

GREAT LAKES UNITED

An international coalition to conserve and protect the Great Lakes/St. Lawrence River ecosystem

Science on environmental toxics grows alarming

by Reg Gilbert

Three recent overviews of human health effects show that environmental contamination is a source of danger to the general population.

- The U.S. federal Agency for Toxic Substances and Disease Registry confirms that long-lived toxic chemicals have now been determined to definitely affect the intelligence of children exposed to the chemicals in the womb.
- According to the U.S. National Cancer Institute, U.S. childhood cancer rates have increased by an average of about 1 percent a year since the 1970s, with one of the most common childhood cancers, brain cancer, increasing 40 percent in twenty years.
- Scientists at the California Public Health Service have confirmed that sperm counts have fallen by more than half in U.S. men since the 1930s, and by almost half in European men since the 1970s.

Toxics and intelligence

The least publicized but perhaps most disturbing report was issued this summer by the Dr. Barry Johnson and four other prominent scientists at the U.S. Agency for Toxic Substances and Disease Registry, a division of the federal Department of Health and Human Services.

The study, "Public Health Implications of Persistent Toxic Substances in the Great Lakes and St. Lawrence Basins," is primarily concerned with the state of scientific knowledge about people who are exposed to toxic substances because they or their mothers ate Great Lakes fish.

The authors conclude that there is a need

for stronger and better publicized advisories on eating Great Lakes fish, based on the first definitive government declaration of danger from routine toxic exposure: "Despite the limits and weaknesses of individual pieces of research, the collective weight of evidence indicates that certain PCB/dioxin-like compounds found in fish in the Great Lakes-St. Lawrence Basin (and elsewhere) can cause neurobehavioral deficits."

The report may be even more precedent-setting for being the first government declaration of harm to the general population from exposure to long-lived toxic substances.

One section of the report, dealing with the Lake Michigan Maternal/Infant Co-

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IJC Public Forum: smaller meeting, more testimony

by Margaret Wooster

The International Joint Commission's November Public Forum was marked by an electrifying speech by former Love Canal activist Lois Gibbs at a packed press conference, an ominous wake-up call to the commission by environmental scientist Theodora Colborn, a presentation by representatives of First Nations that generated a standing ovation, testimony by representatives of Great Lakes cities, and the unveiling of new, long-term watershed and nuclear project proposals by the commission.

Great Lakes United released a report

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Citizens Clearinghouse for Hazardous Waste leader Lois Gibbs addresses the press at the IJC Public Forum, as Margaret Wooster of Great Lakes United, Paul Muldoon of the Canadian Environmental Law Association, and Brett Hulsey of the Sierra Club look on.

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... IJC Public Forum

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card on federal progress toward meeting the goals of the U.S. Canada Great Lakes Water Quality Agreement and unveiled the first-ever detailed map of toxic releases in the Great Lakes Basin. The Sierra Club released a report card on state and provincial environmental progress and a map of fish advisories in the Great Lakes Basin.

The November 1 and 2 meeting, held in Niagara Falls, Ontario, was surprisingly successful, despite being a drastically scaled-back version of the IJC's former Biennial Meetings. It was attended by more than five hundred people, substantially down from the 1995 Biennial's estimated two thousand attendees, but the meeting was held for only two days instead of four, was far less publicized than previous meetings, and was focused almost entirely on testimony, with virtually no workshops or other attractions.

The International Joint Commission is a U.S.-Canada oversight body established under the two nations' Boundary Waters Treaty of 1909. When the two countries signed the Great Lakes Water Quality Agreement in 1972, they gave the commission the task of monitoring and reporting on the two governments' progress toward meeting the goals of the agreement.

In preparation for its next report on that progress, to be issued this spring, the IJC held a number of meetings, the largest of which was the November forum, to solicit public comment on the governments' efforts.

Great Lakes United coordinated presentations to the commission by environmental, local government, and labor representa-

tives, arranged for a First Nations presentation, publicized the forum, and helped a number of citizens to attend. GLU also produced "Our Lakes, Our Health, Our Future," a twelve-page summary of environmentalists' views in seven Great Lakes issue areas that was distributed during the meeting. The booklet is available free from GLU's Buffalo office.

Environmentalists' presentation

Great Lakes United and its coalition members had a number of points to make to the commissioners.

First and most important, we urged the governments not to renegotiate the Great Lakes Water Quality Agreement (see resolution elsewhere in this issue). The agreement, among other things, commits the governments to completely eliminating discharge of several long-lived toxic chemicals into the Great Lakes environment.

For two decades the GLWQA has been an indispensable touchstone for environmental work in the Great Lakes Basin. It was last revised, in very positive ways, in 1987. The agreement is scheduled to be renegotiated once again next year, but the consensus among Great Lakes environmental groups is that the likely changes would dilute the agreement's focus on toxic pollution and therefore weaken its usefulness.

Second, environmentalists asked the commission to support its Science Advisory Board recommendation and ask the governments to compile annual reports of toxic release in the Great Lakes Basin.

To give force to this point, Great Lakes United commissioned the creation of just such a map (see centerspread). Such information is currently available only by indi-

vidual state and province.

Other recommendations urged by environmentalists include:

- ✦ Completion of a study of Basin nuclear power plant releases, inclusion of radioactive substances in the Binational Toxics Strategy (see separate article), and institution of deadlines for ending nuclear plant pollutants
- ✦ Designation of the Serpent River, Ontario contaminated mining site an Area of concern, so that it will receive special cleanup attention, and creation of an inventory of all abandoned Basin mining sites with plans to clean them up
- ✦ Establishment of a board, like the IJC's Science Advisory Board, to draft a sustainable water use strategy for the Great Lakes with a goal of a 50 percent reduction in water use by 2005
- ✦ Immediate government designation of Lake Superior as an area that will allow no new or increased discharge of long-lived toxic substances.

For complete information on the environmentalist presentation to the IJC, ask for the 1997 "Our Lakes, Our Health, Our Future," from the Buffalo office of Great Lakes United.

Other presentations

Of special note was the First Nations/Tribal presentation, which concluded with Walt Bresette, a leading tribal activist in Wisconsin, dramatically tossing his money off the podium to make the point that remaining native sovereignty must be protected and recognized in international forums such as the IJC.

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No inquiry planned for Hamilton PVC fire

by Reg Gilbert

Five months after one of the worst environmental accidents in provincial history, Ontario continues to refuse a public inquiry into the causes of the July polyvinyl chloride fire at the Hamilton, Ontario, Plastimet company.

The region continues to refuse to begin a serious long-term study of the health effects on neighborhood residents, who vow to band together to submit their own study proposal to provincial authorities. About 650 families are thought to have been exposed to chemical contamination by the fire.

An inadequate response to neighborhood concerns about the fire by local officials is thought to have played a major role in the ouster of a third of the city council in recent elections. Hamilton is an industrial city at the eastern tip of Lake Ontario.

As many as seventeen Hamilton firefighters were off work with various health problems shortly after the fire. Several continue to experience severe headaches and respiratory problems months after the fire.

The province estimates that the Plastimet fire released about 10 grams of dioxin, an accidental byproduct of chlorine-based processes and one of the most toxic substances known.

According to a preliminary government study, the annual release of dioxin in all of Canada is only 124 grams.

Dioxin levels on the Plastimet site were found to be as high as 66 parts per billion, thousands of times higher than even quite contaminated urban sites, which are usually measured in the trillionths of grams.

The federal government considers di-

oxin so toxic that it is assigned no safe level of exposure. Officially the government is working to completely eliminate dioxin from industrial discharges.

The Plastimet storage facility caught fire on July 9, setting ablaze an estimated 400 tonnes, or 880,000 pounds, of PVC plastics, mostly in the form of car interiors.

The fire took four days to put out. A crucial compounding problem was the firefighters' initial use of water to fight the blaze, due to their lack of awareness that they were dealing with a chemical fire.

PVC is the second most common plastic produced in the world, and most dangerous when burned. The International Joint Commission has called for a phaseout of industrial the use of chlorine because it is responsible for so many toxic pollutants.



B. Dugan/Corbisphoto

... environmental toxics science turns alarming

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hort, a group of Michigan children born of mothers who ate Great Lakes fish for six years before and during pregnancy, is particularly alarming.

The authors list among other effects attributed to the children's toxic exposure: 1) a tripled rate of low IQ as of age eleven, and 2) a doubled rate of being two or more years behind in reading comprehension. But the authors imply that the evidence indicates a toxic threat to more than just those who eat Great Lakes fish: "These intellectual impairments are attributed to in utero exposure to PCBs and related contaminants at concentrations slightly higher than found in the general population."

The effects found for the Lake Michigan cohort was supported by the results of a similar study of Lake Ontario women and their children.

A chilling table in the report summarizes levels of toxic substances that have been linked with health effects in humans or wildlife, and compares them to typical ("background") levels of the substances found in the general human population.

Most of the eleven listed effects, ranging from cancer to decreased birth weight, were found at levels "within an order of magnitude"—less than ten times—of the amount typically found in the general population.

Public health policy on toxic substances usually sets the "safe" level of exposure at a hundred or a thousand times smaller than the level known to cause harm.

The report marks an acceleration of the shift in emphasis in environmental health science from the study of the cancer risk toward the developmental effects on infants.

The most startling information in the

report deals with health effects caused in the womb or by breast-feeding, periods of human development governed in large part by hormones. The authors of the report wonder openly, "Has the fetus become the unfortunate mining canary for human exposure to toxicants in the environment?"

The report is available free from ATSDR at (800) 447-1544 or (404) 639-5135.

Childhood cancer

In September the U.S. Environmental Protection Agency decided to form a task force to address the role of the environment in the long-term rise in children's cancer rates. According to the U.S.-based National Cancer Institute, childhood cancer rates have increased by an average of about 1 percent a year since the 1970s, with the two most common childhood cancers increasing the most. The incidence of acute lymphoblastic leukemia increased 27 percent in the seventeen years from 1973 to 1990, while glioma, brain cancer, increased 40 percent in the twenty-one years between 1973 and 1994.

Eight thousand children under age fifteen are diagnosed with cancer each year in the United States. Cancer is the largest cause of children's death from disease.

Even as childhood cancer rates have increased, however, childhood death rates have declined from about five per hundred thousand children to less than three, primarily due to greatly improved treatment regimes. But survival usually requires punishing chemical and radiation treatments that often entail severe suffering, brain damage, stunted growth, and additional cancers later in life.

The increase in childhood cancer is more alarming than the more well-known long-term increases in adult testicular, prostate, and breast cancer. Listed historical rates of adult cancers can be confounded by many factors unrelated to true increases in disease incidence, such as changes in diagnosis and reporting rates over the years. Cancer is such a serious illness for children that it has long been subject to early detection.

In response to the statistics, U.S. EPA plans to steer additional research money to the problem, and to broaden efforts to rewrite environmental standards to reflect potential harm to children by looking at combinations of chemical exposures.

"I'm talking about new research on air pollutants, water pollutants and pesticides and their effects on children," said EPA Administrator Carol Browner, "and new testing guidelines that routinely incorporate children's issues into EPA's risk assessments. I'm talking about moving beyond the chemical-by-chemical approaches of the past, and instead looking at a child's total cumulative risk from all exposures to toxic chemicals."

Sperm count

A second study of fifty years of information about world sperm counts in men published in the prestigious *Environmental Health Perspectives* journal has concluded that the information "supports a significant decline in sperm density in the United States and Europe. Confounding and selection bias are unlikely to account for these results."

The study, "Have Sperm Densities Declined? A Reanalysis of Global Trend Data," by Shanna Swan, Eric Elkin, and Laura Fenster of the California Department of Health Services, found an average drop of almost 60 percent in the sperm counts of U.S. men, from 130 million sperm per milliliter of semen to 55 million sperm over the fifty-year period from 1938 to 1988. The drop in Europe was even more alarming, from 133 million to 74 million in the much shorter period of nineteen years from 1971 to 1990.

"My hope is, this study will change the question of concern from if there is a decline, to why there is a decline," Swan told a reporter for the Knight-Ridder syndication service.

Animal experiments indicate a relationship between toxic pollution and low sperm counts, but scientific research has yet to show such a connection in humans.

Swan's study revisits a study of the same information conducted by European scientists in 1992. That study was widely criticized for faulty methodology, so Swan thought the data should be analyzed more rigorously. "When I first looked at it, I was actually skeptical," Swan said. "If the criticisms were correct, the decline would flatten out. So, I was extremely surprised that, rather than going away, the decline got stronger in the U.S. and Europe."

Mark your calendar!

GLU's 1998 Annual Meeting

"Rivers to the Lakes"

June 5-7, 1998

Milwaukee, Wisconsin

*we plan to gather river people from all around
the Great Lakes to trade ideas and experience
for promoting healthy watersheds*

Crandon mine struggle still at high ferment

by Reg Gilbert

The effort to defeat a mining project proposed by the Exxon and Rio Algom corporations in Crandon, Wisconsin, continues to be the most active grassroots environmental struggle in the Great Lakes Basin, involving as many as a thousand active citizens who have made the issue a persistent political presence in the state for two years now.

The Exxon-Rio Algom project would mine a gigantic volcanic "sulfide" ore deposit for its copper, zinc, and lead. Sulfide ores have the unfortunate characteristic of also producing large amounts of polluting acid and heavy metals after they are processed and abandoned.

The Crandon project is particularly problematic because it also proposes to pump out up to a million gallons a day of groundwater flooding into the mine; because the nearest river, the Wolf, is highly protected, Exxon-

Rio Algom have proposed running the groundwater through a 38-mile-long pipeline to the less-protected Wisconsin River in the Mississippi River Basin.

This would pollute the Wisconsin, divert water out of the Great Lakes Basin, possibly affect local drinking water supplies, and likely affect the level of nearby Mole Lake, which is used by the Mole Lake Chippewa to fish and grow wild rice.

Among the recent developments in the struggle over the mine:

- By a 6-4 vote, a state Assembly committee in November favorably reported out a "Mining Moratorium" bill allowing Crandon-type mining projects only if at least one similar sulfide-type mine anywhere in the world can be shown to have operated safely for ten years and been closed safely for ten years. Floor consideration is likely to take place in January. The Senate approved a similar bill in the spring by a

vote of 29 to 3.

- An October rally in Milwaukee just before the final Assembly committee hearing on the mining moratorium bill attracted 600 supporters of the bill, and 400 people opposing it. Those opposing the bill included a few members of the Steelworkers union from the state's mining machinery industry, but the anti-moratorium crowd was characterized by local activists as "mostly company managers."
- An Exxon-Rio Algom effort to enlist the workers of the state's mining machinery industry in a campaign to support the mine seems to have failed, perhaps as the result of a tour by state activists to visit thirty local union halls to present the anti-mine position.
- The Wisconsin Department of Natural Resources and Exxon-Rio Algom agreed

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Six hundred people opposed to the opening of the Exxon-Rio Algom sulfide mine in Crandon, Wisconsin, at a rally just before an Assembly legislative hearing in Milwaukee held October 14 on the proposed state "mining moratorium."

