

Focus on International Joint Commission Activities

Volume 5
Issue 2 *Great Lakes Focus on Water Quality:*
vol.5 iss.2

Article 1

1979

Great Lakes Focus on Water Quality: vol.5 iss.2

UWindsor Administrator
University of Windsor, scholarship@uwindsor.ca

Follow this and additional works at: <https://scholar.uwindsor.ca/ijcfocus>



Part of the [Life Sciences Commons](#), and the [Water Resource Management Commons](#)

Recommended Citation

Administrator, UWindsor (1979) "Great Lakes Focus on Water Quality: vol.5 iss.2," *Focus on International Joint Commission Activities*: Vol. 5 : Iss. 2 , Article 1.

Available at: <https://scholar.uwindsor.ca/ijcfocus/vol5/iss2/1>

This Article is brought to you for free and open access by the International Joint Commission at Scholarship at UWindsor. It has been accepted for inclusion in Focus on International Joint Commission Activities by an authorized editor of Scholarship at UWindsor. For more information, please contact scholarship@uwindsor.ca.

FOCUS

On
Water Quality

International Joint Commission — Windsor, Ontario

Editor: Patricia Bonner

VOLUME 5

ISSUE 2

JUNE 1979

**IJC's GREAT LAKES AGREEMENT
ANNUAL MEETING IN DETROIT**

For the first time since instituting the Great Lakes Water Quality Agreement Annual Meeting in 1975, the International Joint Commission has moved the site of the events to the United States.

The Commission will hold its 1979 Annual Meeting at the Detroit Plaza Hotel in the spectacular Renaissance Center, July 9-11.

The Great Lakes Science (formerly Research) Advisory Board will begin to present its report at 2:00 p.m. in the Kent Room on the Ontario Level (level 3). Presentations will continue on the 10th from 9:00 until 11:00 a.m. A major topic will be the application of the Ecosystem Approach to the problem of acid rain. Then, the Great Lakes Water Quality Board will join with the Science Advisory Board in presentations about three subjects: long range transport of airborne pollutants, human health effects of pollutants, and phosphorus management strategies.

On the 11th, the Water Quality Board will provide its annual assessment of water quality throughout the Great Lakes System. The board will report on industrial and municipal pollution abatement programs, including a lake by lake assessment of the adequacy of remedial programs in problem areas to correct the water quality problems identified. There will also be reports of phosphorus loadings to each lake, surveillance programs (including radioactivity), and toxic substances control programs.

At 3:30 p.m. on the 11th, the IJC will begin a news conference. During that session questions will be welcomed from the public as well as media representatives.

Throughout the three-day meeting, a news center will be available to the media in the Essex Room. A portion of that room will also serve as the annual reports distribution area.

In the Windsor Room and the hallway outside the Kent, Essex and Windsor rooms will be displays relating to the Great Lakes. At publication, participating agencies were the International Joint Commission, the Ontario Ministry of the Environment with Environment Canada - Ontario Region, the United States Environmental Protection Agency Region V and Large Lakes Laboratory, and Canada's Water Research Institute in Burlington, Ontario, and the Great Lakes Basin Commission/Great Lakes Information Center.

(313) 963-4041 in the United States; (519) 256-7821 in Canada, or write to the Editor. Reports available in July 1979 will be the Annual reports of the Science Advisory and Water Quality Board and its 1979 Appendices B-Surveillance and D-Radioactivity.



Detroit's Renaissance Center

MERCURY LEVELS IN THE CANADIAN ENVIRONMENT

Focus on International Joint Commission Activities, Vol. 5 [1979] Iss. 2, Art. 1

On May 7, 1979 Environment Canada released a report which shows that federal regulations on discharges of mercury into water from chlor-alkali plants have been highly effective. Regulations put in place under the federal Fisheries Act in 1972 have resulted in a decrease in these particular mercury discharges of more than 99 per cent. However, mercury contamination remains a significant problem, particularly in streams where mercury discharges were made before the 1972 regulations came into effect.

A 359-page report, "Mercury in the Canadian Environment", summarizes data gathered by Environment Canada's Environmental Protection Service from government agencies and other sources. The results of this study, which examines almost all aspects of mercury problems except human health, and of a companion study being prepared by Health and Welfare Canada, will help determine what future action Environment Canada should take against mercury contamination of the environment.

A continuing area of concern is the amount of mercury released into the atmosphere from smelters, the burning of fossil fuels, and chlor-alkali plants. Restrictions were placed on chlor-alkali emissions of mercury under the Clean Air Act last year, and Environment Canada is taking a close look at other sources of airborne mercury. Mercury released into the atmosphere may travel a long distance before settling, and there is not yet a clear picture of the total environmental impact, although the problem is now under study by federal scientists.

For more information, please contact: Dr. J. E. Brydon, Environment Canada, Ottawa, Ontario K1A 0C8, or telephone (819) 997-1499. For a copy of the report by I. G. Sherbin, write to Publications Coordinator, Environmental Impact Control Directorate, EPS/DOE, Ottawa, Ontario K1A 0C8.

