



The Upper Peninsula *Environment*

Newsletter of the Upper Peninsula Environmental Coalition • January—February 1993

New Editorial Staff for *The Environment*

Last fall, Dave Harmon announced that he would resign his position as UPEC Publications Editor on January 1, 1993. As editor over the last several years, Dave saw that the bulletin and other UPEC publications like information sheets and brochures were timely, to the point, and professionally written and edited. Dave also made himself available in his office in Houghton to those who have sought information or needed his help with special projects like grants. Dave deserves the thanks of UPEC members for donating his time and talent over such a long haul.

At the November UPEC board meeting, President Kraig Klungness appointed Jerry Smith and Joanne Welsh as Publications Co-Editors beginning January 1, 1993. Both are UPEC board members. Welsh was Publications Editor in 1985 and '86.

Although the format of *The Environment* will stay substantially the same, readers may see a few changes over the next several months. Besides covering environmental happenings in the Upper Peninsula, Smith and Welsh hope to add more educational articles, including "mini" reviews of books and journals as well as fillers--environmental facts and tips on how readers can turn their concern for the environment into action.

The Environment will be written, edited, and made camera ready in Marquette. It will be printed and mailed in Houghton. If you have any ideas, suggestions, meeting notes, etc., that you would like considered, mail them to the Editors, UPEC, P.O. Box 847, Marquette, Mi., 49855.

THE BI-NATIONAL PROGRAM TO RESTORE AND PROTECT THE LAKE SUPERIOR BASIN

Any Progress Out There Yet?

by Joanne Welsh

In September of 1991, environmentalists from all over the Great Lakes Basin attended the International Joint Commission's biennial meeting in Traverse City under the banner of the Zero Discharge Alliance. They all knew that the IJC is only an advisory board with no real power whose purpose is simply to advise the U.S. and Canada on the quality of the waters the two countries hold in common. They also knew there were plenty of people at the meeting who did hold power, including William Reilly (then EPA head), his Canadian counterpart, Jean Charest, and the governor of Michigan. Knowing that the public spotlight was on them, the environmentalists demanded zero discharge of persistent, bioaccumulative toxic chemicals in the Great Lakes.

While the politicians postured, and the environmentalists paraded, demonstrated, and held

KILLER KLOORINE

What is Chlorine? Where does it go?

What is it used for?

part one

by Jerry Smith

What do the environmental contaminants, DDT, PCB, Agent Orange, Dioxin, and CFC have in common? They are all **chlorine based**. Chlorine is derived from sodium chloride. Chloride, commonplace in nature, is found in table salt and sea water. Chloride ions are stable and circulate through the fluids found in almost all living organisms. Chlorine gas, the chlorine used by industry, is created by brine electrolysis, a process by which electricity is passed through a solution of salt water, or sodium chloride. First undertaken in 1893, brine electrolysis mushroomed after World War II. World production of chlorine gas now totals about 40 million tons a year, 25% of which comes from the U.S.

Unlike sodium chloride, chlorine gas is highly unstable and reacts readily with carbon
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workshops, a new group began meeting. Soon to become known as the Lake Superior Alliance, this group turned the focus north by demanding that Lake Superior be made a demonstration zone for zero discharge. As the cleanest of the lakes, the idea made sense; it would be simpler and cheaper to prevent the degradation of a lake than it would be to clean up an already chemically-contaminated lake. Although the members of environmental groups from towns and cities located on the lower lakes weren't too happy about the idea, the Lake Superior Alliance argued that Lake Superior could be a model, and that what we learned there could be applied to the other lakes.

The governments responded to the demands by issuing "A Bi-National Program to Restore and Protect the Lake Superior Basin." Now, over a year later, the Lake Superior Alliance has just issued its critique, "Challenge to the Governments: Focus on Zero Discharge: A Report on the One-Year Progress of the Lake Superior Binational Program." UPEC, a member group of the Lake Superior Alliance, participated in writing the report.

Sadly, while the titles of both reports are long, progress toward zero discharge has been short. Zero discharge was a radical new concept that sparked the imagination of the environmental community. There would be no more controlling pollution, no more "scientific" analyses to determine how much chemical contamination could be poured into the lake before it caused an "unacceptable" number of cancers per million. No more "detectable limits." No more pollution permits. No more toxic chemicals, period.