... Crandon mine

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- that they would have to revise the computer groundwater model that is being used to support the company's claim that the mine is not a threat to public water supplies. The revisions involves drilling new wells to determine groundwater flows and activists think that it will almost certainly result in information damaging to the mine proposal.
- ✎ Nearby Native tribes, worried about mine impacts on their fishing and farming activities, are trying to use regulatory authority granted them under the U.S. Clean Water Act to minimize the impacts of the mine:
 - The neighboring Mole Lake Chippewa Water Regulatory Authority is concerned about lowered lake levels from the groundwater diversion and acidic runoff from the mine tailings. Their water quality standards are much stronger than the state's and could restrict Exxon-Rio Algom's freedom to operate the mine.
 - The Forest County Potawatomi, who live on a reservation five miles north of the mine site, have applied to the U.S. EPA for Class 1 air status over their reservation. This would restrict the polluting activities within a 62-mile radius of the Class 1 site. EPA has granted preliminary approval for the status. Air pollution from the mine, mostly huge quantities of particulate matter, is estimated by Exxon to amount to more than 1,300 pounds a day, just under the limit for Class 1 areas.
 - ✎ In response to the Native actions, Wisconsin Gov. Tommy Thompson is threatening to refuse to renew state casino gaming licenses for all the states tribes, scheduled to expire in February, unless the Mole Lake and Potawatomi tribes relinquish their rights to regulate the environment. The casino employ 14,000 people. Al Geddicks, executive secretary of the Wisconsin Resources Protection Council, explains the harsh threat as a product of Thompson's "desire to get in good with the powerful forces behind Exxon. He wants to be vice president or president of the United States."
 - ✎ The Menominee Nation, located on the Wolf River forty miles south of the the mine site, has campaigned extensively against the mine, working in coalition with environment groups and other tribes and using its state government lobbyists to support the mining moratorium bill.
 - ✎ Citizen organizers have secured resolutions from half a dozen local and state-wide unions opposing the mine and supporting the moratorium bill. A United Steelworkers of America local president who had appeared in radio and television advertisements supporting the mine publicly regreted doing so after learning more about the record of Rio Algom in Canada.
 - ✎ About forty-five local communities along the Wolf and Wisconsin rivers have passed resolutions either opposing the mine or supporting the mining moratorium bill. State activists this summer toured more than two dozen communities in the state to explain the problems with the mine proposal. The tour reprised a similar tour conducted in 1996.
 - ✎ The U.S. Army Corps of Engineers decided that the groundwater diversion element of the project did *not* constitute a "diversion" of Great Lakes water for the purposes of federal law, which would have required the approval of the eight Great Lakes governors.
 - ✎ After the Corps decision, Sen. Carl Levin of Michigan persuaded the U.S. Senate to pass an amendment to an appropriations bill banning any funding for the Corps to issue a permit for diversion of groundwater out of the Great Lakes Basin. The amendment was eliminated from the bill during "conference" negotiations with the House of Representatives. Levin is considering an amendment to the federal law defining diversions.
 - ✎ Chicago-based Environmental Law Center, Sierra Club, and Great Lakes United are preparing to sue the Army Corps of Engineers over its determination about the Crandon groundwater diversion. The center has contacted Great Lakes state governments in an attempt to enlist them as co-plaintiffs.
 - ✎ More than two dozen people organized by the Earth First! environmental activist group were arrested and jailed during the summer on trumped-up charges of "unlawful assembly" when rallying at a Crandon Mining Company office. Local organizers considered the Earth First! rally and its news aftermath unfortunately counterproductive.
 - ✎ Four local governments around the mine site have signed agreements with Exxon-Rio Algom. Four of the five members of the town board of one of the signing municipalities, Nashville, were voted out of office in an election held shortly after their decision to sign.
 - ✎ Exxon-Rio Algom successfully threatened neighboring Oneida County with legal action after the county began considering zoning changes that would have made it more difficult for Exxon-Rio Algom to run its groundwater discharge pipeline across the county to the Wisconsin River. In November the board reversed course, deciding to make no changes to its zoning laws and to immediately enter into negotiations with Exxon-Rio Algom over siting of the pipeline. Activists have filed complaints with the county and state attorneys general that the county actions were taken in violation of the state's open meetings law.
 - ✎ Exxon-Rio Algom mounted an estimated \$1 million state television and radio advertising campaign to persuade Wisconsin citizens to support the Crandon project. However, poll numbers on the issue did not improve for the company after the ad campaign, with more than half of Wisconsin residents continuing to oppose the mine, and less than a third supporting it. The company continues to place newspaper advertisements urging support for the mine.
 - ✎ The only announced candidate for the 1998 governors race, Democrat Ed Garvey, has declared his opposition to the mine. Garvey is a former Wisconsin assistant attorney general and former counsel to the National Football League.
 - ✎ Robert F. Kennedy, Jr., visited the state in support of *Riverkeepers*, his new book on environmental activism on New York's Hudson River, and gave speeches urging citizens to defeat the Crandon mine project as a threat to the Wolf and Wisconsin rivers.

International Joint Commission Public Forum on the Great Lakes Water Quality Agreement

Colborn outlines Great Lakes toxics danger

From a speech by Theodora Colborn, a World Wildlife Fund scientist, on behalf of the International Joint Commission's Science Advisory Board, delivered November 2 at the IJC's Public Forum:

... In the 1960s, wildlife biologists began to notice that wildlife populations were disappearing around the Great Lakes and that many were obviously destabilized. Over the years, on closer examination, they began to notice that the animals were dying before birth or weren't hatching if they were fish or reptiles. And if they survived to birth, many times they did not thrive to adulthood or were incapable of reproducing.

This is a slide of a bald eagle that was born in 1993, on the shorelines of the Great Lakes. One of the obvious problems that we're still seeing in the birds around the Great Lakes is cross-bills. The research also discovered that there were behavioral changes going on in wildlife populations, that male fish and birds were not making it through to sexual maturity, actually had gonads from both sexes, next slide, and also had thyroid hormone problems, as still evident today. ...

... the most important thing that came out of this research was the fact that they discovered the mothers were serving as a pathway for these manmade chemicals to their offspring, either in the womb, or in the egg.

Now this knowledge combined with the Jacobson reports that were coming from a team of psychologists, Sandra and Joe Jacobson, about impaired neurological development of children whose mothers had consumed Lake Michigan fish prior to their pregnancies, led to a concerted effort by the Agency of Toxic Substances and Disease

Registry, which is a subdivision of our Health and Human Services Department in the United States.

They began to investigate the human health problems around the Great Lakes basin. They have just right now, within the last couple of weeks, released their first results and these results are available. In es-

human populations. And that significant health consequences are associated with these exposures. Now this is an outstanding statement coming from a federal agency.

What I'd like to do now is take you back through some of the research findings that led to these conclusions. And I think we should start with the same old work of Sandy and Joe Jacobson.

Lake Michigan mother/infant study

Infants born between 1980 and 1981, of mothers who ate two to three meals per month—now that's not many meals per month for someone like me who's a fish eater—of Lake Michigan fish, at least six years prior to their pregnancies, were behind at birth in neuromuscular maturity when compared with the controls.

This deficit was associated with levels of PCBs in the unborn babies blood which the mother shared with her baby. At age four, again, based on the levels of PCBs in the unborn babies blood, these children had difficulty with short term memory.

At age eleven, the most highly exposed children during gestation, had an average 6.2 IQ deficit. And some were more than a year behind their peers in word and reading comprehension. Those in the highest group were more than two years behind their peers.

Now, when assaying the blood of these children at age eleven, the children's PCB concentrations were not associated with their achievement measures or their IQ scores. In other words, if the Jacobsons had only tested for children's blood at age eleven for PCBs, they would have ruled out PCBs as a causal agent.

Now, this is extremely important to keep
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Bob Fleming

sence, what they have said, using the weight of evidence approach, and looking at the work of wildlife biologists, toxicologists, and epidemiologists, there is a clear indication that populations continue to be exposed to PCBs. In this case they are talking about

IJC Public Forum on the GLWQA

... Colborn on toxics

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in mind, especially for researchers and health professionals. When seeking causal links with synthetic chemicals millions of dollars are spent, and are still pouring into cancer research studies in the United States, to look at the concentration of contaminants in diseased tissue, such as cancerous breast tissue, seeking a causal link with specific chemicals.

And, unfortunately, if a study finds no association, the press immediately jumps to the conclusion that chemicals are not involved at all and writes the issue off.

Now what if breast cancers were associated with the synthetic chemicals and the women who developed breast cancer were exposed before birth to chemicals that were in their mothers? Chemicals that sensitized them to cancer before they were born?

I can't go into it today, but there is a whole body of new research that lists chemicals that when they are in the womb during early prenatal development can actually lay down enough hormonally responsive tissue in the secondary sex organs so those individuals, as they mature, are definitely going to be more sensitive to the natural hormones they produce and any synthetic chemical that they might encounter later on in life.

This is a very serious consideration to take into mind when we're thinking about how we look at exposure and make links.

PCBs and the general population

Now, also important in this Jacobson study is when the mother's fat approaches 1.25 parts per million in PCB content, the intellectual deficits among the children became significant. Now, as the authors of this study pointed out, one does not have to eat fish to accumulate this amount of PCBs. PCBs are found in meat, dairy products, fast foods, ocean fish, ice cream, and even vegetarian diets. This is not a problem that is linked only to the Great Lakes.

For example, average PCB fat levels around the industrial world run at about 1 part per million in human fat—suggestive that a sizable proportion of the general population is being affected. In some regions, this could be more than 11 percent and up to as

much as 20 percent of the children being born today.

And a recent study done by the Centers for Disease Control just found that there is a four-fold increase in the probability of developing non-Hodgkins lymphoma when body fat burdens exceed 1.07 parts per million of PCBs. I know you're all sitting there wondering what your body burden is of PCBs.

Lake Ontario mother/infant study

Now in another mother/infant study that commenced twelve years later than the Lake Michigan study between 1992 and 1995, infants of mothers who again ate approximately two to three fish meals a month of Lake Ontario fish over their lifetime prior to their pregnancies, when compared with controls, also displayed the same neurodeficits at birth as the Lake Michigan infants, and when tested with an additional set of tests, were found to be hyperactive—similar to the effects reported in rats that had been fed Lake Ontario fish.

Now, using new test protocols, we're just finding new reports coming out from this study. The babies in this study were also found to smile and laugh less. They expressed more fear and they were more difficult to soothe and calm down than control babies in the study. Now, these changes in temperament were associated with the mother's lifetime consumption of fish, not just what she ate during pregnancy or recently near her pregnancy. So the findings suggest that PCB concentrations in Lake Ontario are still not low enough to protect human health.

Dutch mother/infant study

Now just one more study. In the Netherlands, another large healthy mother/infant study was undertaken across the general population from an urban to an industrialized area, not necessarily looking at fish eaters.

And those infants of the mothers with the highest PCB/dioxin levels—they had gotten more sophisticated with their chemistry—they exhibited psychomotor deficits at three months. Now, a different battery of neurological development tests were used in

this study, making comparison difficult...

... I think it's very obvious that somehow, some way, we've got to figure out how to harmonize the results, or the presentation of the results, or the studies when we're doing some of these very long-term expensive human epidemiological studies. But other biochemical measurements were also added to the testing protocol in this study.

They looked at thyroid hormone levels in the infants and found that they decreased as the PCB/dioxin levels increased. Now, the thyroid hormone plays a critical role in brain development. Today, there are increasing reports about PCBs, dioxin, and pesticides on the thyroid system, the brain, and behavioral development. (By the way, we have a new edition of a journal coming out in a month with a whole compendium of papers discussing this topic.)

Now, in addition to this study, they also looked at the infants' immune systems and found they were quite varied. They varied in a dose/response manner.

"Population-level" effects

Now in all three of these studies, and another one from North Carolina, it was the exposure prenatally, the 266 days after the day of conception, where we usually don't think about that time. It was not the result of breast feeding that led to the children's impairment. It was something in the womb that changed their course of development.

It is important to note that in each of the human studies that I just mentioned, even though the detriments to the children were statistically significant at the population level, their loss would not have been recognized by the infant's parents or doctors. It took skilled psychologists and technicians to quantify the changes in the children.

The children are not obviously sick... we don't look for these parameters in our health registries. Physicians and public health officials would have missed these affects. These children are not retarded or obviously different. Nevertheless, they are not developing to their fullest potential and certainly the quality of their lives, and their parents lives, and—I am a grandparent—their grandparents lives, will be reduced as well.

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IJC Public Forum on the GLWQA

Buffalo, New York's "Green Gold" strategy

From a speech by Jim Pitts, president of the Buffalo Common Council, delivered to the International Joint Commission Public Forum November 2:

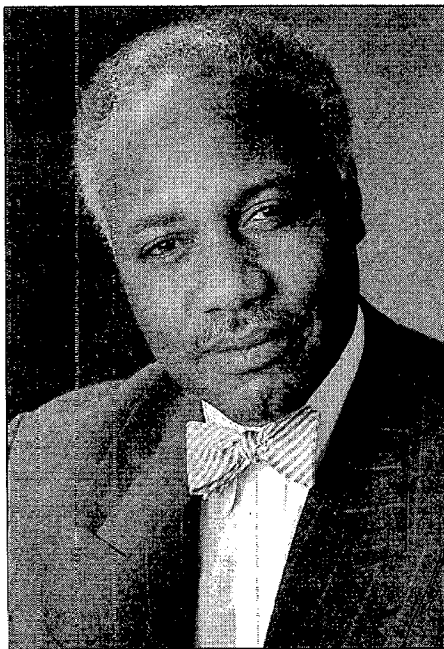
... Our location as a Great Lakes port and as the terminus of the Erie Canal was key to the early development and greatness of our city. With a cleaning and renewal of the Great Lakes environment, this same location is the key to our city's future. As the President of Buffalo's legislative body, I have a vision for what our city can become and I can tell you quite bluntly that unless the promises contained in the Great Lakes Water Quality Agreement are met, Buffalo will never reach its potential.

My vision for Buffalo's renewal includes what I call the Green Gold Strategy. It is a strategy which will allow Buffalo to develop a major niche for itself within the worldwide economy by developing and attracting businesses that solve environmental problems.

For too long, our city followed the outmoded model of allowing any industry to locate here in exchange for the promise of jobs. ... The shortsightedness of this strategy came home with the collapse of the US steel industry in the face of environmental regulation and low wage foreign competition.

Buffalo lost major employers like Bethlehem and Republic Steel and Donner Hanna Coke. In their wake they left hundreds of acres of contaminated land, toxic-drenched sediments in local waterways, and social devastation as steelworkers adjusted to unemployment and low- to minimum-wage jobs.

I would submit to you that businesses that solve environmental problems are poorly supported by the current political economy. Developers of renewable energy sources, efficient transportation modes, and new ways of doing business that avoid toxic pollution are too often marginalized in the current climate; at the same time nuclear power plants, gas guzzling cars, and industries that have done little to prevent pollution are rewarded with major government subsidies and an honored place within the nation's



economy.

I contend that Buffalo can come back by providing a welcoming home for businesses whose products and services solve environmental problems because I believe that many of these problems will grow in the short to medium term future and prosperity will come to those who can offer a solution. ...

In order to attract businesses that solve environmental problems Buffalo needs to offer itself as a city that is creating a clean, healthy and attractive environment for its residents. However, the city is now home to approximately thirty hazardous waste sites, many of which are hurting local water quality.

The city has little land available for development because most of the open land is brownfields land which is in an environmental limbo because of doubts over contamination. The Buffalo River and our Inner and Outer Harbors contain sediments that are seriously contaminated and swimming and other recreational uses are currently considered out of reach for our citizens. Buffalo's waterfront lies largely fallow while pollution problems are analyzed to determine their best solution. Cancer rates in Erie County

are above the statewide average in several categories.

