pricing floor for other lake whitefish products." That needs to change. Instead, large volumes of the smaller fish could be targeted to consumers who require a smaller fish portion.

For example, Chippewa Ottawa Resource Authority (CORA) is exploring the use of these smaller lake whitefish, testing retort packaged skinless fillets that have a shelf life of three years.

VALUE-ADDED PRODUCTS LACKING

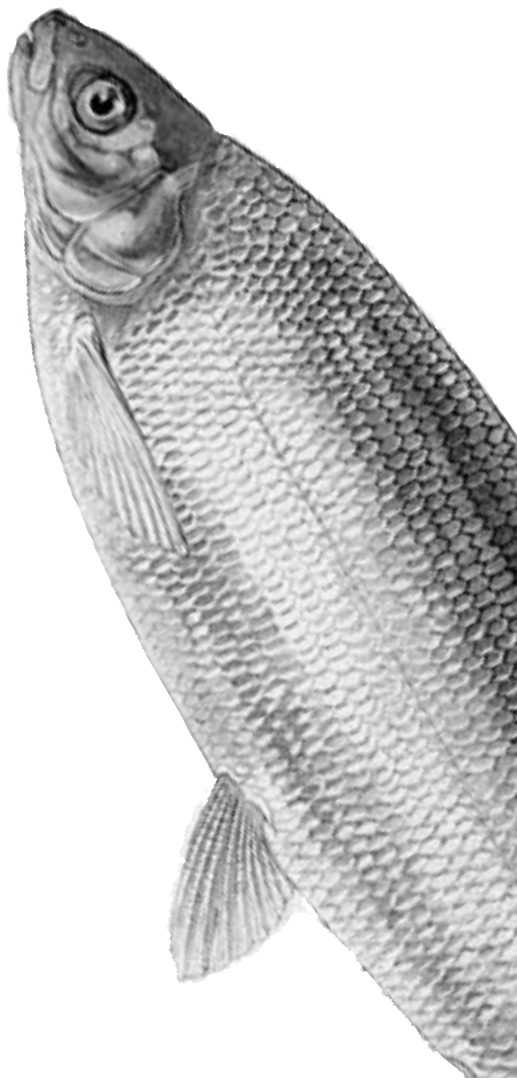
At the same time, consumers have increased their demands for easily prepared, or ready-to-eat fish, and very little of the whitefish harvest is integrated into this "convenience" market.

To date, few processors have packaging equipment sophisticated enough to produce filleted, vacuum packed whitefish products. Some are trying to develop smoked whitefish spreads and sausages, but most of these businesses lack the "capital, contacts or knowledge to undertake broad-based marketing initiatives," said the Michigan SeaGrant agents.

COMPETING WITH LOW COST IMPORTS

Impacts from low cost

imports need to be minimized. They noted that what they call "inferior inland lake whitefish" from western Canada has appeared on the market in increasing quantities at a lower price. Canadian whitefish imports are distributed in the United States by the Fresh Water Marketing Board, a Crown Canadian Corporation, and Canadian Great Lakes fishermen are also competing with this product, since consumers and retail buyers do not differ-



entiate this product from higher quality Great Lakes lake whitefish.

"The cost advantage inherent in these Canadian government-subsidized inland fish is pricing Great Lakes lake whitefish out of the market," they said. As a consequence, "First time buyers of whitefish are being introduced to an inferior product which has a negative effect on potential repeat customers."

— Based on "Michigan Commercial Fisheries marketing and Product Development" by Ron Kinnunen and Chuck Pestis, Michigan SeaGrant Extension.

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Michigan Sea Grant's Primary Objectives

MARKET ASSESSMENT

The market for Great Lakes lake whitefish is poorly understood. Through a survey of wholesalers, various market aspects of Great Lakes lake whitefish will be ascertained. Michigan Sea Grant will work with a marketing specialist to develop a comprehensive survey of seafood wholesalers

MARKETING AND MANAGEMENT PLAN

Michigan commercial fisheries (tribal- and statelicensed) and processing operations will collaborate with fishery managers on developing and implementing a comprehensive marketing plan for their products that is compatible with sustainable fishery management goals. Michigan Sea Grant Extension will collaborate with the Product Center for Agriculture and Natural Resources at Michigan State University (MSU) and the MSU College of Business on developing a sustainable marketing plan for the Michigan commercial fishing/processing industry.

NEW HANDLING AND PROCESSING TECHNIQUES

Michigan's Great Lakes commercial fishing industry will learn about and adopt new handling and processing techniques to ensure the highest product quality of Great Lakes lake whitefish when it is put into frozen storage. Michigan Sea Grant will conduct a workshop for the commercial fishing/processing industry on frozen storage techniques for Great Lakes lake whitefish.