COAST GUARDS DISCUSS AGREEMENT PROGRAMS

Representatives of the Canadian and United States Coast Guards met in Cleveland in May to review their programs relating to the 1978 Great Lakes Water Quality Agreement. Annex 6 of the Agreement provides that the Coast Guards, and other interested agencies, shall meet at least annually to consider the annex and shall furnish a copy of a report on the consultation to the International Joint Commission prior to its annual meeting on Great Lakes water quality.

The group prepared a report discussing their programs pertaining to Annex 4 — Discharge of Oil and Hazardous Polluting Substances from Vessels, Annex 5 — Discharge of Vessel Wastes, Annex 6 — Review of Pollution from Shipping Sources, and Annex 9 — Joint Contingency Plan. State, provincial, and other federal agencies participated in the development of the report. The report will be ready for the IJC prior to the annual meeting scheduled to be held in Detroit, July 9-11, 1979.

LAMBTON INDUSTRIAL SOCIETY

Sarnia, Ontario has something special going for it. Sixteen companies — 75 per cent of the area's industry, representing \$5 billion and 12,000 jobs — are members of a 12 year old environmentally conscious group, the

Each of those companies recognizes that its survival and growth in Sarnia can continue only as long as its policies and actions are compatible with the values and well-being of the community. Despite frequently being competitors, the companies share environmental knowledge and developments through LIS.

Through contracts with an independent research organization, LIS has monitored water quality in the St. Clair River since 1974. This monitoring provides a good indicator of the effectiveness of the measures (\$66 million in new or improved water treatment facilities since 1974) taken by industries in the "Chemical Valley" to improve water quality in the St. Clair River. Water quality has improved and continues to get better.

At six monitoring stations, rainbow trout are exposed to river water. A second group of trout are in a controlled situation upstream of all local industry. Fish are tested for taste, odor and growth rates. Rainbow trout are used because they require high quality water and are not tolerant to pollution.

Another facet of LIS's program has to do with oil. The Society not only monitors surface oil accumulation, it has an oil spill team of 12 trained crew persons from eight industrial members. Training sessions are held each week during the navigation season and the team is always ready. It participates regularly in joint exercises and meets regularly with the Canadian Coast Guard and Ontario Ministry of the Environment. LIS's team is one of the few groups with experience in boom deployment and oil retrieval in fast moving waters.

LIS recently instituted a real time monitoring system which will provide instantaneous readouts of sulphur dioxide and meteorological conditions. Ontario Research Foundation monitors air quality at five locations. Results are compared to those measured by the Ministry of the Environment in Sarnia and against Provincial Air Quality Criteria Objectives. LIS finds that air quality has improved steadily since 1973 despite continued industrial expansion. In 1978, only once during an inversion was the alert level exceeded and then it was particulates, not sulphur dioxide, that were a problem.

The Lambton Industrial Society brings something special to Sarnia. Is there anything like it in your community? If so, FOCUS would like to know about it. If you would like to know more about LIS, write to Dr. James A. McCoubrey, Lambton Industrial Society, 242A Indian Road South, Suite 201N, Sarnia, Ontario N7T 3W4.

CANADIANS SHOW STRONG SUPPORT FOR ENVIRONMENTAL PROTECTION

According to a survey released April 9 by the Environment Canada, an overwhelming majority of Canadians (89 per cent) consider deterioration of the environment a major concern, outranked only by inflation, unemployment and crime and delinquency.

Most Canadians (87 per cent) are ready to change their consumption habits to curb resource waste and to help fight pollution. Three quarters are prepared to pay more for products that pollute less, and 57 per cent are willing to pay more taxes to clean up air and water.

Canadians seem unsure as to which level of government spends the most on environmental protection, but the prevailing view is that neither federal (45 per cent) nor provincial (42 per cent) government is spending enough.

Nearly two thirds (63 per cent) of Canadians surveyed

say they are more concerned about the quality of the environment than they were five years ago.

Industries are held responsible, by almost everyone (96 per cent), for cleaning up pollution of air and water caused by their processes. However, the quality of our future environment in the year 2000 will be dependent on early government action, 91 per cent of Canadians feel.

Most Canadians do not equate pollution with loss of jobs. Fifty-nine per cent see little or no relationship between pollution control regulations which could be imposed on industry and an increase in unemployment.

The survey was conducted for Environment Canada by the Centre de Recherche d'opinion Publique (CROP). The major objectives of the study were to assess the value Canadians place on their environment and to determine public attitudes on government measures to protect the environment.

For more about the results, contact John Cameron, Environment Canada, Ottawa, Ontario K1A 0H3.