In the fall of 1991, the DNR held meetings in various locations around the lake to tell interested citizens about the Bi-National Program and answer their questions. It was at those first meetings that UPEC members realized just how limited the program would be. The lackluster presentation of the DNR bespoke the fact that they were present only because they had to be. Three glaring problems were clear immediately. 1). Of the many toxic chemicals affecting Lake Superior, the Bi-National Program would only be addressing nine. 2). A "Lake Superior Stakeholders Advisory Committee" would be convened to develop strategies. 3). The program would be *voluntary*. The three points were a dead giveaway that the program was dead in the water at its inception. But then, the environmental community has its hopeful side. "Maybe the program can be strengthened," the meeting attendants muttered to themselves on

which is found in all living things (organics). Once this occurs, organochlorines are formed. With the exception of chloromethane, a simple organochlorine that may help regulate the ozone in the atmosphere, organochlorines are not known to occur naturally in significant amounts.

Certain properties of organochlorines make them very long lived in the environment. The chlorine-carbon bond at the heart of these compounds is strong and requires large amounts of energy to break it apart. Since organochlorines are relatively unknown to nature, living organisms have developed few methods to metabolize them. They resist breakdown by biological processes.

Many organochlorines are more soluble in fat than in water, so they bioaccumulate. The most toxic form of dioxin has been shown to accumulate in fish tissue in concentrations 150,000 times that of the water the fish swam in. Humans, at the top of the food chain, are not invulnerable to exposure; at least 177 organochlorines have been detected in the tissue, breast milk, semen, breath, and blood of the population of the U.S. and Canada. Organochlorines have been found in the stratosphere where they are causing depletion of the ozone layer.

Seventy percent of the chlorine produced is used to make the 11,000 organochlorines that are used as solvents, pesticides, plastics, refrigerants, degreasers, and chemical intermediates. The remaining thirty percent is used as elemental chlorine in paper bleaching, disinfection, and metallurgical processes. When used by industry, organochlorines are often released directly into the environment. Every time an organochlorine product is used, moved, transformed into another product, or disposed of, dangerous toxic chemicals are released into the environment. Pesticides, which have been described as "purposeful environmental contaminants," are deliberately dispersed into the ecosystem. Only a tiny fraction of a pesticide used reaches the target "pest." About 99% enters the environment directly through air drift, water runoff, or ground water leaching. Of all solvents used by industry, about 60-80% evaporate into the air at the primary site.

Polyvinyl chloride, another organochlorine, is used in plastic packaging and numerous other plastic products. When burned, its by-products can be detected in incinerator emissions, or ash. In either case, they wind up either in the air we breath, or in our ground and/or surface water.

Hundreds of organochlorine by-products
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the way out. "Maybe the list of chemicals will be enlarged."

The Lake Superior Alliance critique of the Bi-National Program has a summary, evaluation categories, an evaluation, and a conclusion. The point that should not be missed, however, is quite clear--zero discharge is not being achieved. It's not even the aim of the Bi-National Program. The aim of the Bi-National Program is reduction of toxic chemicals. We already knew that didn't work.

Some of the major problems outlined by the Lake Superior Alliance report are as follows:

- * The governments of the two countries have not been able to work well together.
- * Ontario Premier, Bob Rae, who had promised to implement zero discharge, is not pressuring the paper industry into compliance.
- * Murphy Oil, the only oil refinery on Lake Superior is about to have its waste water discharge permit reissued. According to the Lake Superior Alliance report, Murphy "is opposing a more stringent permit for its facility and it is also attempting to relocate its discharge pipe directly into Lake Superior. . ."
- * There have been plenty of studies, but little or no action. Recently, a federal allocation of \$900,000 was made to fund the Lake Superior Bi-National Program. The funds were not designated to implement zero discharge, but to *study* it. According to Senator Carl Levin, the fund "will help to determine *if* zero discharge is achievable . . ." [emphasis mine].

On the brighter side, the Bi-National Program has been addressed in some permitting processes, notably in the enlargement of Potlatch Corporation in Minnesota. In addition, Wisconsin has begun a toxic reduction plan and a bioconcentration study for the nine chemicals.