In the face of these problems, Buffalo needs strong leadership from the International Joint Commission and the governments and environmental agencies of the United States and Canada. I have identified three main initiatives that should be addressed immediately:

- ❖ We need an end to the discharge of persistent toxic chemicals. It is inexcusable to me that substances that are known to be long lived and harmful to human and animal life are still being used and released where they can impact our health. It is hard enough to clean up the mistakes of the past without adding to those problems in the present by allowing the continued release of persistent toxics.
- ❖ We need increased attention and funding for the cleanup of each of the 43 Great Lakes Toxic Hot Spots, of which the Buffalo River/Harbor is one. The IJC could be most helpful in this regard by doing whatever it takes to refocus attention on the need to adequately fund the full cleanup of these hot spots.
- ❖ More funding needs to be made available for water and sewage infrastructure improvements. Combined sewer overflows are a serious problem in Buffalo, while the taste of the city's water is often abominable. Until we have solved basic problems like these, we can never say that we have fulfilled the promise of the Great Lakes Water Quality Agreement.

... Many local communities throughout the Great Lakes are taking progressive steps aimed at a clean, healthy future that we can all embrace. We depend on the IJC to follow through on its end to keep basin wide progress on track. I ask that the IJC Commissioners think of themselves as partners with local officials and activists who are struggling mightily while depending on the Commission to keep the national governments moving in the right direction. We are counting on you. Please don't drop the ball.

IJC Public Forum on the GLWQA

First Nations call for inclusion in the agreement

From "Environmental Injustice in the Great Lakes Water Quality Agreement," a document presented to the International Joint Commission at the Public forum.

The elements of Aboriginal nationhood (self-government/self-determination) are recognized under international law, but are presently absent from binational agreements/treaties such as the Great Lakes Water Quality Agreement and the Boundary Waters Treaty.

- ❖ We did not surrender the care of the plants, animals, birds, fish and water to the Canadian and United States governments.
- ❖ We did not surrender our rights to a healthy environment within the boundaries of our homelands.
- ❖ We did not surrender our rights to harvest healthy fish and wild game for our sustenance.
- ❖ We did not surrender our traditional way of life or the quality of our lives to the Canadian and United States governments.
- ❖ We did not surrender our lakes, our health, our future!

Environmental Injustice in the Great Lakes Water Quality Agreement



A presentation to the
International Joint Commission
November 2, 1997
Niagara Falls, Ontario

Times change, boundaries change, environments change, governments change, and people change—surely agreements, too, can change. In an effort to address the issue of environmental justice and equity, we must pose some difficult questions and address the obvious answers:

Question 1

Do the Parties to the Great Lakes Water Quality Agreement recognize the inherent rights and/or sovereignty of First Nations/Tribes by placing any obligation upon them-

selves not to pollute the boundary waters of First Nations/Tribes?

Answer 1

No. There is no evidence anywhere in the Agreement or the functions of the International Joint Commission.

Question 2

In efforts to preserve the Great Lakes ecosystem and improve water quality, have the implementation of the Agreement and the research functions of the IJC been involved in "adopting common objectives, developing and implementing cooperative programs

and other measures" with First Nations/Tribal governments?

Answer 2

No. There is no evidence anywhere in the Agreement or in the research functions of the IJC.

Question 3

In "monitoring" the Great Lakes Basin ecosystem (meaning "the interacting components of air, land, water and living organisms, including humans") have the Parties included First Na-

tions/Tribal governments in their scientific observations and evaluations?

Answer 3

No. There is no evidence anywhere . . .

Question 4

Has there been any response, on behalf of either the Parties or the functions of the IJC, to the past two recommendations put forth at the IJC Biennial Meetings (Windsor 1993 and Duluth 1995) calling for the appointment of First Nations/Tribal Commissioners to the IJC?

Answer 4

No. There is no evidence anywhere that First Nations/Tribes were even there. . . .

Question 5

Was there any response, on behalf of either the Parties or the functions of the IJC, to the Grand Chief for the Chiefs of Ontario, who personally handed over to the Commissioners (at the 1995 Duluth Biennial Meeting) recommendations, including calling for the appointment of First Nations/Tribal Commissioners?

Answer 5

No. There is no evidence anywhere in the functions of the IJC or its reports that he or any other First Nation/Tribal representative was even there.

Incidentally, the Grand Chief, Chiefs of Ontario is an elected official (to a Provincial Territorial Organization) who represents the political, economic and social interests of 134 First Nations communities. Approximately half of those communities are located within the drainage basin of the Great Lakes. The Grand Chief, Chiefs of Ontario is also the Ontario Regional Vice-Chief of the Assembly of First Nations, which is the political advocate for over six hundred First Nations in Canada.

Regardless of what the answers to these questions imply, we have again come to your meeting in the spirit of friendship and cooperation. Our Elders have taught us to be a patient people. . . . So it is with responsibility to future generations that we leave this document with the Commissioners, as evidence that we were here today. We will no longer be politely ignored. It is our hope that through the spirit of friendship and cooperation our recommendations will be implemented and our rights as legitimate third Parties to the Great Lakes Water Quality Agreement will be recognized.

For a copy of "Environmental Injustice in the Great Lakes Water Quality Agreement," contact Rick Peters, EAGLE Project, (613) 241-6789 x319, or Tom Goldtooth, Indigenous Environmental Network, (218) 751-4967.

IJC Public Forum on the GLWQA



Bob Fleming

Diane Heminway of the New York-based Citizens Environmental Coalition leading off the environmentalists' presentation to the members of the International Joint Commission. From left, they are Thomas Baldini, U.S. Section chair; Alice Chamberlain, U.S. member; Leonard Legault, Canadian Section chair; Pierre Béland, Canadian member; Susan Bayh, U.S. member; Francis Murphy, Canadian member.

... IJC Public Forum

continued from page 2

First Nations speakers emphasized the environmental injustice of the impacts of contaminated fish and water on aboriginal people in the Great Lakes region, called for the expansion of the IJC to include First Nations/Tribal representatives, and expressed dismay at the lack of response to previous requests for recognition of First Nations/Tribes as equal in status and concern to the U.S. and Canadian federal governments.

Great Lakes United was especially interested in bringing local government representatives to the forum because we would like to build the awareness among our municipal officials that they represent coastal cities that historically and currently depend on the Lakes. We hope to see the growing recognition of the links between life quality and water quality infuse the Great Lakes Mayors Conference next summer, since it was so markedly absent at this year's conference.

Representatives of the AFL-CIO and Windsor, Ontario's Labour Council addressed the status of "just transitions" to less or non-toxic industry. Speaker Jane Perkins revealed that the AFL-CIO has developed a list of work/environment principles which commit seek common ground with environmental allies in order to pursue the highest quality of life for both workers and commu-

nities exposed to toxic hazards.

Workshops

Great Lakes United organized several public workshops, including a strategy session with Lois Gibbs for people affected by the Hamilton polyvinyl chloride fire last July. Gibbs lead the Love Canal Homeowners Association in the 1970s as it struggled with state and federal authorities for recognition of neighborhood problems resulting from their proximity to a large hazardous waste dump.

Gibbs helped the forty workshop attendees develop a Great Lakes perspective and resource base for a local community dealing with dioxin-contaminated soil and other aftereffects of the Plastimet fire.

GLU also coordinated workshops on Basin nuclear issues and the impacts on Great Lakes waters of long-range airborne toxics known as persistent organic pollutants, which are now the subject of international discussions aimed at their elimination from the environment.

Analysis of the event

The IJC Public Forum clearly demonstrated the value of the recently abandoned IJC biennial—there is no other forum that fosters so well the sense and fact of a Great Lakes community.

The biennial event provides an opportunity for people to express their concerns not only to a wide public audience, but also to

senior government people who would not otherwise be in the Great Lakes region or hear directly from such a large cross-section of the community.

Moreover, the meeting provides deadlines for the governments to report to the public—and while there has been serious slippage in this reporting, we fear it would only get worse if the biennial did not exist.

However, this public forum also left much to be desired. The IJC did little to publicize the event or to provide content, such as the workshops, that would encourage people to attend. Government reports came first, which meant that most of the government representatives did not stay around to hear citizen presentations. This was duly noted by many, including one a student who raised it in her testimony as perhaps symbolic of just how well government listens.

The IJC Water Quality Board report was disappointing and could have been compressed into a much shorter timeframe. The board reports ran overtime, depriving many attendees of the opportunity to speak—which, after all, was the purpose of the forum.

The Sunday afternoon session was especially wearing for the people who had to wait until the bitter end to speak, and then to an almost empty room.

Great Lakes United has written the commissioners a letter, urging them to restore the full biennial format for 1999, and offering to help organize for it.

IJC Public Forum on the GLWQA

"Treading Water": Enviro's critique gov'ts on 25 years of effort

by John Jackson

This year marks the twenty-fifth anniversary of the 1972 signing of the Great Lakes Water Quality Agreement by the governments of the United States and Canada. In this agreement as amended over the years, the two countries committed themselves to ending the release of many of the worst pollutants to the Great Lakes, and to their "virtual elimination" through the cleanup of existing "hot spots" of toxic contamination.

One of the important features of the agreement is its provision for a watchdog—the International Joint Commission—on government progress toward meeting the goals of the agreement. The IJC carries out this role by issuing reports on progress every two years (the next report is due this spring).

But the IJC's Water Quality Board used to conduct these reviews in a detailed way that was much more useful than the current reports. Unfortunately, the board stopped this valuable process eight years ago. In its place the federal governments now prepare a biennial "state of the lakes" report which examines various environmental conditions, but diligently avoids evaluating the signatories' performance in meeting their commitments under the agreement.

To fill the gap, this fall the Canadian Environmental Law Association, Great Lakes United, and the National Wildlife Federation prepared a detailed, 169-page report, "Treading Water: A Review of Progress Under the Great Lakes Water Quality Agreement." It is an assessment from a public perspective of the progress made to date towards meeting the goals of the GLWQA.

In this report we judged governments' actions against the commitment they made when they signed the agreement, as well as the subsequent recommendations the IJC has made in its reports on Great Lakes water quality.

Virtual elimination of toxic substances

The goal of virtual elimination of persistent (long-lived) toxic substances is the cornerstone commitment under the GLWQA.

This goal has two parts: the end of toxic releases to the environment ("zero discharge"), and the most thorough possible cleanup of existing contaminated places.

Our overall conclusion is that neither the United States nor Canada are designing their regulatory strategies to achieve virtual elimination; their strategies are not intended to achieve zero discharge. It is apparent that neither government is willing to engage in concrete strategies to phase out the use of persistent toxic substances.

One of the most obvious and ominous problems in regulatory strategies on both sides of the border is the absence of attention to the problem of so-called "endocrine disruptors," substances that interfere with the operation of hormones.

There has been progress in the governments' acceptance of the concept of pollution prevention—reducing toxic releases by reducing toxic use in the first place. But neither government has made real progress in furthering and implementing pollution prevention programs. Most of the efforts are directed to voluntary as opposed to regulatory initiatives, and are accordingly not very effective. In addition, pollution prevention efforts focus on specific pollutants rather than on general processes and practices that cause the pollutants to be created.

Remedial Action Plans

Perhaps one of the greatest successes and one of the greatest failures of the GLWQA is the RAPs. Their success is attributed to the fact that they have sparked community awareness and involvement in areas of concern. Their failure is the lack of action in actual cleanup. Only half of the plans have been developed, and, as of 1996, only eleven of the 303 impaired uses for all RAPs in the Great Lakes have been restored. Many of the plans do not adequately deal with human health concerns and funding mechanisms to carry out the actual cleanup have not been put into place.

There is little doubt that RAPs are at a crossroads and government leadership is urgently needed.

Lakewide Management Plans

LaMPs are proceeding for every lake except Lake Huron. The LaMP reports are not adequately addressing human health concerns. They also are not properly addressing sources of critical pollutants carried through the air from outside of the basin. As with RAPs, there is a need for the governments to ensure that there is sufficient funding to prepare and implement the LaMPs. For the Lake Ontario LaMP there is a need to strengthen public involvement.

Point Source Impact Zones

Neither Canada nor the United States has carried out their commitment in annex 2 of the GLWQA to identify, delineate, and report every two years on those "point source impact zones" (places where specific sources like a discharge pipe first pollute) in which industrial and municipal discharges result in pollutant concentrations exceeding the objectives set out in the agreement. In addition, they have failed to carry out their commitment to eliminate point source impact zones.

Airborne Toxic Substances

The evidence that there is a need to control toxic air pollutants is overwhelming. But government action in all jurisdictions to actually reduce and eliminate sources of air pollutants is minimal. Ontario Hydro's recent decision to enhance the province's power supply through increased use of fossil fuels is predicted to increase Hydro's mercury emissions to air by 70 percent.

Contaminated Sediments

The news on contaminated sediments is both good and frustrating. While progress in removing and/or cleaning up contaminated sediments has been seen in areas such as Waukegan Harbor, Ashtabula, and Thunder Bay, progress in other areas has been stalled. The legal framework in both countries is confusing, making it difficult to take direct and timely action. Lack of funding is also a major barrier in both countries.

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IJC Public Forum on the GLWQA

EDITORIAL

SOLEC should support IJC evaluation of lakes progress

This November citizens of the Great Lakes Basin participated in the International Joint Commission's biennial Public Forum. We also celebrated the twenty-fifth anniversary of the Great Lakes Water Quality Agreement, a landmark document that commits the two countries to cleaning up the lakes.

The meeting not only celebrated past progress but provided an opportunity for citizen comment to the IJC on what still needs to be done. Environmental advocates encouraged the IJC to continue and even expand its watchdog role of monitoring the U.S. and Canadian governments' progress in implementing the agreement.

Now we are planning for next year's State of the Lakes Ecosystem Conference, SOLEC 98, a gathering of federal, state and local government and scientists to share the latest knowledge about the lakes.

This is an opportune time to take a close look at the relationship between SOLEC, the International Joint Commission, the Great Lakes Water Quality Agreement, and the U.S. and Canadian governments' obligations to detail their efforts at meeting their commitment under the agreement.

In its latest report to the International Joint Commission, the IJC's Science Advisory Board recommended that the governments 1) tell the IJC how SOLEC was supposed to help it report on the status of the Great Lakes ecosystem, and 2) invite the IJC's collaboration in the preparation of SOLEC 98.

From the time a few

years ago when the U.S. and Canadian governments formed binational committees of their environmental agency heads and SOLEC was first proposed, Great Lakes United and others worried that the new arrangements would take the focus away from the IJC biennial meetings and ultimately from the IJC's role as monitor of the Great Lakes Water Quality Agreement. The IJC has long been an independent, clear-speaking observer of what progress was really being made in the Great Lakes. We

thought that pushing aside the IJC would probably further weaken progress on cleaning up the lakes.

When earlier this year the IJC announced that it was not holding its biennial meeting, our worst fears seemed to be confirmed.