EVENTS

The Cornell University Center for Environmental Research and the Upstate New York Chapter of the Special Libraries Association will hold a Seminar/Workshop, at Cornell University in April 1980, to explore the topic "Access to Information on Water in the Environment". Contributed papers should elaborate on avenues of access to, or agencies that generate and/or publish, water data and should focus on the interests of environmental researchers, librarians, and information centers in the Northeast, including the Great Lakes. Detailed guidelines will be published with the call for papers in July. For further information, contact Mary McElroy, Engineering Library, Carpenter Hall, Cornell University, Ithaca, New York 14853, or telephone (607) 256-4134.

Richardson, Texas will be the location for a combined municipal-industrial wastewater conference March 25-27, 1980. A call for papers — abstracts of up to 250 words — has been issued. Send abstracts about relevant topics, particularly sludge handling and disposal, and requests for more information to: Aharan Netzer, University of Texas at Dallas, P.O. Box 688, Mail Station BE 22, Richardson, Texas 75080.

The 52nd Annual Conference of the Water Pollution Control Federation is in Houston, Texas October 7-12, 1979. There will be 45 technical sessions. For details, write WPCF, 2626 Pennsylvania Avenue N.W., Washington, D.C. 20037.

The National Marine Education Association's annual meeting is in Milwaukee this year. It is co-sponsored by the Great Lakes Sea Grant Network and hosted by the Great Lakes Research Facility of the University of Wisconsin — Milwaukee, August 15-18.

This year's conference is entitled, "The Great Lakes Our Fourth Coastline". This is really a first; an inland and freshwater theme and location. At the conference you will be shown the latest Great Lakes curriculum materials (from Michigan and Ohio), 4-H activities, and several workshops dealing with special midwest problems (like cold water survival, boating safety, and with luck, a session dealing with winter in the curriculum), will be held.

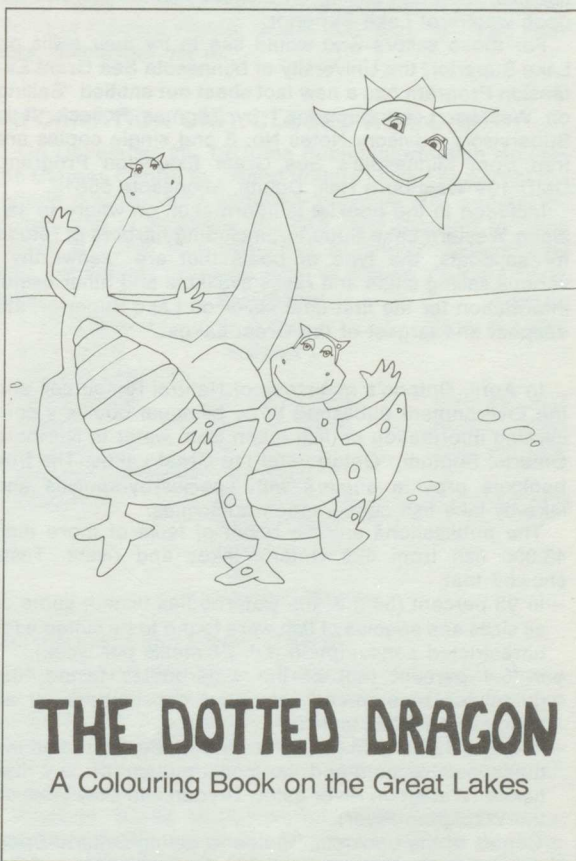
If you are interested in learning about teaching ocean and other marine topics, there is plenty on the agenda too: at least three presentations of major marine-related curricula, materials which can be taught both on the ocean shore and inland.

The agenda is arranged in "tracks" to make it easier for participants. Track subjects are 1) K-12 education, 2) Marine and Aquatic Careers and Vocation 3) Non-formal Education 4) Citizen and Adult Education and 5) Special Problems.

Participants are invited to bring materials to display, especially curriculum contributions. Low cost overnight accommodations will be provided in student dormitories.

Registrants will receive a program with short abstracts of presentations. Proceedings will be printed after the conference. Registration after June 30 is \$40. For more information, write to Leslie Lin, Michigan Sea Grant, 2200 Bonisteel, Ann Arbor, Michigan 48109.

BOOKSHELF



Dougy, the Dotted Dragon

"The Dotted Dragon" is a coloring book about the Great Lakes. Children can read about the past and present of the lakes while they color. The publication tells the story of Dougy, a small dragon who one morning wakes with spots. He and his mother search for the cause of these spots. To learn more about Dougy's plight, write to Public Focus on Great Lakes Pollution, 208 Bloor Street West, Suite 805, Toronto, Ontario M5S 1T8. Checks should be made

payable to that organization. Single copies are \$1.95. Special rates are available to School Boards. Write to Public Focus for details.

PROCEEDINGS from the American Water Works Association's March 25-30, 1979 Water Reuse Symposium in Washington, D.C. will be available in July of 1979. The three-volume (2500 page) state-of-the-art document contains written manuscripts from the 150 presentations at the first week-long meeting devoted entirely to the renovation and reuse of municipal, industrial and agricultural wastewater. The price is \$15.00. Send prepaid orders with checks made payable to: AWWA Research Foundation, 6666 West Quincy Avenue, Denver, Colorado USA 80235, or telephone: (303) 794-7711.