The Lake Superior Alliance report challenges the governments of both countries to 1). work effectively together, 2). ensure that funds actually go to zero discharge programs, 3). attain a special designation for Lake Superior on the Canadian side, 4). enact a Lake Superior Protection Act in Congress as part of the Clean Water Act Reauthorization, 5). switch the emphasis from toxic chemical reduction to actual zero discharge, and, 6). demonstrate some real progress.

Deep in the Lake Superior Alliance report is this editorial note: "The International Joint Commission was very astute when it concluded the Binational Program appeared to be more of a program to reduce and manage persistent toxics, rather than to eliminate them. If the intent is just to

reduce and manage toxics, then perhaps funds would be better spent on some of the other Great Lakes with greater toxic problems." One wonders how that last sentence found its way into the report. If the Bi-National Program isn't moving, it's not time to throw in the towel on Lake Superior. It's time to generate enough public pressure to overcome the interest groups. As it stands, environmental groups, taken collectively, are nothing more than another "interest group" to public officials, another of the *stakeholders*. The reality is that the only stake the environmental community has in zero discharge is a clean Lake Superior, and, ultimately, a clean Great Lakes Basin.

Mark Your Calendars: Earth Week Activities Already
Slated for Michigan Tech
by
Craig Waddell

The Michigan Tech chapter of Student Pugwash USA is organizing Earth Week activities at MTU again this year. Pugwash has arranged for Dr. Bunyan Bryant to visit Tech on Monday, April 19. Dr. Bryant, who is on the faculty of the School of Natural Resources at the University of Michigan, publishes in the areas of environmental advocacy, environmental racism, and sustainable development. In his most recent book, *Race and the Incidence of Environmental Hazards*, Dr. Bryant provides what he believes is "clear and unequivocal evidence [of] income and racial biases in the distribution of environmental hazards." He will speak on the issue at a special Tech Tea in the Alumni Lounge of the Memorial Union from 4-5:00 p.m. on April 19. At 8:00 p.m., he will deliver a lecture, "Sustainable Development and Social Justice: Can We Have Both?" in room 135 of Fisher Hall. Dr. Bryant's visit is being supported by the MTU Office of Cultural Affairs and has been organized in conjunction with local initiatives on sustainable development and the MTU Social Justice Initiative.

On Tuesday, April 20, Student Pugwash will sponsor an Earth Week Teach-In at the Memorial Union Bldg. The theme of this year's Teach-In will be Sustainable Development. As in the past, Pugwash will invite some of the area's most renowned environmental and ecological experts to discuss their work during a day-long (10:00 a.m. to 5:00 p.m.) series of presentations in the Alumni Lounge (room 107). Pugwash also hopes to arrange a live performance by local folk musicians

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have been identified in the effluent of pulp mills which use elemental chlorine to bleach and delignify pulp. Pulp mill sludges have been found to contain a broad range of organochlorines, including the chlorinated dioxins. Typically, up to four percent of the sludge is made up of organically-bound chlorine.

Many organochlorine by-products have been detected in drinking water. Waste water treated with chlorine or chlorinated agents also adds to organochlorine by-products. As in paper mill effluent, few of the many organochlorines formed in the waste water treatment process have even been identified.

When chlorine products are burned, a full spectrum of by-products are produced. According to the EPA, "the complete combustion of all hydrocarbons to produce only water and carbon dioxide is theoretical and could occur *only under ideal conditions*". In reality, combustion systems always produce PICs (products of incomplete combustion), some of which turn out to be highly toxic. Though only about a hundred PICs have been identified to date, the EPA estimates that they number in the thousands. An ironic footnote to incineration is that incinerators have been found to *produce* organochlorines as well as destroy them. Organochlorine PICs form as products of reactions that take place in the furnace and in the cooler zones of an incinerator.

The article above contains information presented at the December Greenpeace workshop on chlorine in Monroe, Michigan, and from the Greenpeace report, "Chlorine: The Product is the Poison." If you would like a copy of the report, send \$5.00 to Greenpeace, Attention: Information Services, 1436 U Street, N.W., Washington, D.C., 20009, or call (202) 462-1177. The next issue of this bulletin will feature the second part of the article and cover the effects of chlorine in the environment.

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from noon until 1:00 p.m. in the Alumni Lounge.