VALUE-ADDED PRODUCT DEVELOPMENT

A group of Great Lakes state-licensed and tribal commercial fishermen and fish processors will become interested in developing a brand label Great Lakes lake whitefish product line. Develop the specific processing and packaging requirements to carry the brand label.

Market Acceptance

Culinary chefs, restaurant associations, and retail stores will learn about the specific product quality that this label or brand represents. They, in turn, will educate their customers on the quality of Great Lakes lake whitefish and why preference should be given to this product compared to competing fish products.

PRODUCING THE BRAND-LABELED PRODUCT

A core group of committed fishing/processing operations will be identified to produce the critical mass of product and to establishing relationships with distribution channels. Michigan Sea Grant Extension staff members will provide technical production assistance and facilitate contacts for establishing distribution channels

ADDITIONAL VALUE-ADDED PRODUCTS

As the premium brand product line catches on, new value-added products will be developed utilizing smaller lake whitefish. Michigan Sea Grant Extension will help conduct product development, taste testing and market feasibility studies to examine other options for producing and marketing Great Lakes lake whitefish.

MAKING THE TRANSITION

Michigan's commercial fish processing facilities will have appropriate technical assistance in using new techniques for handling and processing Great Lakes lake whitefish.

DIVERSIFYING THE HARVEST

Fishery Management agencies will develop the necessary biological data to determine the management parameters under which a commercial fishery for siscowet (fat lake trout) could take place.

Michigan's Great Lakes commercial fishing industry will explore the feasibility of harvesting the under-utilized resource of siscowet in Lake Superior and establishing an oil extraction facility if this is compatible with fishery management objectives.

(From Michigan Commercial Fisheries Marketing and Product Development, Michigan SeaGrant)

BUSH ADMINISTRATION PROPOSES MAJOR NEW FUNDING FOR GREAT LAKES CLEANUP

\$45 million would target contaminants, restoration, invasive species

WASHINGTON, DC — President Bush's 2005 budget proposal will include an unprecedented \$45 million for the cleanup of contaminated sediments in the Great Lakes system. The increase in Great Lakes Legacy Act funding was announced Jan. 29 by EPA Administrator Mike Leavitt while visiting Belle Isle, an island park in the Detroit River, which is one of 31 heavily polluted "Areas of Concern"

(AOC). Leavitt was joined by Council on Environmental Quality Chairman Jim Connaughton.

According to an EPA press release, the \$45 million will be used to start or further the cleanup of four to six of the AOCs sediment that is heavily contaminated with PCBs, heavy metals and polycyclic aromatic hydrocarbons (PAHs). The request is a \$35 million increase over 2004 Legacy Act

funding. The budget also seeks an additional \$3 million for the Great Lakes Program for restoration projects and an additional \$1 million for research into the control of invasive species such as the zebra mussel and Asian carp which plague the Great Lakes.

"This major increase in funding demonstrates the President's commitment to preserving and protecting these Great Lakes," Administrator

Leavitt said in the release. "Accelerating the cleanup of these contaminated areas will help keep the pollution from moving out into the lakes where cleanup becomes dramatically more difficult."

EPA will work with states, tribes and other stakeholders to identify sites that will receive money for cleanup. Funds could enhance an existing cleanup or help start a new project, according to the

release.

EPA's Great Lakes National Program Office is based in Chicago and works in partnership with stakeholders to protect, maintain and restore the chemical, biological and physical integrity of the Great Lakes.

Further information is available from the Great Lakes Legacy Act at: <http://www.epa.gov/glla>; and Great Lakes Program at: <http://www.epa.gov/glnpo>

Granholtm Unveils Initiative to Protect Water

LANSING — Out of a sense of urgency to protect a key element of Michigan's legacy — its water — Governor Jennifer M. Granholm on Jan. 20 sent a special message to the Michigan Legislature in which she unveiled a comprehensive plan to protect Michigan's great, fresh waters.

According to a press release from the Governor's Office, the cornerstone of the Granholm initiative is the Michigan Water Legacy Act, a comprehensive water withdrawal statute based on the principles of the Great Lakes Charter, which will subject all significant water withdrawals to review by the Department of Environmental Quality (DEQ) to ensure that Michigan's water resources are not impaired or compromised.

"The Great Lakes fuel our economy, color our character, and literally define the shape of our state," Granholm said in her special message. "They are our most vital resources which makes their preservation and protection all too important to approach haphazardly.

"Our waters may be more threatened today than they have ever been. We must begin to live up to the goals set forth in the 1985 Great Lakes Charter where we agreed to manage our water withdrawals," Granholm

added. "We need a fair and balanced approach to water withdrawal that will allow us to protect our water resources while also providing a predictable regulatory climate under which businesses and communities can thrive."

Granholm's comprehensive water initiative addresses the major concerns facing the Great Lakes today: water withdrawal, invasive species, open water disposal, National Pollution Discharge Elimination System (NPDES), revised sanitary code, wetlands protection, and securing federal funding for Great Lakes restoration projects, according to the release.