To the novice, sailing may appear to be the same, regardless of the body of water. There is a vast difference, however, between sailing on a small, inland lake and the open waters of Lake Superior.

For those sailors who would like to try their skills on Lake Superior, the University of Minnesota Sea Grant Extension Program has a new fact sheet entitled "Sailing on Western Lake Superior," by Thomas Pollock. It is Supervisory Advisory Notes No. 8 and single copies are free from Minnesota's Sea Grant Extension Program, UMD-109 Washburn Hall, Duluth, Minnesota 55812.

Included in the booklet is information on where to sail along Western Lake Superior, including harbors of refuge for sailboats; the type of boats that are "seaworthy"; various sailing clubs and races available and other useful information for the first-time sailor on Lake Superior, the deepest and largest of the Great Lakes.

In April, Ontario's ministries of Natural Resources and the Environment published three bilingual booklets concerning information on fish taken from water in Northern Ontario, Southern Ontario and the Great Lakes. The free booklets provide anglers with species-by-species and lake-by-lake fish consumption guidelines.

The publications are the result of tests of more than 43,000 fish from 625 Ontario lakes and rivers. Tests showed that:

- In 93 percent (583) of the waterbodies tested, some or all sizes and species of fish were found to be suitable for unrestricted consumption (i.e. 21 meals per week);
- In 6.4 percent (40) of the waterbodies tested, the guidelines recommend restricted consumption of all species and sizes tested;
- In only 0.32 percent (2) of the waterbodies tested do the guidelines recommend no consumption of any fish tested (Wabigoon River below Dryden and Clay Lake on the Wabigoon River).

Copies of the booklets, "Guide to Eating Ontario Sport Fish", for each area are available from any office of the Ministries of Environment, Natural Resources or Northern Affairs and from outlets of the Liquor Control Board of Ontario or Brewers' Retail in Ontario.

The University of Hawaii (at Manoa) has a Curriculum Research and Development Group which completed a secondary social studies program on the coastal zone. It is divided into four units with a total of 37 lessons. The units are: at the water's edge — 9 lessons; understanding

coastal ecology — 10 lessons; resource management: politics and planning in the coastal region — 11 lessons; United States case studies in shoreline management — 7 lessons. Though all four are salt water based units and are United States oriented, Sea Grant education specialists find the first three universally applicable.

Minnesota Sea Grant started teacher training to apply the Manoa materials to freshwater coastal environments. To hear about the training and its results write to Bruce Munson, Sea Grant Program, University of Minnesota at Duluth, Duluth, Minnesota.

For more information about the Manoa program write to Benjamin Siu, Delivery Manager, CZM University High, 1776 University Avenue, Honolulu, Hawaii 96822. The cost is \$20, plus \$4.83 postage in the United States. Canadians should inquire about possible additional costs and/or customs forms which may be required.

The first of what is planned as a biennial series of statistical reports on the United States' environment has been released by the President's Council on Environmental Quality (CEQ).

The report, *Environmental Statistics 1978*, contains tables showing trends and the status of such environmental measures as air and water pollution controls, population growth and distribution, transportation, solid wastes, cropland, wildlife and energy.

The statistics show trends primarily between 1950 and 1977. Most of the information is up to date as of November, 1978.

Copies of *Environmental Statistics 1978* are available from the National Technical Information Service, U.S. Department of Commerce, Springfield, Va. 22161. Ask for Report No. PB 294141. Cost information not provided at time of FOCUS printing.

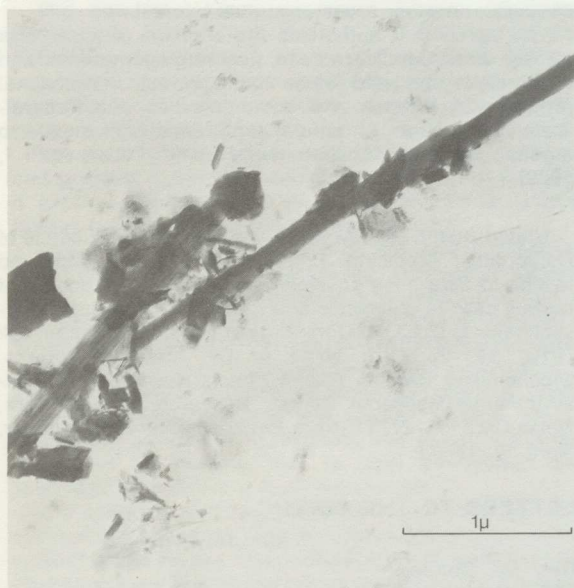
The United States Environmental Protection Agency's Environmental Research Laboratory, College Station Road, Athens, Georgia 30605 has released "Development of a Rapid Analytical Method for Determining Asbestos in Water". For copies write for the report EPA-600/4-78-066 at the Lab's address.