Approximately forty organizations will maintain information tables and displays from 9:00 a.m. until 5:00 p.m. in Ballroom B (top floor of MUB). Free refreshments will be available.

All Earth Week activities are free and open to the public. Carpooling is encouraged.

For more information, contact Dr. Waddell at MTU's Department of Humanities (487-3261).

Great Lakes Minerals Update by John Manty

Great Lakes Minerals of Toronto, Canada, continues its efforts to open a series of mines in the Keweenaw. The permitting process, begun in the fall of 1991, is proceeding at bureaucratic pace. GLM will be required to secure three permits—air, water, and wetlands—in order to open the first mine, the 543-S. We [the members of UPEC and AWAKE working on the issue] expect these decisions by early summer.

The DNR, responding to pressure by AWAKE and UPEC to require an Environmental Impact Study (EIS), has instead required GLM to produce an Environmental Review (ER), a process much less comprehensive and exacting.

GLM has completed the ER and has agreed to disseminate it to all those on the DNR's list of concerned parties. We have not received the document as of this writing. Public hearings on the document have been tentatively scheduled for early March. DNR officials have stated that they expect the water permit application changes to be scheduled for hearings at about the same time.

The county is attempting to secure grant money from the state Department of Transportation to upgrade the Gratiot Lake Road to accommodate the mine. If unsuccessful in meeting the grant criteria, the County Road Commission has indicated that it will use its regular allocation to do the work. This is questionable in light of the serious need for funds for other roads and the opposition of the majority of the Gratiot Lake residents.

GLM's stock has risen significantly in recent weeks. It has been suggested that this is due to the progress being made in the permitting process. The price of copper, however, has fallen to below \$1.00 per pound. That, in our understanding, was GLM's original cut-off for a reasonable return on investment. In addition, costs of doing business have risen significantly.

We believe that the DNR should take the economic viability of the project into account in the permitting process, but we don't see this happening without an EIS. We have grave doubts about this company's ability to fulfill its commitments. The last thing anyone should want is an abandoned mine, with a cleanup left to the taxpayers.

The SLAPP suit that GLM is pursuing against three members of UPEC and AWAKE is moving along at a pace that is consistent with these types of suits. There have been many delays and GLM has not complied with court-mandated schedules and

agreements that they have made with our attorney. We remain confident in our position and expect a favorable outcome.

**Grand Island Update
by
Mikel Classen**

The comment period for the Grand Island Draft Environmental Impact Statement is over. According to the Forest Service, comments on the draft were mostly supportive. The Teal Plan (all of the plans were color coded), chosen in the draft, calls for staged development of the island over a period as long as fifty years. The draft includes plans for public transportation, campsites throughout the island, scenic overlooks, wildlife platforms, a lodge, a restaurant, an amphitheater, overnight docking facilities, as well as hiking and bicycling trails in all areas of the island except the thumb where most of the private property is located. Clearly, the emphasis will be on recreation rather than wilderness values.

The USFS will be managing for large trees (hardwoods will dominate 75% of the forest), beaver habitat, and thermal cover needs for wildlife. The Forest Service believes that the Teal Plan will provide for the greatest variety of plants on the island. While maintaining existing plant communities along some roads would provide additional habitat for several rare plants and birds, those areas may undergo negative impact from anticipated traffic levels. The sensitive wetlands at Duck and Echo Lakes may also suffer from high traffic, as might the sand beach and fragile grasses of Trout Bay. It is possible that the DEIS is too optimistic. Hopefully, the Forest Service will recognize areas that are developing problems before those areas are irreversibly damaged.

**FOREST PRACTICES ACT MAY BECOME
REALITY:**

You Can Help Make It Happen

The wise use of U.P. forests has been a pivotal issue for UPEC over the years. Recently, more and more members have been voicing dismay over what they perceive to be reckless forestry practices, particularly massive clear cutting. There hasn't been a great deal that could be done, especially when these practices take place on

privately-held lands. "We need to pass a good forest practices act," UPEC board members have said, not really believing that would happen anytime soon. Now, according to Michael Huntry, UPEC representative to Michigan Environmental Coalition, there's "cause for optimism."