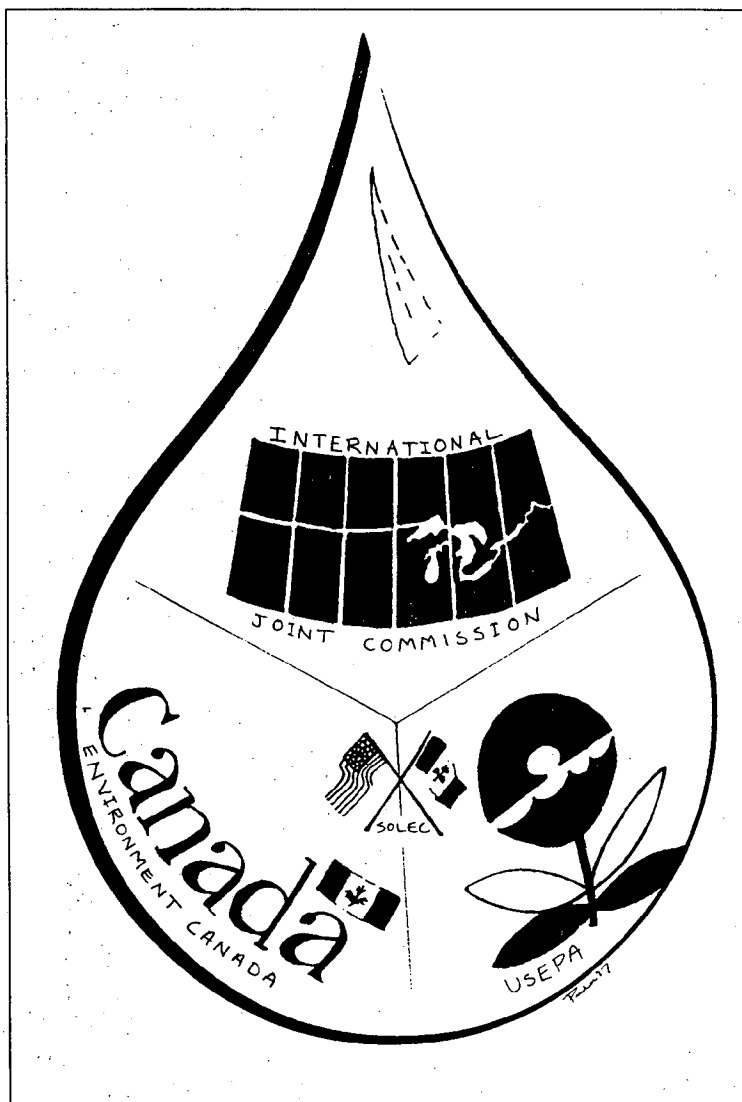
The Great Lakes environmental activist community is proud of the Great Lakes Water Quality Agreement and committed to its full, timely implementation. The agreement still stands as a model international environmental agreement, the envy of others trying to protect their international waters.

The role of the International Joint Commission, a treaty organization of the 1909 U.S.-Canada Boundary Waters Treaty, is critical because its mandate transcends narrowly interpreted national interests and it is somewhat shielded from the vagaries of domestic politics. Canadians, in particular, have supported the IJC and its role because it is a body in which otherwise extremely unequal parties have an agreed-upon equal voice.

One of the purposes of SOLEC is to develop ecosystem-based indicators of the health of each of the lakes. But this is also one of the most important unfinished jobs of the Great Lakes Water Quality Agreement.

The goals of recovery, restoration, and enhancement of fish and wildlife populations is covered in the agreement's article IV and annexes 1, 2, 11. Ecosystem-based indicators must be established to achieve these goals. Indicators of human

continued next page



Paula Borkowski

IJC Public Forum on the GLWQA

IJC proposes watershed boards, new missions

At the request of the Canadian and U.S. governments, the International Joint Commission has put together its vision for its role in the twenty-first century. Its proposals include:

- 1) Establishment of ten International Watershed Boards along the length of the U.S.-Canadian border from Maine, New Brunswick, and Nova Scotia to the Yukon-Alaska border.
- 2) Conducting studies on transboundary water demand and supply and water quality, transboundary air quality, and core environmental data requirements.
- 3) Review of existing IJC orders governing dams and other structures that affect water levels and flows.
- 4) Review of transboundary nuclear issues, particularly in the Great Lakes watershed.
- 5) Release of a biennial report on the state of the transboundary Canadian-U.S. environment.

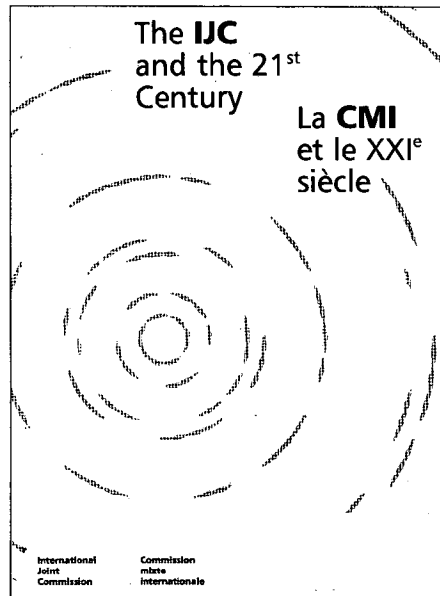
In the Great Lakes, the IJC is proposing to

change the mandate of its Water Quality Board to become an international watershed board. This would mean adding to it the responsibility to assess water quantity issues. It also would mean changing the member-

ship of the board so that it is no longer made up solely of federal, provincial and state government employees. This board's geographic responsibility would be extended down the St. Lawrence River to where salt meets freshwater, substantially downstream of Montréal, "and beyond, if necessary."

Many of the changes being proposed by the IJC are ones that Great Lakes United and other citizens' groups throughout the Great Lakes basin have long been urging. However, we are concerned that the IJC does not assess the need or possible sources for additional financial resources to carry out these additional functions. We fear, therefore, that the IJC's work could end up being watered down.

If you would like a copy of "The IJC and the 21st Century," contact the IJC office in Windsor at (519) 257-6700. Comments on the plan should be sent to the IJC and the Canadian and U.S. federal governments by February 1998. It is expected that the governments will respond to the IJC's plan in the spring.



... coordinate SOLEC/IJC

continued from previous page

health will be very helpful in developing the kind of binational research strategy called for in annex 17 of the agreement.

The governments developed ecosystem-based indicators for Lake Superior and then their efforts faltered. The development of all these indicators and the data-gathering required to measure them are the responsibilities of the governments. They would provide the substance of a full accounting to the IJC from which it could effectively report on progress.

The IJC has frequently complained of its lack of access to sufficient data in useful form to carry out its task of assessing progress on achieving the goals of the agreement.

A clearly articulated partnership between SOLEC and the IJC would greatly help the situation. The IJC could explicitly state what

information it needed to fulfill its task of assessing agreement progress and SOLEC could be organized to produce it.

The IJC Public Forums and SOLEC could still be held in alternating years, which would give the government agencies time to compile the results of SOLEC into a form useful for the IJC process.

The first two SOLEC meetings, held in 1994 and 1996, did an excellent job of bringing together a large amount of information about the lakes and highlighting key trends. The meetings served to inform and educate a large number of key individuals with Great Lakes decision-making responsibilities. The SOLEC documents have been the most useful, well-organized source of up-to-date lay information on the lakes available anywhere.

SOLEC 98, to be held in Buffalo, New York, next October, will focus on indicators. It makes logical and practical sense to de-

velop this work so that it can be used as a measure of our progress towards the well-established, clearly articulated and popularly supported set of goals and objectives of the Great Lakes Water Quality Agreement.

There is still time to coordinate the two great biennial meetings on the state of our wondrous ecosystem, the Great Lakes. SOLEC 98 should be the information engine for the 1999 IJC Public Forum and follow-on Biennial Report. It is a terrible under-use of the finest environmental research and evaluation system in the world to let this opportunity pass.

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IJC Public Forum on the GLWQA

RESOLUTION

“Renegotiation of the Great Lakes Water Quality Agreement”

Approved by the Great Lakes United Annual Meeting, June 1, 1997

Whereas, over 20 million people drink Great Lakes water, and one-fifth of the United States population and three-fifths of the Canadian population live in the Great Lakes region; and

Whereas, all inhabitants of the Great Lakes region people and wildlife have a right to clean water and safe food.

Whereas, 450 priority organic and heavy metal contaminants have been identified in the Great Lakes ecosystem, many of which threaten the health of the ecosystem; and

Whereas, toxic discharges, pollutants leaking from sediments and landfills, and atmospheric emissions deposited in the Great Lakes continue to threaten the health of the people, fish, and wildlife of this region. These pollutants can cause cancer and birth defects, hurt our immune system, reduce sperm counts and damage intellectual potential in children; and

Whereas, these hidden toxic chemicals in the Great Lakes environment prevent us from being able to fully attain our right to clean water and safe food; and

Whereas, the people of the Great Lakes region, and their elected and appointed government officials from Canada, the United States, the provinces of Ontario and Quebec, and the States of Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, and New York share the responsibility for ending the pollution and the risk to our families and future generations; and

Whereas, the 1978 Great Lakes

Water Quality Agreement (and the amendments to it in the 1987 “Protocol”) includes a compelling vision for rehabilitating and protecting Great Lakes water quality, as well as numerous general objectives and specific obligations for fulfilling this vision; and

Whereas, when the Agreement was last amended in 1987, numerous specific obligations were made by the U.S. and Canada, mostly in the Annexes to the Agreement. Many of the most important obligations of the Agreement have not been fulfilled, including those to:

- ❖ Develop and implement regulatory strategies to reduce and eliminate inputs of persistent toxic substances through a philosophy of zero discharge;
- ❖ Develop and implement measures to control atmospheric deposition of toxic pollutants contaminating the Lakes;
- ❖ Develop action levels that protect the health of Great Lakes inhabitants from exposures to mixtures of toxic chemicals from a multitude of sources;
- ❖ Develop and implement cleanup plans for Areas of Concern and Lakewide Management Plans;
- ❖ Develop and implement watershed management plans to control polluted runoff from urban and rural lands, and
- ❖ Develop compatible criteria to classify and guide the cleanup of contaminated sediments; and

Whereas, in the last few years there has been an erosion of government support for some Great Lakes programs designed to control toxic pollutants. For example, in the U.S., attempts have been made by Congress to weaken key provisions of the Clean Water Act and Clean Air Act. In Canada, financial support for Great Lakes programs has been drastically cut; and

Whereas, a trend in both countries has been away from enforceable standards and regulatory programs in favor of voluntary approaches to address toxic pollution problems. While voluntary approaches are appropriate in some applications, they must be buttressed by strong and enforceable government regulations and standards, as required by both the Agreement and domestic laws in the two countries; and

Whereas, the Agreement provides that following every third biennial report of the International Joint Commission, the U.S. and Canada shall conduct a review of the operation and effectiveness of this Agreement. This review triggers consideration by the U.S. and Canada of whether to amend the Agreement.

Now, therefore, be it resolved, that the participants at the Great Lakes United annual meeting in Bolton, Ontario, May 30–June 1, 1997, urge the governments of Canada and the United States not to open the Great Lakes Water Quality Agreement for renegotiation; and

Be it further resolved that Great Lakes United urges the governments to redouble their focus on and commitment to implementing the specific commitments made in the 1978 Agreement and the 1987 amendments in order to fulfill the vision of the Agreement for a clean and healthy Great Lakes ecosystem. Great Lakes United especially urges governments to focus their energies and attention on those commitments in the Agreement to reduce and eliminate persistent toxic pollution through zero discharge, in order to end the toxic pollution that threatens our health.

A snapshot of Great Lakes toxics

This map shows the locations of all facilities within the Great Lakes drainage area that self-report toxic releases under the U.S. Environmental Protection Agency's Toxic Release Inventory (TRI) and Environment Canada's National Pollutant Release Inventory (NPRI).

As far as we know, this is the first time that this information for the Great Lakes Basin alone—as opposed to the standard figures for states and provinces—has been publicly released.

Great Lakes United designed the map with Environment Canada's Geomatics Unit and released it at the International Joint Commission's November 1-2 Public Forum.

The map information is based on 1992 TRI data and 1993 NPRI facility reports sorted for all reporting locations within the Great Lakes basin. Although the inventories have released data for as recent as 1995, the 1992 and 1993 data is the most recent that has been linked to the Great Lakes Basin geographically.

This map, therefore, represents a snapshot in time of one set of discharges to the Great Lakes environment: approximately 173,000 metric tonnes or 385 million pounds of pollutants. See inset at the upper right of the map for a lake-by-lake breakdown of these releases.

If releases into the air from within the one-day airshed of the basin are taken into account, the total impact to the lakes soars to over 300,000 metric tonnes or 661 million pounds.

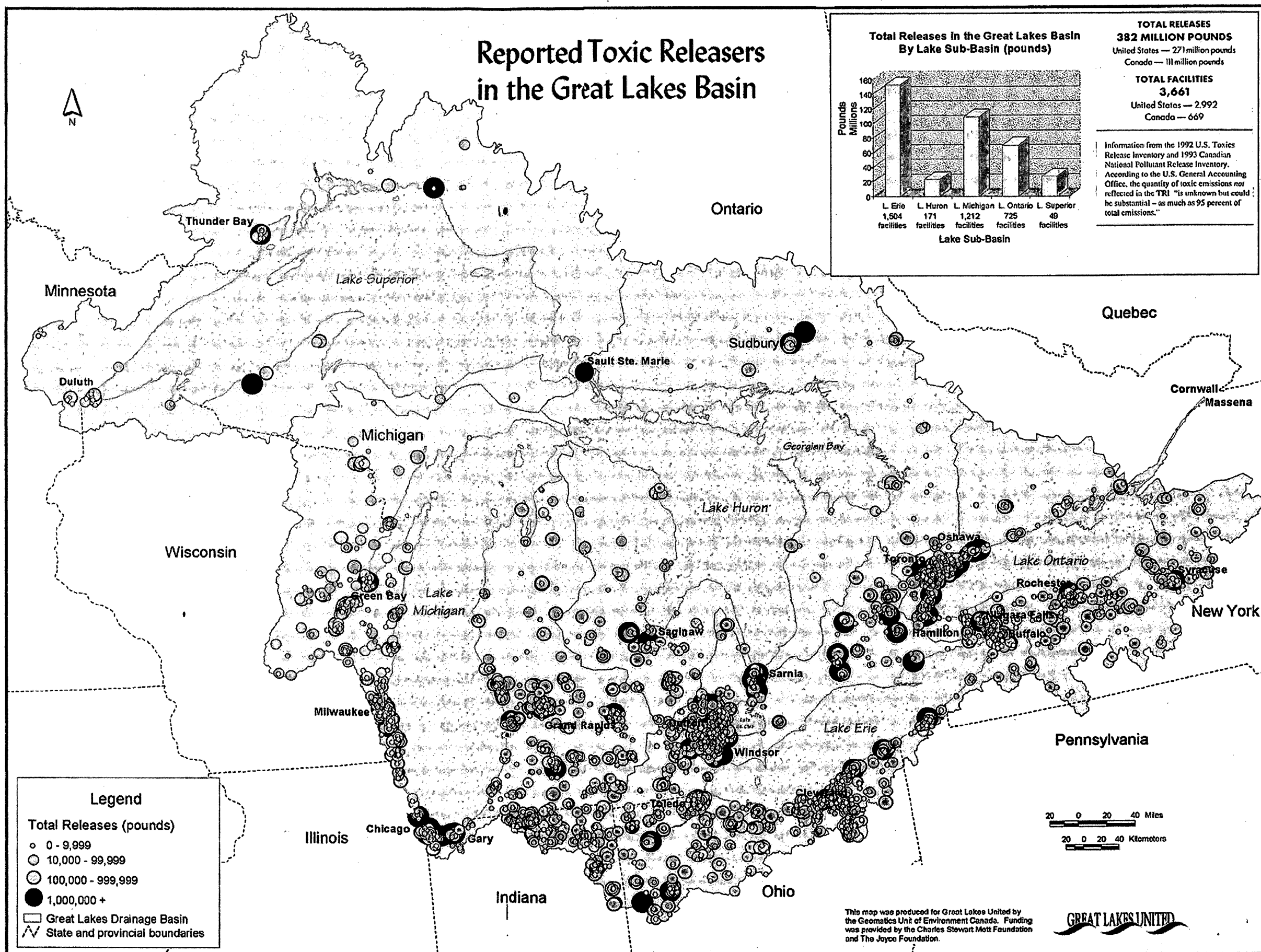
Reported toxic releases to the basin are lower today than in 1992 and 1993, but the figures shown here are far less than were actually discharged then or now. This is because TRI and NPRI information excludes many large sources of toxic emissions. For example, in the United States, the focus is on the manufacturing industries. Municipal incinerators and sewage treatment plants, which are known to be major sources of toxins to Great Lakes, are omitted.