The technique, called two-phase liquid separation (TPLS), permits the rapid and cost-effective analysis of a large number of samples. The report was written by Carl W. Melton and co-workers at the Battelle-Columbus Laboratories

Based on the proposition that separation of chrysotile from other waterborne particulate would greatly simplify the task of detection, the researchers developed a technique described in the report that extracts chrysotile from a water sample into an immiscible organic liquid phase. The TPLS procedure is combined with light microscopic intercept counting and colorimetric spot test detection to result in two complete rapid analytical methods. Because its sensitivity (detection limits of 1.0 nanogram at the 99 percent confidence level), the TPLS-light microscope method is recommended as a first choice. The spot test method is recommended for conditions that require no greater detection sensitivity than 100 nanograms per sample.

The TPLS procedure permits rapid elimination from further examination of samples containing chrysotile concentrations below significant levels. After screening, only those samples having significant quantities of the mineral

would require more definitive analysis by electron microscopy.



Chrysotile asbestos.

"Green Bay: Portrait of a Waterway," a new publication on the history and resources of Lake Michigan's Green Bay, is now available free of charge from the Sea Grant Communication Office, 1800 University Avenue, Madison, Wis. 53706.

This collection of articles, prepared by the Sea Grant communications staff, originally appeared in the Green Bay Press-Gazette. The booklet traces the bay's history from the time of the French explorers. It also examines the bay's dwindling marshlands and birdlife, fisheries, recreational prospects, industrial and shipping activities, dredging and pollution problems.

Several issues ago, FOCUS carried a notice for the Michigan Environmental Action Council's (MEAC) brochure, "Wetlands — Our Vanishing Heritage". MEAC told FOCUS that many requests resulted. Those who asked for that brochure will receive its revisions. The revision has updated statistics and has been expanded. For copies of the new publication (same title) write to MEAC, One Northfield Plaza, Troy, Michigan 48098.

John Sobetzer, MEAC Executive Director, stated in a February letter to FOCUS that when Michigan enacts its wetlands protection act the Council will send out funding proposals to set up wetlands projects. The successful Massachusetts wetlands project will serve as a model. Mr. Sobetzer promises that any materials MEAC develops for that project, if funded, will be available to the general public.

Copies of "Interaction Between Sediments and Fresh Water" by H. L. Golterman (editor), proceedings of a 32-nation conference held at The Hague in 1976, are available

from Dr. W. Junk, BV Publishers, The Hague and Center for Agricultural Publishing and Documentation, Wageningen, The Netherlands.

CITIZEN ACTION

The membership and Board of Directors of the Save Lake Superior Association adopted nine resolutions in Duluth on March 10. The resolutions regarded: the elimination of winter shipping on the Great Lakes; atmospheric pollution; nuclear waste disposal; nuclear generating; shipment of hazardous and toxic materials on the Great Lakes; Atikokan power plant proposal; Plan 1977 on Lakes levels; designation of the Cloquet River into the Minnesota State Wild and Scenic River program; and creation of a federal department of natural resources (a proposal since withdrawn from consideration by the Carter Administration).

For details about any or all of the resolutions, write to: Karen Carlson, West Star Route, Larsmont, Minnesota 55610 or Howard Pierce, SLSA, P.O. Box 101, Two Harbors, Minnesota 55616.

INFORMATION UNIT CLOSED AT CCIW

On December 29, 1978 the Public Information Unit for the Canada Centre for Inland Waters closed as part of the federal government's economy program. For general inquiries and publications you can send requests to Irene Powell at CCIW, P.O. Box 5050, Burlington, Ontario L7R 4A6. For subject requests, write as follows: (1-3 at CCIW)

Subject	Name/Address	Telephone
1. Toxic substances water quality research, hydraulics	Dr. G. Keith Rodgers	(416) 637-4265
2. Fish toxicology research	Dr. Harvey Shear or Dr. V. Cairns	(416) 637-4567 (416) 637-4203
3. Ocean/aquatic sciences, hydrography	Mr. T. D. W. McCulloch	(416) 637-4339
4. Lakes levels	Mr. David Witherspoon Great Lakes-St. Lawrence Study Office Cornwall, Ontario	(613) 932-4325

IJC REVIEW OF LOVE CANAL

The International Joint Commission, in its review of the Love Canal situation, informed the Government of the United States and Canada that a potentially dangerous situation still exists whereby hazardous substances contained at the site might reach United States-Canadian boundary waters.

However, based on current information, the Commission determined that there is "no immediate threat to public health in terms of its impact on boundary waters from surface leaching."

The Commission stated its awareness of the need for close monitoring of the situation. Commenting on the Commission's letter to the two Governments, U.S. Chairman Robert J. Sugarman said, "By no means does that letter signify the end of the Love Canal issue. First, the potential for ground water contamination is still under study. Second, we are aware of similar problems in the Great Lakes Basin and we have asked our Great Lakes Water Quality Board to keep us informed."