A few years ago, the Michigan Society of American Foresters began talking about a forest practices act for Michigan and formed an ad hoc committee under the auspices of some Michigan legislators. In time, the informal group expanded to include representation from Sierra Club, the Michigan Forest Association, UPEC, MEC, Michigan United Conservation Club, and the Michigan Chapter of the Wildlife Society. The committee then began considering how to draft a Michigan Sustainable Forest Practices Act.

When the committee met on Feb. 4, Huntly presented very specific UPEC board recommendations. UPEC said that the act should 1). determine the conditions under which clear cutting may be permitted, 2). provide for zero discharge of persistent toxic chemicals and any chemicals that destroy biodiversity, 3). promote forest practices that maintain the integrity and fertility of the soil, 4). clearly define the term sustainability, 5). insure that the rules for forest practices support the findings stated in the act, 6). require that the class B panel be appointed by the NRC, and, 7). require more specific scientific expertise on the Board (i.e., in toxicology, soils, and botany). According to Huntly, the recommendations were greeted with consideration, and a committee of four was appointed to arrive at language for the act by April.

Extensive clear cuts in northern lower Michigan are creating demand for a strong bill. The timber interests have already suggested that the act call for voluntary compliance instead of regulation. However, as Huntly says, "There's enough middle ground to get a good act." That's where UPEC members can help. Key legislators should be contacted, in particular, Senator Donald Koivisto who is Chair of the Senate Natural Resources Committee. Write to Dave Anthony of Escanaba; Shepich, of the western U.P.; and Pat Gagliardi from the eastern U.P. They are on the House Agriculture, Forestry, and Minerals Committee (Anthony is co-chair), the committee that will most likely work on the bill. Address your demands for a strong sustainable forest practices act to these legislators, State Capitol, P.O. Box 30013, Lansing 48913.

Notice Wetlands Activists

The Tip of the Mitt Watershed Council is expanding their newsletter, *The Citizens Wetland Report* and will send it to you free. The newsletter is part of a "multifaceted project funded by the C.S.Mott Foundation to help mobilize citizen wetland protection. The report will be published bi-monthly, and provide citizens with information regarding the efforts of local initiatives to protect wetlands, updates on pending federal and state legislation, and valuable technical information. The report will be interactive in nature, whereby the readers contribute issues and articles to share with others working on wetland protection." To sample the report, write to Wil Owikel, P.O. Box 300 Conway, Mi. 49722 or phone (616) 347-1181.

UPCOMING MEETINGS

March 14: UPEC Board meeting--all members and friends welcome! Houghton (location TBA) 1 pm.

March 8: UPEC Houghton Chapter meeting, Portage Lake United Church, 7 pm.

May 1: UPEC General Membership Annual Meeting. No board meeting is planned, but be ready for a big night at the Onigaming Restaurant. Socializing at 5 pm, dinner at 6 pm. Dave Foreman will speak at 7:30. Plans include a band and dancing after 9 pm. Admission is \$5.00 excluding the cost of buffet dinner. Additional contributions

will be gratefully accepted. **TBA:** Marquette Chapter meeting. Look for announcement in the news and on radio. **March 29:** ORV Taskforce DNR headquarters, Marquette, 1:30 pm. Public comments welcome. Also coming up in **March**, a series of meetings on the Timberwolf Recovery plan are scheduled for locations all over the U.P. Contact your local DNR office for the time and place of the meeting nearest you.

Environmental Tip of the Issue

If you are planning an organic garden, and you haven't checked your seeds, you may want to. Most commercially available seeds are treated with chemicals and pesticides. Now you can order organic seeds, which the *Seeds of Change Organic Seed Catalogue* calls, "the first link in a safe food chain." Order your copy of the catalogue before seasonal planting by writing *Seeds of Change*, 1364 Rufina Circle, No. 5, Santa Fe, N.M., 87501-2927.

MINI REVIEW: *The Workbook*

The Workbook is a publication of the Southwest Research and Information Center in Albuquerque, New Mexico. *The Workbook* usually runs around 50 pages with 10-15 dedicated to one topic. In 1992 these topics were "Land Use Conflicts in the West" "The Fast Track Trade Agreement," "For Sale: Nuclear Waste Sites," and "An Indian Pueblo Challenges Upstream Polluters." Each issue provides a catalog of information with only one page of advertising. A one year subscription costs \$12. For more information write the Southwest Research and Information Center P.O. Box 4524 Albuquerque New Mexico, 87106.

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