According to a U.S. General Accounting Office report (GAO/RCED-91-121), "The quantity of toxic emissions *not* reflected in the Toxic Release Inventory is unknown but could be substantial—as much as 95 percent of total emissions" (emphasis ours).

TRI and NPRI data also fail to show discharges of several very poisonous substances, such as dioxin and mercury, which are released in amounts below reporting thresholds.

All of this underscores the recommendations made by environmental groups at the IJC Public Forum—the governments must heed their commitment to the goal of zero discharge in the Great Lakes Water Quality Agreement. An excellent step in this direction would be for the governments to produce yearly inventories of toxic releases impacting the Great Lakes basin, much like the map presented here, so we can better evaluate progress towards zero discharge.

Reported Toxic Releasers in the Great Lakes Basin



IJC Public Forum on the GLWQA

... "Treading Water"

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Land use

Governments need to put more emphasis on improving land use practices so as to reduce and eliminate discharges of toxics as a result of certain activities. In areas relating to agriculture, urban land use, and watershed management, much more work is needed. In 1996, the governments reported that most indicators of land use impact are "poor, mixed and deteriorating."

Groundwater

Even though the Great Lakes Water Quality Agreement outlines a major work agenda with respect to groundwater contamination, the efforts by the governments in this area have been almost nonexistent. The governments have reported that the state of groundwater quality is "mixed" but "likely to deteriorate."

Pesticides

A conservative figure estimates that 57 million pounds of 157 pesticide active ingredients are used in the Great Lakes basin each year. More emphasis must be placed on pesticides, particularly on eliminating the use of pesticides that are long-lived and toxic or are hormone disruptors.

Radioactive substances

Despite International Joint Commission recommendations, the governments are not following their commitment in the GLWQA to set goals for virtual elimination of all persistent toxic substances. Indeed, the governments have bluntly stated that they do not intend to apply the same elimination goals to radioactive substances that they have agreed to pursue for other persistent toxic substances.

Phosphorus

Phosphorus discharges are the major cause of "eutrophication"—the buildup of excessive plant growth due to the excess quantity of phosphorus as a nutrient. When the plants die and decay, the resulting bacterial action removes oxygen from the water and fish die in large numbers. Without doubt, the re-

duction of phosphorus discharges is a major success story of the GLWQA. However, eutrophication continues to be a major problem in many harbours, rivers and streams in the lower lakes. Much more attention needs to be focused on the discharge of nutrients from nonpoint sources such as farms.

Treading Water:
A Review of Government Progress Under The Great Lakes Water Quality Agreement
A Report to the International Joint Commission
Prepared by the Canadian Environmental Law Association Great Lakes United National Wildlife Federation
October, 1997

Surveillance and monitoring

Annex 11 of the GLWQA requires the governments to undertake surveillance and monitoring programs. However, the IJC estimates that the number of scientists working in the Great Lakes basin has dropped by between 38 percent and 53 percent between 1994 and 1997. The list of monitoring programs that has been dropped is unfortunately long.

Reporting to the public and the IJC

While the agreement contains provisions for the governments to report on a regular basis to the public and the International Joint Commission, government failure to fulfil these commitments in recent years has resulted in decreased accountability. Their slowness in responding to IJC recommendations, the nature of their State of the Lakes conferences, and their failure to report in depth on their actions under the agreement leave the public concerned about their commitment to the agreement.

Funding

Over the past several years, funding to support the programs required in the GLWQA has been reduced. While there have been significant cuts and reductions in funding on both sides of the U.S.-Canada border, Canada and Ontario are taking the lead in instituting the most severe cuts. Over the past three years, both Environment Canada and the Ontario Ministry of the Environment have been cut by over 30 percent.

Conclusion

The vision and promises of the Great Lakes Water Quality Agreement remain unfulfilled. The agreement remains sound; it does not need to be amended. Instead, the governments must follow much more closely the progressive decisions they made when they wrote the agreement, and they must accelerate its implementation.

A free, 24-page summary of "Treading Water: A Review of Progress Under the Great Lakes Water Quality Agreement" is available from the Canadian Environmental Law Association by calling (416) 960-9393; or Great Lakes United at (716) 886-0142; or the National Wildlife Federation at (313) 769-3351.

The full, 169-page report is available for C\$30 and US\$25 plus shipping and handling. Environmental organizations may buy it for C\$15 and US\$10 plus shipping and handling.

Canadian gov't environmental authority upheld

After two years of debate over the framework Canadian Environmental Protection Act, the Supreme Court of Canada in September affirmed, 5-4, the federal government's environmental authority.

The highest court in Canada held that the federal government has the right to regulate toxic substances.

The court case started when Hydro-Quebec, the provincial electric utility, had a

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GLU to help U.S.-Canada "Binational Toxics Strategy"

by Margaret Wooster

Great Lakes United has received a grant from the U.S. Environmental Protection Agency and a contract from Environment Canada to participate in the implementation of the Great Lakes Binational Toxics Strategy.

The strategy is a response to the commitment that "the discharge of toxic substances in toxic amounts be prohibited and the discharge of any or all persistent toxic substances be virtually eliminated," from article II of the Great Lakes Water Quality Agreement as amended in 1987.

Signed April 7, 1997, by the top environmental administrators of both countries, the strategy is the outcome of a four-year process that included consultations with the International Joint Commission, industry, scientists, government agencies, and environmental groups in the Great Lakes Basin. Main elements include:

The strategy's "challenges"

There are eight challenges, each with a Canadian and a U.S. version. Baselines for judging percent reductions are from 1988 in Canada, and vary for the U.S. challenges. All challenges address human sources as opposed to naturally occurring sources.

Pesticides and octachlorostyrene

U.S.: Confirm by 1998 no use or release from U.S. sources that enter the Great Lakes of chlordane, aldrin/dieldrin, DDT, mirex and toxaphene, and of the industrial byproduct octachlorostyrene.

Canada: Report by 1997 no use, generation, or release from Ontario sources that enter the Great Lakes of the above.

Alkyl-lead

U.S.: Confirm by 1998 no use of alkyl lead in automotive gasoline; support and encourage efforts to reduce alkyl-lead releases from other sources.

Canada: Seek by 2000 a 90 percent reduction in use, generation, or release of alkyl-lead.

PCBs

U.S.: Seek by 2006 a 90 percent reduction nationally of high-level PCBs (>500 parts per million) used in electrical equipment; ensure all PCBs retired from use are properly managed and disposed of.

Canada: Seek by 2000 a 90 percent reduction of high-level PCBs (>1 percent PCB) that were once or are currently in service; accelerate destruction of stored high-level PCB wastes.

Mercury

U.S.: Seek by 2006 a 50 percent re-

duction nationally in deliberate use of mercury and a 50 percent reduction in mercury releases to air nationwide and to water in the Great Lakes Basin.

Canada: Seek by 2000 a 90 percent reduction in the release of mercury, or, where warranted, the use of mercury in the Great Lakes Basin.

Dioxin/furans

U.S.: Seek by 2006 a 75 percent reduction in total releases of dioxins and furans (2,3,7,8-TCDD toxicity equivalents) to the air nationwide and to water in the Great Lakes Basin, and a 75 percent reduction in releases of hexachlorobenzene and benzo(a)pyrene from sources within or that may enter the basin.

Canada: Seek by 2000 a 90 percent reduction in releases of dioxins, furans, hexachlorobenzene, and benzo(a)pyrene in the Great Lakes Basin.

Level II substances

Both countries: Promote pollution prevention and the sound management of Level II substances.

Long-range air transport

Both countries: Assess atmospheric inputs of strategy substances to the Great Lakes. If ongoing long-range sources are confirmed, work within international frameworks to reduce releases of such substances.

Contaminated sediments

Both countries: Complete or be well advanced in remediation of priority sites with contaminated bottom sediments in the basin by 2006.

- Issuance of eight "challenges," or toxic reduction goals, each with a U.S. and a Canadian version, that are to be achieved through both voluntary efforts and "currently anticipated regulatory actions"
- Emphasis on twelve "Level 1" and fifteen "Level 2" substances or substance groups. The Level 1 substances include: 1) Five banned/cancelled pesticides—chlordane, aldrin/dieldrin, DDT/DDE, mirex, and toxaphene—that accumulate over time in living things and which may be entering the system from out-of-basin sources; 2) five highly toxic industrial substances—PCBs, dioxins and furans, octachlorostyrene, hexachlorobenzene, and benzo(a)pyrene; 3) alkyl-lead; and 4) mercury
- Emphasis on "pollution prevention and other incentive-based actions" that phase out the use, generation, or release of long-lived toxics "in a cost-effective manner within the most expedient time-frame"

EPA and Environment Canada are promulgating as open a process as possible to implement the strategy. The primary engine driving the process will be a set of workgroups open to any interested stakeholder but definitely including industry, government, and environmental representatives.

At this stage, plans are to organize the workgroups around specific substances or substance groups:

- 1) Mercury
- 2) PCBs
- 3) Dioxins and furans
- 4) Alkyl-lead
- 5) Pesticides (DDT, mirex, aldrin/dieldrin, chlordane)
- 6) Toxaphene
- 7) Hexachlorobenzene and benzo(a)pyrene
- 8) Octachlorostyrene.

There will also be an "Integration
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U.S. "no net loss" wetland policy is failing

by Andy Frank

Hot off the presses . . . the amount of shrub wetlands in the United States has *increased* by 1.5 million acres over the last decade. The annual net rate of wetlands loss from 1985 to 1995 has decreased 60 percent from the rate the previous decade. Restoration programs are contributing 78,000 acres each year to the national wetlands base.

All of these are facts taken from the U.S. Fish and Wildlife Service's latest study on the rate of wetlands losses in the United States, a ten-year report to Congress entitled "Status and Trends of Wetlands in the Conterminous United States: Projected Trends 1985 to 1995." The facts are pertinent to the national goal of achieving no net loss of wetlands, but what do they really tell us about the status of our wetlands, or of any particular watershed's ability to cleanse and manage water or to sustain viable populations of indigenous frogs, fish, birds and mammals?

Not much. Shrub wetlands have increased only because many of them used to be more valuable forested wetlands that have been cut (and in many cases drained or filled). The United States has lost 2.5 million acres of forested wetlands, the overall inventory now standing at an all-time national low in the conterminous United States.

Separate studies released this year indicate that 1) as many as 75 percent of wetland watersheds have more declining than improving wetland quality characteristics, 2) in several measures, mitigation wetlands are not of equal quality to natural systems, 3) current wetland buffers are inadequate to protect species diversity, and 4) 46 percent of U.S. listed threatened or endangered species are wetlands associated.

In total these studies suggest that it is time for the nation to reassess its policies and goals.

No net loss

In 1988, the National Wetlands Policy Forum recommended that the United States

establish a wetlands protection policy to achieve no overall net loss of the nation's remaining wetlands base, as defined by acreage and function, and to restore and create wetlands, where feasible to increase the quality and quantity of the nation's wetland resource base.

This statement has guided the last decade of wetlands policy and regulation. The statement has some weaknesses, but it clearly calls for protection of unique wetland functions and suggests that "no net loss" of acreage is a minimum threshold and a net gain should be

Institute's "National Wetlands Newsletter" frames the debate.

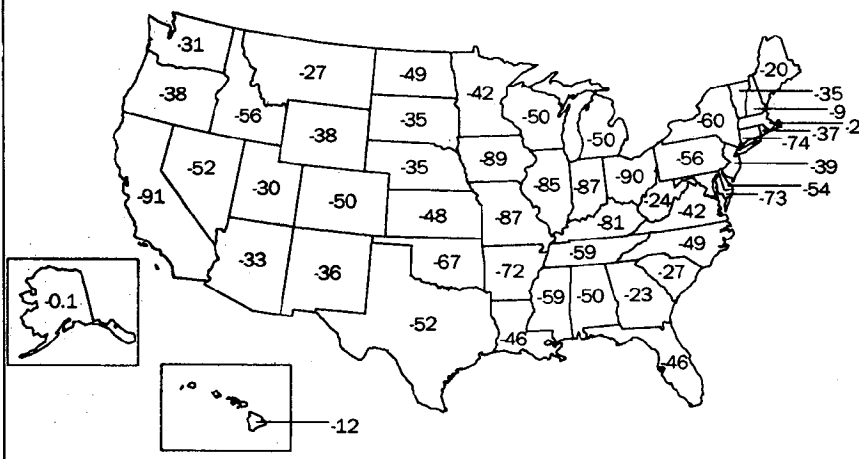
Jonathan Tolman of the Competitive Enterprise Institute contends that the United States has achieved no net loss primarily due to restoration incentives. Tolman argues that the regulatory regime has not worked at all and that it should be dismantled in favor of voluntary programs and incentives.

Countering Tolman are three economists for the U.S. Department of Agriculture who have studied the relationships between agriculture and wetlands. They contend that the regulatory program has been critical to ap-

proaching no net loss and will remain critical as economic pressures continue to fluctuate.

Also countering Tolman is a wetlands specialist for the U.S. Fish and Wildlife Service who has examined wetlands loss and wetlands restoration data and found inconsistencies in definitions, measurements, tracking and reporting that make it difficult to reach a simple loss or gain conclusion. The Na-

Percentage of Wetlands Acreage Lost, 1780s-1980s



Data and Johnson, "Status and Trends of Wetlands in the Conterminous United States: Projected Trends 1985 to 1995," U.S. Fish & Wildlife Service, 1999

the ultimate goal.

Through the years, "no net loss" became the mantra for wetlands policy, but the result has been policies that do not focus so much on retaining the "remaining wetlands base" as on approaching no *net* loss through remediation and mitigation banking. Also, agency staffing cuts, which are widespread throughout the United States and Canadian Great Lakes basin, have resulted in a major failure to evaluate to any significant extent wetland function on a local or regional basis.

Framing the debate

Various interests have continued to debate current federal policies and the "no net loss" goal over the past decade. The July-August 1997 edition of the Environmental Law

national Wetlands Newsletter can be contacted at (202) 939-3800.

Beyond "no net loss"

As with many other issues concerning the protection of habitat and biodiversity, those profiting from resource consumption tend to divert attention from the bigger picture. In forestry, the industry describes forest conditions in terms of growth-to-harvest ratios and gross acreage rather than forest size, age, structure, species composition and its zoologic (animal) components. Recent water diversion arguments rely on "no net loss" from the basin, even when the water going out is clean, and the water returning is waste water.

For wetlands, "no net loss" is a weak goal toward achieving significant protection of particular habitats, much less valuable restora-

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tion. The issues of fragmentation, loss of particular types of wetlands, adequate buffers, and the limitations of mitigation are not reflected in the discussion. And for states such as Ohio that have already lost 90 percent of their wetlands, no net loss rings hollow.

"Mitigation" wetlands

A June report from the Ohio Environmental Protection Agency compares the function of mitigation wetlands (human-created environments used to offset wetland destruction elsewhere) with natural systems.

Applying a standardized evaluation process known as the BWEM, the study found that mitigation wetlands are not functionally equivalent to reference natural sites in at least three measures: flood water retention, water quality improvement, and habitat provision. The comparisons were realistic ones—the reference sites represented a cross section of functional quality; they were not pristine "least impacted" sites.

The report found essentially equivalent floral "richness"—population density—but significantly lower native species diversity.

A copy of the report, "A Functional Assessment of Mitigation Wetlands in Ohio: Comparisons with Natural Systems," can be obtained through the OEPA's Public Interest Center at (614) 644-2160.

Beyond the issue of the function of mitigation wetlands, there are other issues of wetland type and location. In most states there is no requirement that mitigation wetlands be a wetland type of equal or greater value, or even that the mitigation wetland be located in the same watershed. These deficiencies allow for certain watersheds to continue to degrade in quality and function.