Maxwell Cohen, then Canadian Chairman of the IJC, added, "Naturally, anything which we feel the Governments should act upon we will immediately bring to their attention." Cohen continued, "The Commission took this opportunity to reiterate, as we have since 1973, our major concern about the multiple problems caused by the disposal of toxic wastes in and near the Great Lakes boundary waters. Few environmental problems are as pressing. We have asked our Water Quality Board to make an inventory of all known sites and have urged the Governments to act quickly and forcefully to neutralize potential problems at those sites."

CHLOROFLUOROCARBONS

On March 24, new regulations under Canada's Environmental Contaminants Act which ban certain chlorofluorocarbons as spray-can propellants in hairsprays, deodorants and anti-perspirants were published in the CANADA GAZETTE. The regulations are intended to become effective December 1, 1979.

Chlorofluorocarbons are suspected of being a threat to the stratospheric ozone layer shielding the earth from the sun's ultra-violet radiation. Over-exposure to u-v radiation is associated with a variety of skin problems, including skin cancers. Adverse environmental effects are also suspected.

Canada produces only two per cent of total world emissions of chlorofluorocarbons into the atmosphere.

Socio-economic analyses of the new regulations have shown that they will have no major effect on the Canadian economy. These analyses are available to the public. Studies are now under way to find ways of replacing non-aerosol uses of chlorofluorocarbons with environmentally acceptable alternatives.

For more information, contact: Dr. J. E. Brydon, Environment Canada, Ottawa, Ontario K1A 0H3.

BRIEFS

Atikokan plans are modified. Ontario Hydro has cut the size of its planned coal-fired power plant. Further, Hydro has stated that the plant will be redesigned so that scrubbers can be retrofitted should that appear necessary to protect air quality in Wisconsin and northern Minnesota (especially the Boundary Waters Canoe Area).

The plant will be changed from one 800-megawatt facility to two 200-megawatt facilities. Further, instead of one start-up in 1983, there will be two, one in 1984, the second in 1988.

In April, New York listed 215 hazardous waste sites in the Love Canal area; 78 active sites, 126 closed sites and 11 sites of "unknown" status.

According to recent statements from the Ontario Ministry of the Environment, acid rain is killing fish in 140 Ontario lakes. Also without a United States-Canadian effort to curb release of sulphur and nitrogen oxides to the air, as many as another 48,000 lakes may be threatened over the next ten years.

It appears that mercury and other heavy metal loads increase when a lake's balance shifts from alkaline to acid.

United States EPA and the Department of Agriculture have signed a five-year renewal of a joint program to share

employees, funds and facilities to clean up rural waterways, protect important farm and forest land from development, create sound pest control programs and cooperate in other areas of mutual interest.

The agreement authorizes the creation of joint "task forces" on research, land use, pest management, air and water clean-up, solid waste management, international programs, education and communication and Federal-State cooperation. An annual conference will be used to monitor progress. (*Environmental Health Letter*, April 1, 1979).

United States EPA awarded Michigan State's College of Osteopathic Medicine \$248,000 to develop improved testing to determine possible toxic effects of exposure of human cells to chemicals and radiation. The principal investigator is D.J.J. McCormick. For more information, call (919) 541-2537 or write to Dr. Michael Waters, Biochemistry Branch, Health Effects Research Lab, Environmental Research Center, Research Triangle Park, North Carolina, 27711 (from *Environmental Health Letter*, April 15, 1979.)

LETTERS TO THE EDITOR

May 14, 1979

Dear Ms. Bonner:

We thought that your readers might be interested in some information about the International Association for Great Lakes Research (IAGLR) — its objectives, its publications and its requirements for membership.

The IAGLR has as its objective "the promotion of all aspects of Great Lakes research and dissemination of research information through publications and meetings". Its official publications include the "Journal of Great Lakes Research", currently issuing four numbers per year; and a newsletter, "Lakes Letter", with two issues per year.

An annual "Conference on Great Lakes Research" is held in May, generally alternating between the United States and Canada. The 22nd such conference has just been concluded.

Membership is open to persons who are actively interested in large lake research and management as a resource. The annual dues of \$10.00 (\$5.00 for students), payable to the IAGLR, may be sent to the Treasurer:

Dr. T. Milne Dick
Chief, Hydraulics Research Division
National Water Research Institute
867 Lakeshore Road, P. O. Box 5050
Burlington, Ontario, Canada L7R 4A6

Yours truly,

B.G.H. Johnson

B. G. H. Johnson
Editor — Lakes Letter

FOUR AGENCIES ISSUE CANCER REPORT

Four United States Federal agencies have taken a major step toward the consistent evaluation of cancer-causing substances in foods, consumer goods, workplaces and the environment. The Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), Food and Drug Administration (FDA), and Consumer Product Safety Commission (CPSC) have issued a report that describes their scientific approach to deciding

whether a compound is carcinogenic. The new methods for estimating the risks such compounds may hold for people.