DEQ Director Steven E. Chester echoed the Governor's comments on the urgency of the water issue.

"Now is the time to be bold in protecting our most precious resource — water," said Chester. "This comprehensive plan will provide us with the regulatory framework essential to preserving the Great Lakes and Michigan's lakes and streams."

In addition to the proposed Water Legacy Act that will be delivered to state lawmakers this month, the initiative includes administrative steps that the Granholm

Administration will immediately implement to protect Michigan waters, according to the release.

Those steps include an executive directive signed Jan. 20 by the Governor that prohibits state agencies from approving the open water disposal of contaminated dredge materials in Michigan waters; and, a second executive directive to be signed that asks the DEQ to protect critical isolated wetlands on state land from harm.

Further, the Governor will ask the Attorney General to join

a number of environmental and conservation groups in a lawsuit against the EPA to compel them to regulate ballast water discharges, and ask state lawmakers to live up to the 2004 budget agreement by approving user fees to fund the National Pollutant Discharge Elimination System, a critical component in monitoring what goes into our water.

Finally, the Granholm Administration will ask the Bush Administration to fund the

first installment of a multi-year Great Lakes restoration effort.

"We are at a crossroads in determining the future of the Great Lakes," said Granholm. "We can choose to take action and ensure for future generations crystal blue water, rainbow trout, clear babbling brooks, and green productive fields, or we can choose to wait for another state or country to determine the future of our Great Lakes. I choose to act and take the future into our own hands."

Walking On

James A. Raphael

BINGHAM TWP. — James A. Raphael, 44, of Bingham Township, formerly of Peshawbestown, died on Tuesday, Dec. 23, 2003. He was born on Oct. 15, 1959, in Grant, to Howard and Elsie Raphael.

He is survived by two daughters, Iris Shomin of Cross Village, and Ashke Shomin of Peshawbestown; four sons, Gizhigante Raphael, Keshap Shomin, Noodin Shomin, and Gingwak Shomin, all of Peshawbestown; his mother, Elsie Raphael of Peshawbestown; seven sisters, Sharon Kennedy of Benzonia, Barbara Raphael of Peshawbestown, Roseanne Raphael of Peshawbestown, Helen Raphael of Maple City, Shirley Raphael of Denver, Sandra Raphael of Peshawbestown, and Kathryn Raphael of Peshawbestown; one brother, Howard Raphael of Peshawbestown; and five grandchildren.

Visitation will be held at the home of Kathryn Raphael, 1112 Kitigan Street, off of Roubal Road, Peshawbestown, at 6 p.m., on Thursday, Dec. 25, 2003, until noon on Saturday, Dec. 27, 2003, at which time James will be moved to the Medicine Lodge in



Peshawbestown, where a funeral service will take place at 2 p.m. Burial will be in the spring.

Arrangements are being handled by Martinson Funeral Home in Suttons Bay.

William J. Alexander

CHEBOYGAN — William James Alexander, 62, of Levering, passed away on Saturday, Dec. 27, 2003, at the Cheboygan Memorial Hospital emergency room.

William was born in Manistique, Mich., on June 25, 1941, the son of Carl and Florence (Cline) Alexander.

He married Roseanna Kewaygeshik on Dec. 29, 1979. William worked in the construc-

tion trade until his retirement in 1987. He also commercial fished for several years. He was a member of the Laborers Local No. 1089. He also was a member of the Grand Traverse Band of Ottawa and Chippewa Indians.

William loved being with his family and friends and going to the casino.

He is survived by his wife, Roseanna; sons William Jr. (Tammi) of Posen, Mich., and James (Janice) of Alpena; stepsons Richard (Carolyn) Kewaygeshik of Levering and Mitch (Shelia) Kewaygeshik of Boyne City; seven grandchildren; one great-granddaughter; sisters Marion (Jeff) Gedeon of Alpena, Catherine (Bryan) Cornelius of Taylor, Mich., and Shirley White of Irons, Mich.; and a brother, Mike (Judy) of Muskegon, Mich.

He was preceded in death by his parents; a son, Joseph; sisters Darlene and Delores; brothers John, Fred and Laverne; and a granddaughter, Sara Alexander.

Cremation has taken place. A memorial gathering of family and friends took place Jan. 2, 2004, at the Nordman Funeral Home in Cheboygan.

See our new brochure at www.1836cora.org

"Tribal Fishing" is published by the Chippewa Ottawa Resource Authority (CORA) Public Information & Education program. The program is administrated by the Bay Mills Indian Community Newspaper Department.

Please direct all inquiries to Jennifer Dale, 12140 W. Lakeshore Dr., Brimley, MI 49715, 906-248-2258, newspaper@bmic.net.

CORA administrative offices may be reached at 906-632-0043 or cora@up.net. See the website www.1836cora.org for more information.

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