Wetland buffers and biodiversity

According to an announcement from Christine Manninen of the Great Lakes Commission, a newly published study finds that current wetland buffers in the United States and Canada are not adequate to protect species biodiversity within the wetland. The study, published in the August 1997 issue of *Conservation Biology* by C. Scott Findlay and Jeff Houlahan of the University of Ottawa in Ontario, assessed the relationship between disturbances and the diversity of mammals, birds, herptiles (amphibians and reptiles), and plants in thirty wetlands in southern Ontario.

Findlay and Houlahan found that species diversity for each group declined when paved

roads were within 1 kilometer of the wetland, with impacts extending out to as much as 2 kilometers for certain mammals, herptiles, and plants. The study also found declining herptile and mammalian diversity when forests were cleared within 2 kilometers of a wetland. Models suggested that relatively small disturbances near a wetland could decrease total species diversity as much as losing half the wetland itself. For more information, contact Scott Findlay at (613) 562-5800 x5474 or Jeff Houlahan at jeffh@sonetis.com.

Endangered species

A related article in vol. 19, no. 6, of the "National Wetlands Newsletter" assessed the dependence on wetlands of U.S. listed threatened and endangered species. According to the study summary, 46 percent of threatened and endangered plant and animal species were determined to be "wetlands-associated." When only animal species are considered in the determination, the percentage jumps dramatically to almost 80 percent.

The U.S. Fish and Wildlife Service study developed two classifications: "wetlands-associated" species and a subgroup of "wetlands-dependent" species. Wetlands-associated species are those that would be adversely affected by wetlands loss, but would probably survive in lower populations. The article cited bats as an example in that they feed on aquatic insects.

Wetland quality trends

A new U.S. Department of Agriculture report, "Agricultural Resources and Environmental Indicators, 1996-97," reviews national trends that are directly linked to wetland quality. The report assesses trends in four indicators—erosion, irrigation, forest cover, and urbanization—over a ten-year period from 1982 to 1992. While soil erosion and irrigation impacts have largely stayed constant over the decade, nine out of ten wetland watersheds lost forested acreage and 96 percent had urban land increases. The report concludes that wetlands in just over 30 percent of all wetland watersheds are "likely" degrading in quality and another 45 percent have more negative indicators than positive. Only 2 of 677 watersheds studied were "likely" to have improving wetland quality.

The report can be reviewed and downloaded online at www.econ.ag.gov or received by mail for \$21—ask for Agricultural Handbook #712 at (800) 999-6779.

The future

As illustrated by the situation in Michigan (see separate article) there are myriad of ways that federal and state agencies are coming up short in approaching the original protection goals set out in 1988 by the National Wetlands Policy Forum.

These shortcomings are exacerbated by the prevailing views of managers and politicians that the destruction of natural systems is acceptable as long as mitigation banking is used to approach no net loss.

Fortunately, a new opportunity to shift this mindset is before us. This October, in concert with the twenty-fifth anniversary of the Clean Water Act, Vice President Gore announced a "Clean Water Initiative."

The Initiative instructs federal agencies to develop an action plan to protect water quality from polluted runoff by pursuing objectives that would not require additional congressional authorization. Included among the possible targets of the proposal is a goal to restore 100,000 acres of degraded wetlands annually.

Again, the goal is slippery. There has already been some discrepancy on the part of the administration as to whether this means a net gain of 100,000 acres annually, or, much less significantly, an annual restoration goal of 100,000 acres, which would not necessarily even result in no net loss to zero. From the USFWS report, the United States is already restoring 78,000 acres annually but still has an annual net loss of 117,000 acres.

The National Wildlife Federation has drafted comments asking for clarification on this point and urging a net annual gain of 100,000 acres by 2005. Meanwhile, the wetlands working group of the Clean Water Network has also submitted comments and will be pursuing strategies to push the administration forward.

For more information on the Clean Water Initiative, contact Richard Spencer with NWF at (202) 797-6635, or Peter Braasch of Restore America's Estuaries at (202) 289-2379.

Canadian Postscript

We are awaiting a new report by the Nature Conservancy of Canada regarding the status of Canada's wetlands base and protections—look for followup in email/fax "Great Lakes Habitat Watch" (sign up by emailing glu@igc.org or call the Buffalo office if you don't already get it) and in the next GLU newsletter.

Michigan is abandoning wetlands protection

by Dave Dempsey

Michigan Environmental Council

A state wetland program once regarded as a model for the nation is a pale facsimile of its old self and no longer adequately protects the 5.5 million acres of wetland resources that remain in Michigan, say many observers and environmental advocates.

The fate of the program, under relentless political attack for most of this decade, illustrates how wetland protection can be gutted without significantly changing the law itself. In the political equivalent of a bloodless coup, it has been undermined by the sacking of professional staff committed to wetland protection, a single-minded emphasis on issuing permits over assuring compliance with and enforcement of wetland laws, and the appointment of administrative law judges and appeals and Supreme Court judges who are rewriting legal precedents to favor wetland destruction.

"What's left is basically a shell of a program," says Lana Pollack, president of the Michigan Environmental Council. "The wetland resource is being sacrificed for short-term political expediency."

Whether the program can return to former glory depends on two things: the fate of a citizen appeal to the U.S. Environmental Protection Agency to pull Clean Water Act wetland protection authority from the state, and whether the administration of Gov. Engler and anti-wetlands legislators of both parties are replaced by public officials who favor wetland protection.

Once the best

Enacted in 1979 and effective in 1980, Michigan's wetland protection law was touted as the nation's toughest. It was so strong that Michigan in 1984 became the first state in the nation to be delegated Section 404 permit authority from the

federal government under the Clean Water Act. Michigan is still one of only two states with delegated permit authority.

Michigan's law placed a high value on protecting state aquatic habitat and associated values, established a strict "feasible and prudent alternative" test for wetland applications, and imposed mitigation requirements for unavoidable wetland impacts.

"In the twenty years since the state's first wetland protection act, the principle that you don't lightly destroy these damp and watery stretches of ground if there is a feasible and prudent alternative should have become familiar and accepted," the *Detroit Free Press* editorialized this September. "Still, wetlands protection regularly comes under assault from those who contend it hampers development or interferes with property rights."

What the *Free Press* did not note is that

the 1990s assault is taking place out of public view. The wetlands protection law remains largely intact as Part 303 of the state's natural resources and environmental protection code. But it is no longer really enforced.

In a report entitled "Assault on Michigan's Wetlands" released with the Michigan Environmental Council last February, the Lone Tree Council's Terry Miller observed, "This report suggests a new attitude at the highest level of the Michigan Department of Environmental Quality: that instead of implementing its primary mission to protect and preserve Michigan's natural resources, private development is now seen as more important than public trust; political favors administered more readily than public law; and those who attempt to honor their professional obligations to the public removed rather than advanced."

Larry Witte, chief of the DEQ's Land and Water Management Division, which administers the state wetland program, sees it differently. He emphasizes the division's efforts to streamline the permit process for minor applications, saying, "We're trying to spend more time on those jobs that have impact on the resource, and less time on things with de minimus impact."

Sacking the professionals

The Lone Tree Council report was spurred in part by the removal of longtime DEQ Bay City District Supervisor Rob Zbiciak in January 1997. Zbiciak was removed at the request of legislators, responding to complaints from development interests, who said he was too vigorously enforcing wetlands laws.

"These legislators hear these stories repeatedly and get quite frustrated with the statute and translate that into a personal case against me," Zbiciak said. Zbiciak was replaced with a staffer who had no wetland pro-



Paula Borkowski

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gram experience, familiarity with wetland laws, or academic background for the job.

This August, another veteran of the program, wetland program supervisor Steve Sadewasser, was relieved of his job after a decade for the same reason.

Current Land and Water Management Division chief Witte himself replaced former division chief Dennis Hall, regarded as a strong proponent of wetland protection, in the early 1990s.

The division is also the victim of an early retirement program touted by Gov. John Engler that has cost the division sixteen veteran staff. Only six will be replaced.

Administrative lawmaking

A series of case rulings from two administrative law judges appointed by DEQ Director Russell Harding have upended precedent and demoralized staff.

In one of the most bizarre cases, administrative law judge Richard Patterson decided to permit the destruction of a large, environmentally important wetland along Lake St. Clair—and to give the developer a special break along the way. Rendered on a nine-year-old case, Patterson's ruling was described as virtually "beyond my comprehension" by an assistant attorney general.

The project would sacrifice approximately eighteen acres of wetland near the mouth of the Clinton River spillway in Macomb County for fifty homes and three hundred apartments. Former department head David Hales characterized the site as "critical habitat for fish, aquatic life and wildlife."

Patterson's ruling begins with the observation that while he did not walk the site, his inspection from its periphery did not reveal "substantial standing water." This "squish test" overlooks the department field staff's observation: "Seasonal standing water is a natural occurrence in Michigan wetlands and timing and amount of this water provides benefits to the animals that utilize the wetland system."

Patterson adopted the developer's arguments that the project serves a public need (for housing) and that there are no feasible and prudent alternative locations, despite the DEQ's suggestion of a larger, alternative site with good water access and an alternative building plan for the requested site.

The state has traditionally required developers of significant wetland areas to "mitigate" unavoidable impacts by providing 1.5 acres of new wetland for every acre lost. But the law judges have crafted their own policy. The developer of the Lakes St. Clair site will get a special deal and have to create only one acre of wetland for every three acres lost. The reason? According to a state memorandum, the department's 1.5 to 1 ratio was ruled out of line by Chief Administrative Law Judge Richard Lacasse because it hadn't published any rule requiring such a ratio.

In a review of more than a dozen contested case rulings by Lacasse and Patterson, MEC found the judges ruled against DEQ staff in virtually every instance.

"Takings" fears

In several highly celebrated cases in recent years, proposed permit decisions by line staff have been overturned after political intervention from developers, legislators, or even upper DEQ management. Critics say that DEQ's mandate to staff is to issue permits, not protect the resource.

Some of the most celebrated turnabouts have occurred because of fear of legal claims against the state. DEQ Director Harding personally issued the state's largest-ever wetland destruction permit in June 1997. Saying he had no choice because of adverse state court rulings on takings issues, Harding okayed peat mining of about 1,200 acres of the rare Minden Bog in Michigan's Thumb.

Harding said the issuance of a state permit would dump the issue in the lap of the federal government under the Section 404 program, relieving the state of a \$300 million to \$500 million liability for a takings claim brought by Michigan Peat Co.

"It's ironic that the state is relying on the federal government to protect a rare Michigan resource," said MEC President Pollack, "when state officials have been attacking EPA for 'meddling' in state issues. This demonstrates why we need strong national environmental laws."

Harding's fear of a takings claim is apparently rooted in a controversial decision by Michigan's Court of Appeals in June 1996. In what is known as the K and K Construction case, the court ruled that the developers of a fifty-five-acre parcel in Oakland County

were entitled to \$5 million for their inability to build a restaurant on a twenty-eight-acre piece of the property, even though DEQ would have permitted other uses. The ruling is now on appeal to the State Supreme Court. One of the three judges who ruled in the K and K case, Clifford Taylor, was appointed to the Supreme Court in August 1997.

No enforcement

Even defenders of the state's wetland program acknowledge the validity of the charge by critics that enforcement of the law is rare to nonexistent.

"What we're not doing anywhere near what we'd like to do is compliance and enforcement," says Witte. "We need to do a better job of balancing permit processing and compliance and enforcement."

Witte's observation was confirmed by the state's auditor general in 1996. This independent arm of the state legislature reviewed complaints about wetland violations made in three district offices in 1994 and 1995. In two of the three offices more than a quarter of complaints reviewed showed no evidence of followup; many that were followed up showed no indication that the complaint had been resolved.

Impatient with the DEQ's sluggish response to the auditor general report, MEC won legislative support in the agency's 1998 budget bill for an amendment requiring the agency to establish a centralized tracking system for receipt of complaints, followup, and resolution.

A shift to local action?

But some wetland advocates think the state's failures, including its enforcement failures, mean the action should shift to the local level. Although circumscribed by a 1992 change to the wetland law, local governments are empowered to enact local ordinances to protect wetlands.

"It's disappointing to have these changes in a state once nationally hailed for the strongest wetland law and regulatory program," says Carla Clos, an advocate instrumental in the 1992 adoption of a local wetland ordinance in Meridian Township, east of Lansing. "Any community that cares about these resources is going to have to carry that burden. We can't count on the state."

A rousing debate on forest management in Wisconsin

Readers interested in forest management issues might be interested in a lively sixteen-page booklet produced this fall by Great Lakes United, "Managed Forests: A Debate," available for free on request. The following excerpts hint at its contents—

From the introduction, by Andy Frank:

... Within the Great Lakes United coalition, many groups and individuals have actively focused their efforts on the protection of habitat and biodiversity. Their critique of timber harvest management practices and timber harvest on public lands has been loud and strong. But many forest managers consider their stewardship to be in the best ecological tradition.

Who is right? In the fall of 1996, the Great Lakes United newsletter reprinted an article by Cash Luck from another publication, calling it "Lost in an Aspen Monoculture." A forest activist in the western Great Lakes area, Luck commented on several aspects of conventional forest management strategies.

The article elicited a two-paragraph critique from Charles Zosel, a forest superintendent with the Wisconsin Department of Natural Resources. Given the complexity of the issue, we suggested that Zosel and Professor Bill Willers, a forest zoologist at the University of Wisconsin and a colleague of Luck's in the Superior Wilderness Action Network, engage in a written debate centered on the original article. The parties were willing and they agreed on a format that allowed each a thousand-word initial statement and a shorter follow-up. This booklet presents the entire dialogue, from original articles to final rebuttals. We hope that by encouraging this type of debate, we can create opportunities for viewing the bigger picture by all interested parties.

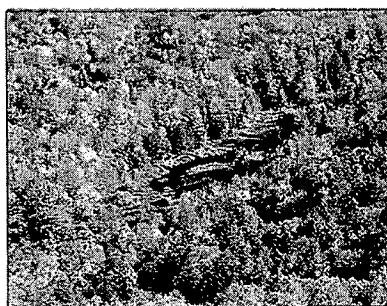
From "Lost in an Aspen Monoculture," by K. Cash Luck:

I proceeded to search for tree species other than aspen. I observed only three or four sticks of oak and maple per acre. No other tree species had survived the clearcut. These oak and maple were only two feet high, while

the towering aspen were fifteen feet high. Knowing oak and maple are shade tolerant, I initially had hoped they would grow over a period of fifty to sixty years, begin to reseed themselves and in a hundred and fifty years or so regenerate the biodiversity that once existed before the clearcut.

Then my hopes dimmed as I recalled the plan to come back and recut the aspen in forty years. . . .

Managed Forests A Debate



K. Cash Luck
Charles W. Zosel
Wisconsin Department of Natural Resources
Bill Willers
Superior Wilderness Action Network

GREAT LAKES UNITED

From "Rebuttal to Willers Critique," by Charles Zosel:

In his rebuttal, Professor Willers made some erroneous and unfounded claims. For example, he stated that aspen acreage was 2 percent in pre-Columbian times. However, the best presettlement data from the relatively recent 1800s is based on actual observations. Even this data is sketchy and presents problems in extrapolation. Pre-Columbian records could only come from fossil pollen data. According to the literature, aspen pollen grains are preserved under only virtually ideal conditions. . . . These are two reasons why we cannot document that aspen is any more prominent on the landscape than in the distant past. . . .