The new interagency document, entitled "Scientific Bases for Identifying Potential Carcinogens and Estimating Their Risks", marks the first time that key regulatory agencies have articulated in one document methods for identifying carcinogens and assessing the dangers they pose to people.

The report gives a public accounting of how the agencies proceed in this often controversial area. For example, it explains the relevance of animal studies to judging human hazards from cancer-causing agents.

The document was prepared by the "risk assessment work group" of the "Interagency Regulatory Liaison Group" or "IRLG" with assistance from senior scientists at the National Cancer Institute and the National Institute of Environmental Health Sciences. The work group is chaired by FDA's Dr. Joseph Rodricks. During the preparation of this report, the IRLG consisted of the four agencies (listed above). The Food Safety and Quality Service (United States Department of Agriculture) has joined the group now, and all have agreed to pool information and resources in controlling toxic substances.

The agencies said the report represents the best judgment of their scientists. The document will be subjected to scientific peer review. The public at large also will have the chance to comment on the report. Because OSHA already has received extensive public comment on its cancer policy rulemaking, and will soon establish such a policy, only CPSC, EPA and FDA will participate in the public notice and comment procedure on this document. At the conclusion of the notice and comment procedure, OSHA will consider whether revisions to its final cancer policy are appropriate.

The new document notes that 26 substances are known to cause cancer in people based upon direct observation of exposed human populations. In addition, 15 occupations involve "excess cancer incidences," although the substances causing these are not known. (These lists are available from the IRLG office described below.) Other substances are known to be carcinogenic as a result of studies conducted on experimental animals.

Federal officials estimate that of the roughly 70,000 chemicals now in commercial production, only 1 to 2 percent have been studied for cancer-causing potential using currently accepted methods. However, the report states that available evidence indicates that most substances do not cause cancer.

The report, however, is not a statement of uniform cancer policy. Regulatory decisions that each agency makes still will be determined by the requirements and flexibility of the agencies' individual statutes.

Among observations included in the IRLG document are:

—Cancer studies involving mice, rats or other mammals are valid methods for judging a compound's potential effects upon people.

—It is appropriate to use data from animal studies in which the animals received doses that far exceed expected human exposure.

—Inexpensive, short-term tests, such as the "Ames test," do not give "definitive evidence as to whether a substance does (or does not) pose a carcinogenic hazard to humans," but must be considered "suggestive evidence."

—It is "currently unreliable to predict a threshold below which human population exposure to a carcinogen has no

Single copies of the report may be obtained from the Executive Assistant, IRLG, Room 500, 1111 18th Street, N.W., Washington, D.C. 20207.

THINGS TO SEE

Though a watershed computer graphics display does not exactly fit this column, it may in the future. Professor Daniel P. Loucks (311 Hollister Hall, Cornell University, Ithaca, New York 14853) is leading a research team which is trying to develop means to evaluate watershed management plans through computer displays. In the same way overlays can be used on maps, representations of expected effects of proposed watershed projects can be displayed using present watershed conditions as a base. Write to Prof. Loucks for details.

The National Association of Conservation Districts has published its 1978-1979 Environmental Film Service list. Ninety-two films are available, as are 17 slide sets. Eight of the films can be purchased; all may be rented. For copies of the list brochure, which includes ordering instructions, write to: NACD Environmental Film Service, 408 East Main, P.O. Box 855, League City, Texas 77573.

LAW AND THE COURTS

On March 15, 1979 the Illinois Environmental Protection Agency adopted special waste hauling regulations similar to those recommended by the Great Lakes Water Quality Board. As of August 1, 1979, a manifest system will come into effect to track industrial liquids, hazardous wastes and sludges from origination through disposal. Signatures are required by transporters and treatment or disposal facility operators. The waste generator must initiate the papers. Haulers must register with the agency and registration stickers must be displayed on haulers' vehicles. Violators can be fined up to \$10,000.

Vinyl chloride national emission standards regulations under the Clean Air Act have been published in the CANADA GAZETTE, Part II stating:

- (1) Commencing July 1, 1979, the vinyl chloride emitted into the ambient air by a vinyl chloride plant from any process vent shall not exceed:
 - (1) a concentration of ten parts per million by volume, measured dry and undiluted, or
 - (b) a total of two kilograms per day, whichever is greater.
- (2) Commencing July 1, 1979, the quantity of vinyl chloride emitted into the ambient air by a polyvinyl chloride plant shall not exceed, in the case of a reactor opening loss, 0.002 kilograms per 100 kilograms of polyvinyl chloride produced by the reactor since it was last opened.

IJC REPORTS CURRENT ACTIVITIES ON PHOSPHORUS LOADS

On May 10, the IJC sent a letter to the Governments of Canada and the United States regarding Control of Phosphorus, Annex 3 of the 1978 Great Lakes Water Quality Agreement. Paragraph 3 of that Annex states:

"The Parties in cooperation with state and provincial governments, shall within 18 months after the date of entry into force of this Agreement confirm the future

phosphorus loads, and establish allocation and compliance schedules, taking into account the recommendations of the International Joint Commission arising from the Pollution from Land Use Activities Reference."