... Professor Willers also stated that aspen makes up better than 50 percent of the forest cover in the Midwest North Woods and that late successional stages are "increasingly rare." The facts from the latest U.S. Forest Service's Forest Inventory and Analysis show aspen at 18 percent in Wisconsin, 14 percent in Michigan and 34 percent in Minnesota and decreasing overall. At the same time, northern hardwoods (late successional species) is the most common forest type in Wisconsin, increasing steadily over the last several decades. . . .

... Realism demands we look at these facts: we don't have the luxury of looking at our forests solely as either "commodity mines" or as biodiversity reserves. It is not foresters who determine how much aspen or any other forest type is appropriate—it is the public and the landowner's decision. Society demands forest products and a reasonable balance must be discussed. . . .

From "Rebuttal to Zosel Rebuttal," by Bill Willers:

Widely used estimates for "original" aspen cover are for 2 percent, more or less. Look at the U.S. Forest Service's own before-and-after map (seen at <http://forests.org/SWAN>). USFS is so known for erroneous "estimates" when its agenda is at risk that its data ("Inventory and Analysis") in such cases are unreliable (see *Forest Service Planning*, 1992, Office of Technology Assessment, for recent commentary). . . .

... "Society demands forest products" is as much a smokescreen as management's demand for "science" (i.e., their "industrial forest science"). In fact, the USFS's own poll reveals a public wanting more protection and less commodity production (Hammond, 1994. *Forest Service Values Poll Questions*. USFS), e.g., "Natural resources in national forests should be made available to produce consumer goods"—36 percent agree, 17 percent neutral, 47 percent disagree; "The long-term health of forests should not be compromised by short term need for natural resources"—79 percent agree, 12 percent neutral, 9 percent disagree. State-level polls give similar results. . . .

Fate of Ontario's forests at stake in "Lands for Life"

by Brenna Lloyd, Northwatch

Ontario has put a major new planning process for public lands on a fast track, aiming to make decisions on the fate of about 45 percent of Ontario forests—approximately 46 million hectares or 113 million acres—by next spring. The amount of land involved in the process exceeds the total area of the states of Indiana, Ohio, Pennsylvania, and New York combined.

The provincial Ministry of Natural Resources launched the "Lands for Life" initiative last February, although first public discussions were not held until April and the centre pieces of the process, three regional "roundtables," did not meet until summer.

The fast-track land use planning process is the current government's response to decades of conflict over appropriate uses and activities on crown land. While a comprehensive land-use planning process has been long called for, this particular exercise runs the risk of locking Ontarians into the conflict mode, rather than moving them past it.

The process

"Lands for Life" has three primary elements:

- ❖ "Nature's Best," which will complete the network of protected areas in Ontario by creating new parks, protected areas and conservation reserves.
- ❖ A "Resource-Based Tourism Policy," which is intended to "identify resources for use by the tourism industry."
- ❖ "Forest Management," which the MNR claims "will ensure that forests are managed sustainably."

A parallel discussion on a renegotiation of forest tenure—private quasi-ownership of public land—is also underway, but MNR intends to keep that conversation between only the forest industry and MNR, and to be "a matter of discussion outside the land use planning process." An internal MNR report completed in December outlines plans to solidify industry control over public lands and to then intensify production (that is, increase the rate of cut) on 60 percent of the forests that are outside protected areas.

In April the Ministry of Natural Resources held a "provincial forum" to launch

the "Lands for Life" land use planning process. At the Toronto session, the MNR outlined the year-long consultation and planning process, and released its call for nominations to the three regional roundtables, which will be the focal point of the process from May through until the spring of 1998.

Interestingly, the forum was for provincial organizations only, but the emphasis at the forum was on the regional "round-tables" that will effectively exclude most of those who attended the meeting, since residency



John and Ann Michon

in one of the three regions of Great Lakes-St. Lawrence, Boreal East and Boreal West was said to be pre-requisites to appointment to one of the roundtables. The round-tables will be the primary forum for public input.

Government intent

Inarguably, the greatest concern of those working to protect Ontario's forests is the government's intent. While a legitimate land-use planning process would be of real benefit, the political climate of deregulation and privatization in Ontario and the directions laid out in internal MNR documents challenge any confidence that this will indeed be a legitimate land-use planning process.

The land-use planning process has, at the outset, divided Ontario into three re-

gions, with the southern Carolinian forest and the far north excluded from the land use planning exercise altogether.

The three regions included in the exercise are all extremely large. This is particularly a concern in the case of the roundtable to be established for the Great Lakes-St. Lawrence Forest, which covers an area from just south of Wawa on the east coast of Lake Superior to Kemptville, just north of the St. Lawrence River and a good distance east of Lake Ontario.

With the forest condition, tenure arrangements, wood flow, and social and economic factors and conditions being so different north and south of the French River (commonly considered the "dividing line" between north and south Ontario), the setup may prove unworkable.

The round-tables each consist of twelve to fourteen people, appointed by the minister from the standard list of interests (forest industry, mining industry, tourism, municipalities, natural heritage, and First Nations).

Progress to date

Each of the three roundtables have divided their time between public meetings and working sessions to define overall objectives and develop "options" for land use strategies. The public sessions have been held throughout each of the planning regions, and have allowed short presentations from members of the public—a "public" that has been dominated by the industrial interests, particularly in the Boreal East and Boreal West regions. In some cases, a single company has made a series of presentations in the same evening, while members of the public waited for their midnight time slot to arrive. Many evenings, the industrial message has been bleak and repetitive: multiple use, no reductions in timber allocations, open the parks to logging and mining.

Nonetheless, that message is not a "consensus" among the corporate set. Other companies talked about improving forest management practices, acknowledged the importance of protecting wild areas, and agreed that land use conflicts must be resolved.

And, even when outnumbered, the envi-

continued next page

Aquatic Habitat Network organizing in New York, Basin

by Andy Frank

Through a program coordinated by Wil Cwikiel of Tip of the Mitt Watershed Council, Great Lakes United will develop the New York hub of the Great Lakes Aquatic Habitat Network and Fund. For contacts at all Basin state and provincial hubs, see the end of this article.

The network and fund is a three-year project funded by the C.S. Mott Foundation to foster state and province-wide networks of groups and activists throughout the Great Lakes Basin working to protect shorelines, wetlands, streams, and other aquatic habitat within each of the Great Lakes states and provinces. The program also includes a grant program to provide support to citizen initiatives throughout the basin.

The primary goals of the Mott aquatic habitat project are to 1) provide technical and financial support to grassroots organi-

zations, 2) develop effective information sharing and communication networks, and 3) strategically focus time and resources dedicated to aquatic habitat protection.

Other basin organizations are coordinating the hubs for Ontario and the other Great Lakes states. See the end of this article for contact names and phone numbers.

To start the New York hub of the network, GLU's Biodiversity and Habitat Protection Task Force is creating a database of New York groups and activists, including river and watershed advocacy groups, land trusts, and nature centers, among others.

In January we will initiate the second phase of the project—an email/fax "New York Habitat Watch," modeled on our current "Great Lakes Habitat Watch." This publication will be a regular (initially monthly) vehicle to share information on projects throughout the Great Lakes Basin

portion of New York state.

The final element of the project will be bringing network participants together for annual meetings to identify statewide opportunities and priorities and to develop coordinated communication and campaign strategies to aid local and statewide projects.

As the network's New York coordinator, Great Lakes United will also advise and assist state network participants in applying for grants through the Great Lakes Aquatic Habitat Fund, which will have a spring and fall grant cycle in 1998.

New York groups located in the Great Lakes Basin interested in learning more or participating in the network should contact Andy Frank at (716) 886-0142, glu@igc.org.

Ontario groups in the Basin can contact Linda Pimm of the Federation of Ontario Naturalists at (416) 444-8419, fon@web.net.

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... "Lands for Life"

continued from previous page

ronmental message bearers have held their own. As the roundtables have travelled throughout the regions, they have heard numerous cogent arguments for the protection of wilderness and for environmental responsibility, often linked to a social or economic commentary. In several cases, presenters have provided the roundtables with proposals for new protected areas, many of which have been recurring within a region, such as the caribou wintering grounds in the Moose River Basin, the wilderness coastal zone along the east coast of Lake Superior, the Almaguin Highlands northwest of Sault Ste. Marie, or the Georgian Bay archipelago.

Coming Next

The three roundtables have their first joint meeting in mid-December, as each of them struggle to produce a set of "land use options" which will then be presented for public comment early in the new year.

A second round of public meetings is expected in January or early February, after which each roundtable will identify their "preferred option." Then it's one more round

of public reviews, finalization of the "preferred option" by each roundtable, and then final reports submitted to the minister of natural resources.

At that point, initially scheduled for April but more likely some months later, the minister will allow thirty days of public comment before making the land use plans "final".

The "Lands for Life" planning process and its outcomes have the potential to close doors on many environmental, community and First Nations interests, particularly if changes in tenure arrangements give large companies greater control over "crown" land, or eliminates flexibility for future land use decisions, such as establishing more protected areas or areas of co-management between First Nations and the government.

Presumably, the process should equally hold the potential to expand the network or protected areas, ensure greater security for remote tourist operators and ecotourism, and raise the standard of care in forest management. Without a doubt, "Lands for Life" is a process that bears watching and participation if the opportunity presents itself.

For more information, contact the Web site of the Federation of Ontario Naturalists, www.web.net/fon.

... Canada federal environmental authority

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PCB spill in the Shawinigan River, a tributary to the St. Lawrence River.

When the federal government filed charges against the company for CEPA violations, Hydro countered by challenging the constitutionality of CEPA Part 2 and the federal government's right to regulate toxic substances.

This a substantial victory for environmental protection in Canada, although it is tempered by the accelerating pace of federal devolution of environmental protection efforts to the provinces.

Environmental groups who gained intervenor status in the case were Great Lakes United, the Canadian Environmental Law Association, Sierra Legal Defence Fund, Pollution Probe, and Société pour Vaincre la Pollution.

SVP argued a unique point of constitutional law credited by some with being the deciding factor in winning the case.

"Groundwater mining": Québec government policy

by Stéphane Gingras

The sheiks of water are coming to the St. Lawrence river area. These times in La Belle Province all we can hear about is water. Nearly every week this year there is a news story on water.

It all started in fall 1996, when Montréal and its mayor, Mr. Bourque, decided to privatize the city's water production and distribution infrastructure. In January citizens organizations, unions, environmental groups, the church, municipal political parties, student organizations and others joined forces to fight the Montréal privatization project and they partially won. In June the provincial municipal affairs minister, Mr. Trudel, announced that there would be no privatization of water production and distribution systems in Québec.

It is a partial victory because in some municipalities such as Iberville, the water production systems are now privatized. But last year we were afraid that Montréal would be the example for privatization and that all of the rest of the province would follow afterward but it looks like its gone be the opposite.

Groundwater mining

At the same time, in rural areas such as Franklin, south of Montréal, "groundwater mining" is the new strategy for creating jobs, according to some proponents. Such projects pump groundwater for export from the region, mostly to the United States.

So far there are at least six municipalities faced with groundwater mining projects. Franklin should be able to fend off a proposed project by the Danone company because it shares the groundwater aquifer with the United States. The project threatens the water supplies of U.S. farmers on the other side.

But the multinational water companies will not stop looking for groundwater mining prospects. If they lose in Franklin, they will succeed in St. Placide, St. André, or some other municipality.

Water balloon shipping

The latest plan is to ship water in huge

balloons in empty petroleum tankers to Middle East or other areas of the world where they have problems with their water supplies.

The variation on the same project is water in small plastic bags. You might think this is not serious but lately Mr. Landry, the minister of finance of Québec, has announced income tax deduction for boat modifications intended to help carry the water.

On the other hand the Egyptian ambassador attending the International Water Conference in Montreal in September gave a cold shower to the water export proponents. He said that before Egypt pays for importing water from Canada they would rather remove the salt from sea water because it is less expensive.

Water: Do we have enough?

But what is this sudden and frenetic taste for water? Do we have so much water in Québec that we can sell it everywhere and be rich? That's what some politicians and investors seem to believe.

In a document preparing attendees for a December symposium on water, provincial statistics on quantity and quality of water in Québec declare that the province contains 3 percent of the total volume of fresh water in the world—990 cubic kilometers of water available per year. This statistic is calculated from the average flow of all the rivers in the province and does not include water in aquifers and lakes. But we know that the river flow depends on lake, aquifer, and rain supplies. Forty percent of the claimed water is flow in the St. Lawrence River.

In the symposium document the province would also like to believe that Québec water is some of the highest quality in the world. Judging by four main parameters—suspended solid, nitrogen, phosphorus, and coliform bacteria—the Québec government can conclude that the St. Lawrence river, for example, is one of the cleanest in the world.

According to the document, Québeckers consume only half of 1 percent of the total volume of water available, not counting the 10 percent that flows through hydroelectric turbines.

Therefore, according to the Québec government: 1) we have more than enough water in Québec, 2) the quality of water is great compared to other places in the world, 3) we don't use or consume too much water because we have a small population.

The real picture

More than 80 percent of the population of Québec lives along the St. Lawrence River, which provides 40 percent Québec's available water. The other 60 percent is not necessarily that available to the Québec population. Some scientists predict a reduction in St. Lawrence River flow of as much as 25 percent by 2050, primarily due to climate change.

As for the quality of the province's water, one needs to look at some additional parameters. The St. Lawrence river food chain is highly contaminated with persistent toxic chemicals coming from the Great Lakes, atmospheric deposition, and historic sediment contamination. In fact, the St. Lawrence River beluga whale, sitting on top of the river's food web, is threatened with extinction due to the St. Lawrence River toxics if something isn't done soon.

So, we can see how and where the Québec government wants to bring the debate on water. The questions asked by Prime Minister Bouchard in the cover letter of the symposium materials are clear: "Would it be possible to export water abroad to countries that need it?" "What is the possible level of penetration by Québec bottled water suppliers on the international market?" "Do we need to modify the water management framework or hand it over to the private sector?" These questions really mean how much money can we make out of selling water abroad and who should benefit from it.

But these questions are the wrong questions, Mr. Bouchard. The right questions are: Have we done enough to clean up the water contamination in Québec and in particular the St. Lawrence River? Have we done enough to preserve and conserve that essential resource that we all need to survive? And finally, is the commercial exploitation of water the best way to deal with the debt and the deficit of Québec?

... Colborn

continued from page 8

The character of civilizations

Now the economic and social costs of this loss at the population level have not been calculated to date. Economists are now considering the lifetime earnings lost for each IQ point reduction per year class of children born. From the experience with lead, this could mean billions of dollars in lifetime earnings per year class of children born in the USA. And as a group of experts who met to look at the impacts of endocrine disrupters on the developing brain and behavior recorded recently, they were certain that widespread loss of this nature can change the character of human societies and destabilize wildlife populations.

Two government studies

Now, in order to close, I have ... this book report that was just released on Friday by Health Canada that supports quite a bit of what I have just told you. And I think you should all take some time to look at this. We have two government reports now that are telling us that something is happening, from the day of conception 266 days until birth, that's changing the destiny of our children. We have got to wake up and pay attention to this. Thank you.

The study by the Agency for Toxic Substances and Disease Registry referred to by Colborn is "Public Health Implications of Persistent Toxic Substances in the Great Lakes Basin." It is available free by calling (800) 447-1544 or (404) 639-5135.

Information about the the Canadian study referred to by Colborn can be obtained by sending email to mary_began@inet.hwc.ca.

... Binational Strategy

continued from page 19

Workgroup" to handle organizational, administrative, and process issues.

The substance workgroups should be convened in mid-February and proceed by: 1) gathering information (including material on which the challenges are based), 2) assessing current regulations and programs, 3) identifying cost-effective options for further reductions, and 4) recommending and implementing actions.

Great Lakes United has begun to work

on the process by consulting with some of our member groups on the kinds of guidelines or groundrules the workgroups will need to address questions of balance, accountability, resources, and monitoring.

We plan to attain as much procedural definition as possible early on, building on members' experiences with other stakeholder scenarios such as the Strategic Options Process in Canada and the Common Sense Initiative in the United States.

GLU will encourage our members and others with specific expertise to participate in the workgroups, where we will be working directly with industries on defining actions to meet the challenges. We hope to identify those people and groups who have experience with the Binational Toxics Strategy substances and with the Great Lakes environmental and policy context.

GLU will also monitor progress towards the overall goal of virtual elimination, make recommendations for mid-course adjustments if the process gets bogged down, and provide regular updates to our members.

If you want to learn more about the Great Lakes Binational Toxics Strategy, or get involved in one of the workgroups, please contact the Great Lakes United Buffalo office.

... Aquatic Habitat

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Wisconsin groups in the Basin can contact Tom Boswell of Wisconsin Wetlands Association at (608) 250-9971.

Minnesota groups in the Basin can contact Cheryl Miller of the Minnesota Audubon Council, (612) 225-1830, cmiller@audubon.org.

Michigan groups in the Basin can contact Scott McEwen of the Tip of the Mitt Watershed Council (616) 347-1181, smcewen@freeway.net.

Indiana groups in the Basin can contact Sandra Wilmore of the Save the Dunes Council at (219) 879-3937, std@alice.adsnet.com.

Illinois groups in the Basin can contact Bill Borden of the Lake Michigan Federation at (312) 939-0838, lkmmichfed@aol.com.

Ohio groups in the Basin can contact Julie Sibbing at the Great Lakes Regional Office of the National Audubon Society at (614) 224-3303, jsibbing@audubon.org.

Pennsylvania groups in the Basin can contact Marty Visnosky of the Keystone Action Network at (814)-459-5201, martykanpa@aol.com.



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Dredging and the neighborhood at Indiana Harbor

by Emily Green, Sierra Club

The story of Indiana Harbor mirrors the situation in many Great Lakes rivers and harbors. It is a story of good intentions to clean up a bad mess. But the cleanup is hampered by the difficulty of finding workable solutions and a lack of community involvement and support.

The harbor is plagued by toxic muck that has filled its shipping canals, hindering navigation and polluting its fish. The muck is the product of decades of industrial dumping of toxic pollutants like chromium, lead, PCBs, and PAHs.

Although the dumping is vastly reduced, it still continues. During drier times of the year, as much as 90 percent of the flow in the Grand Calumet River can be attributed to industrial and municipal sewage plant discharges.

The muck has serious implications for the harbor and the people living in the surrounding area. Because the muck is so polluted, the harbor has not been dredged since 1972. This means that the harbor and

shipping canal are only 8 feet deep in places, making it difficult for ships to reach the port.

In addition, 150,000 cubic yards of toxic muck wash out into Lake Michigan each year, where they pollute the water and contaminate the fish. In the spring, there is typically a 5 mile sediment plume washing out of the harbor, past the drinking water intakes for the towns of Hammond and Whiting.

Something needs to be done. But good solutions are not easy to come by.

In an innovative agreement, the Army Corps of Engineers, the U.S. Environmental Protection Agency, and the Indiana Department of Environmental Management combined their resources and funding to address this problem. They

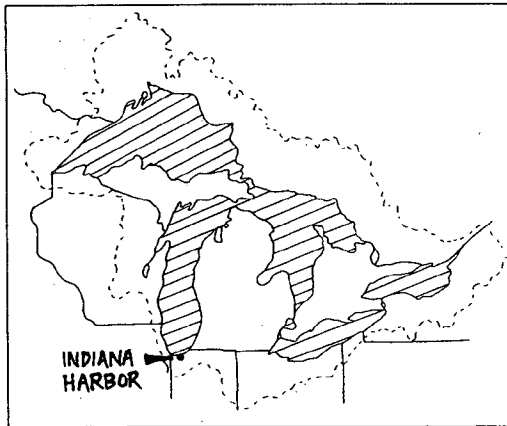
developed a plan to dredge the sediment and place it in a large, above-ground disposal facility on the site of a demolished petroleum refinery known by the name of its last owner,

Energy Cooperative Industries (ECI). The site is currently polluted with groundwater contamination. The disposal facility is designed to contain both the existing contamination and the polluted sediments.

However, the ECI site is located near a residential community and a school. Many in the community have serious concerns about the impact of the site on the surrounding area. In developing this plan, the Corps and EPA did not do a good job of involving the local community and addressing their concerns. As a result, many nearby residents oppose the plan.

There are alternatives to placing the sediments on this site, although each has its drawbacks. But what is important is that those most affected by the cleanup should be the ones responsible for evaluating the advantages and drawbacks of each alternative and deciding what is acceptable to the community.

EPA and the Corps should enable the residents of northwest Indiana to evaluate the trade-offs of various cleanup alternatives and include their input when developing a final plan. If not, they may stall what could be a model cleanup for the rest of the Great Lakes—a cleanup that is critical for both the health of the people living in the area and the health of the Great Lakes ecosystem.



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PRESIDENT'S MESSAGE

Science and advocacy

A version of this appeared previously in the Great Lakes Research Consortium's Newsletter. I thought I'd also share it with GLU's readership.

I think about the Great Lakes a lot. That's my job as a Great Lakes scientist and as the executive director of the New York Great Lakes Research Consortium, an organization of twelve member colleges and universities in New York State with eight affiliated schools in Ontario all with research projects focused on the Great Lakes. It is an endlessly exciting line of work. Week in and week out I get to ask, and try to find answers for, questions like, What are the relationships between the many species of fish, mollusks, invertebrates, and plankton?

What and how much chemical wastes have made their way into the lakes and what are their effects? What is the impact of shoreline development on the transport processes that so determine the shape of the shore? What is available for big fish to eat these days and how will changes in the food web affect their desirability as sportfish?

Occasionally scientists even speculate: what would the lakes have been like today if people hadn't been so careless about them? What will they be like in the future after years of treating them with the respect and consideration they deserve? I have a great deal of respect and appreciation for scientific questions and the rigors of intelligence and practice that inform them.

But every challenge facing us in dealing with the lakes—eliminating pollution, protecting the stability of their flows and cycles, conserving natural areas—requires in the end that people and society change. We need to learn to live more lightly on the earth. We need to pay enough attention to the details of natural processes so that we can accommodate our ways to them. This requires the transmission of values, the spread of ecological wisdom and ecologically sensitive technology, the inspiration of widespread environmental commitment, and the

democratic development and implementation of public policies that reinforce these values and commitment. Without this, scientific understanding alone is powerless. If we care about the lakes, we need to inform, inspire, and organize, and use all the tools at our disposal to do so: scientific inquiry, academic theorizing, speeches, presentations, person-to-person contact, and, when appropriate, dramatic displays of outrage over environmental recklessness.

I'm not suggesting that scientists should necessarily participate in any of these activities. Scientists are required only to do good science with honesty and integrity and, if they want to, participate in organizations such as the Great Lakes Research Consortium with a spirit of collegiality and cooperation.



I write all this to explain why I have chosen to work closely with environmental organizations such as Great Lakes United. I served on GLU's Board of Directors from 1990 to 1994. Last year I was asked to rejoin the board as its vice president, which I did. This year the membership of Great Lakes United elected me to be president.

I respect GLU for the coalition it has sustained and the work that it has done. We are one of the only environmental coalitions in the world to gain the participation of such a diverse collection of organized interests, including hunter and angler federations, Greenpeace activists, labor union representatives, League of Women Voters members, Québec environmentalists working on the St. Lawrence River, First Nations activists, and, yes, scientists and scholars from both Canada and the United States.

It is a remarkable achievement and one that has not come easily and will not continue without constant attention to the work of international coalition-building. GLU has been at the forefront of informing, inspiring and organizing for the Great Lakes. We have conscientiously held out the big picture of a single, dynamic, and complex ecosystem

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that touches lives from Duluth to the Gulf of St. Lawrence. We have consistently raised the issues that affect the entire system, when others were focused narrowly on the parts.

Recently, Great Lakes United and the Canadian Environmental Law Association released a brilliantly prepared report on the sustainability of the waters of the Great Lakes for future generations. We highlighted multiple threats to our water resources represented by increasing use and diversions of Great Lakes water, the lack of systematic planning for protecting our waters, and the potential stresses associated with growth, privatization of water authority, unregulated international commerce, and climate change. This was a report, and a set of recommendations for future action, unlikely to have been produced by any other organization. It came naturally to Great Lakes United because of our broad, basin-wide perspective.

Great Lakes United began its advocacy fifteen years ago, bringing together people from throughout the basin who were concerned about the environmental impacts of extending the shipping season in the winter with ice breakers. Ten years ago GLU was instrumental in setting important precedents for public participation in international negotiations when it joined the Canadian and U.S. government representatives in amending the Great Lakes Water Quality Agreement in 1987, and when it organized citizens to testify to the International Joint Commission about how the governments should meet their obligations under the Agreement.

My decision to take leadership roles in both an environmental science research organization and an environmental advocacy coalition is fraught with risk. There are members of the Consortium who disagree with the politics of environmentalism in general or Great Lakes United in particular. There are also advocates who believe academic scientists are only interested in studying the environment for their own career interests and should not be trusted to lead a major environmental group. I know that advocates sometimes misuse and misrepresent for their own agendas the information scientists gather, and that scientists sometimes ignore the implications of their own research out of fear of alienating funders. But in general both groups are trying to do similar things: to think intelligently and rigorously about the Great Lakes ecosystem;

scientists think about the way things are, advocates about the way they should be. Great Lakes United has done a good job raising awareness of Great Lakes issues, insisting that resources be directed to studying them, pointing out the importance of certain issues and prompting government and scientists to pay attention to them. Great Lakes researchers have been at the forefront of socially aware science. It was Great Lakes scientists who raised the alarm about eutrophication—the excess growth of vegetation that drastically reduces oxygen in the water and accordingly kills fish—in the lower lakes and suggested what needed to be done to correct it. It has been Great Lakes researchers who have been at the forefront of uncovering the subtle hormonal effects on wildlife of certain persistent organic pollutants. Research has consistently played an important role in raising public awareness of the threats to the Great Lakes.

The deciding factor for me in choosing whether or not to accept the responsibility of GLU's presidency was this: I've taught a course at the College of Environmental Science and Forestry on "Building Environmental Leadership." In it we learn about leadership from a variety of perspectives but we always come down to one formula—leadership means thinking well about the group as a group (whatever group one is part of) and acting decisively on its behalf. I've been involved with Great Lakes United for nearly ten years. I've published articles about GLU's influence in the Great Lakes in scholarly and legal journals. I've told many people what I think GLU should be doing. With a chance to see if I can help implement a program I believe in, how could I face my students in my leadership class if I refused the opportunity? So I may have a balancing act to perfect. Wish me well.

First Call for Nominations

Great Lakes United Board of Directors

*GLU is governed by twenty-three directors
from Canada, the United States,
First Nations, the five Great Lakes,
and the St. Lawrence River*

*All members are invited to submit
nominations for open seats on the board
to be elected at the June annual meeting*

States near approval of "no net loss" Akron diversion

by Reg Gilbert, Great Lakes United, and Elaine Marsh, Rivers Unlimited

The state of Ohio has requested the approval of the eight Great Lakes governors to divert up to 5 million gallons of water per day from the Great Lakes basin to suburbs of the city of Akron in the Ohio River basin.

The governors of the Great Lakes states have the power to veto a diversion request under a federal law, part of the Water Resources Development Act, passed in 1986.

So far five governors have approved the request. The governors of Pennsylvania and Wisconsin have yet to act, but are expected to approve the proposal. Michigan is negotiating with Ohio on details of the plan that would guarantee the amount and the quality of the returned water.

Ohio's diversion plan is unique in that it proposes "no net loss" of water to the Great Lakes. The state plans to return to the Basin an amount of water equal to the diversion by increasing the flow of water from the nearby Portage Lakes into the Ohio & Erie Canal and thence into the Basin.

The proposal was almost kept a secret. A Great Lakes United report on sustainable water use released in February mentioned in passing the long-time idea for diverting water at Akron.

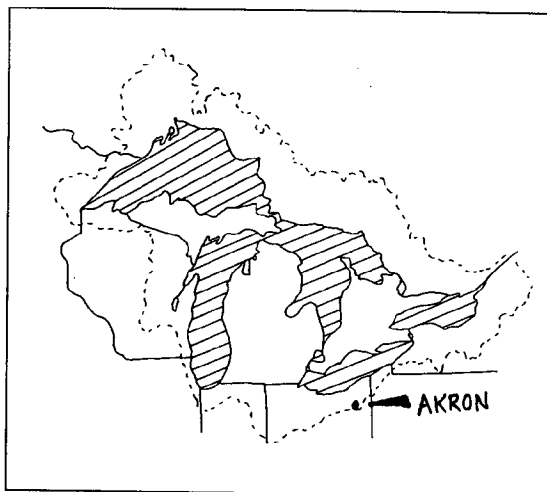
This eventually sparked inquiries by the *Akron Beacon-Journal*, which brought to light the fact that the proposal had been completed and officially submitted to the governors.

In an active effort to persuade them to reject the Akron diversion request, Great Lakes United wrote each of the governors detailing the proposal's many problems:

- The concept of "no net loss" of Great Lakes waters opens up a dangerous precedent for justifying water diversions, in which diversions could one day be offset by return flows tens or hundreds of miles away, ignoring the consequences of the

diversion on the local environment

- Demonstrating precisely this logic, the proposal does not assess the clear possibility of lowered water quality and habitat destruction caused by reduced flow that the diversion will cause in a several-mile stretch of the Cuyahoga River
- The state provided no forums for public input and has ignored widespread local opposition to the plan which so far has included resolutions by half a dozen local governments and an organizing campaign endorsed by a fifteen local environment, conservation and habitat groups. The only



public hearing on the diversion took place in another state, New York, which has a provision for public input into Great Lakes diversion requests. An unofficial public forum held by the League of Women Voters drew seventy people.

- The diversion proposal assumes maximum long-term water usage, ignoring water conservation planning. The proposal does not study Ohio River basin water supply options, simply dismissing them as expensive or contaminated.
- The diversion is intended to further costly suburban development, instead of promoting inner city redevelopment.

Once the public was informed of the diversion plan, several players came to bat on the issue. The Cuyahoga River Remedial Action Plan committee immediately secured an information meeting with the Ohio Department of Natural Resources, but ODNR refused requests for a public hearing.

Next came protest by nearby municipalities. The City of Green commissioned a study that clearly indicated serious water quantity, quality, and recreational problems for downstream communities.

The cities of Green, Cuyahoga Falls, Kent, Monroe Falls, Barberton and others are considering legal options to fight the plan, including contesting Akron's 1911 deed for exclusive rights to the use of the upper Cuyahoga River.

Since the 1986 passage of the federal law governing Great Lake diversions, the governors have received requests for diversions at Pleasant Prairie, Wisconsin (approved by only some of the governors, but not vetoed by any of them), and at Lowell, Indiana (vetoed by Michigan).

Unfortunately, the federal law fails to define what constitutes approval, and has no provisions for enforcing the terms under which an approval is given. Should Ohio gain approval for

the diversion and later discontinue returning water, it is unclear what recourse any of the approving states might have.

Nonetheless, according to Michigan Great Lakes Office Director Tracy Meehan, if Ohio agrees to his office's suggested changes to the diversion plan, and resubmits a suitably revised proposal, he expects to recommend approval to Gov. John Engler.

That could make the Akron diversion the first fully approved diversion of water from the Great Lakes basin since the federal law governing such diversions came into effect more than ten years ago.

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