The IJC explained in its letter that its recommendations on the phosphorus related aspects of the PLUARG studies will be delayed. The Commission received phosphorus loading estimates from PLUARG and from the Great Lakes Water Quality Board during 1978. Estimates, however, differed as did the two groups' views regarding appropriate phosphorus control strategies. IJC has therefore deferred making its PLUARG phosphorus recommendations to the Governments until it receives more consistent information from its advisors.

A Task Force on Phosphorus Management Strategies under the Science Advisory Board was expanded into a joint activity of that Board and the Water Quality Board, partially in an attempt to resolve the above mentioned differences. The United States-Canadian group was asked to study the trade-offs inherent in alternative phosphorus management strategies for the Great Lakes Basin. In that process the members will examine and comment on the validity of the proposed phosphorus target loads in the 1978 Agreement.

Such efforts are now being carried out. Findings will be central both to confirmation of target loads and determining the feasibility of PLUARG's phosphorus control recommendations to IJC. However, the Commission recently learned that the Task Force report will not be available until the end of this calendar year.

Consequently, the Commission's recommendations on the phosphorus aspects of the Pollution from Land Use Activities Reference will be delayed in order to take account of the Task Force's findings. However, a report on the Commission's other views concerning the Reference will be provided at an earlier date.

IJC suggested various procedural options regarding the confirmation of the target loads for the consideration of the Governments and is now awaiting advice on the course of action to be pursued.

IJC, CORNELL UNIVERSITY CO-SPONSOR CONFERENCE ON PHOSPHORUS MANAGEMENT STRATEGIES FOR THE GREAT LAKES

by Walter Rast

The 11th Annual Cornell University Conference was held on April 17-20, 1979, in Rochester, New York, under the joint sponsorship of the International Joint Commission and Cornell University. This conference was organized by the Phosphorus Management Strategies Task Force, a joint effort of the IJC's Science Advisory Board and Water Quality Board and was coordinated by Dr. Raymond Loehr of Cornell University and Dr. Walter Rast of the IJC Great Lakes Regional Office.

The conference was organized by the task force to present a state-of-the-art summary on a number of current issues relating to the control of phosphorus in the Great Lakes Basin. It was structured around the objectives of the task force. The bilateral technical group is attempting to assess the "trade-offs" between alternative phosphorus control strategies in the Great Lakes Basin to provide decision-makers with knowledge about the pros and cons of various control alternatives.

In the 1978 Great Lakes Water Quality Agreement, the U.S. and Canada agreed to devote maximum efforts to

develop programs and technologies necessary to eliminate or reduce the discharge of pollutants, including phosphorus, to the Great Lakes System in order to restore and enhance water quality. The purpose of phosphorus control is to minimize eutrophication problems and water quality degradation of Great Lakes' boundary waters. A combination of point and nonpoint source phosphorus controls will likely be necessary to achieve the desired water quality indicated in the 1978 Water Quality Agreement.

Speakers and participants at the conference were members of the International Joint Commission and its Great Lakes water quality institutions, state, provincial, regional and federal regulatory and planning organizations, consulting engineers, individuals from universities and non-profit organizations, and interested citizens. Further, attendees were encouraged to provide the benefit of their past and present experiences through participation in the numerous discussion periods during the conference.

Among the topics presented and discussed at the conference were: a) a summary of existing knowledge on the point and nonpoint source phosphorus loads to the Great Lakes; b) a review of the modeling approaches used to derive the proposed loading objectives in the 1978 Water Quality Agreement; c) a review of the current control objectives and the rationale for the new proposed phosphorus loading objectives; d) a review of the current point and nonpoint phosphorus control strategies and how they are working; e) identification of the social, economic and institutional aspects of possible phosphorus control alternatives; f) a review of detergent phosphate substitutes and their implications; g) a review of land application as a control strategy and its feasibility; and h) a review of problems associated with sludge generation and disposal.

In addition, a roundtable session was held involving individuals presenting municipal treatment viewpoints from the agriculture, industry, government and regulatory sectors. This session was a candid discussion among these individuals concerning how various phosphorus control alternatives would affect their organizations, as well as a discourse of their experiences with phosphorus control. Considerable discussion was also provided by the conference attendees at this session. Further, several evening sessions were held for discussions concerning possible water quality trends in the Great Lakes, detergent phosphates and their effects, and phosphorus control technologies.

A brief discussion of some of the items discussed at the conference is presented below. These summaries should not be viewed as conclusions reached by the task force, but rather as illustrations of some of the issues raised and some of the viewpoints presented at the conference:

- point source loads — These loads appear to continue to be declining overall, although data anomalies were admitted. It seems to be relatively easy for municipal treatment plants to reach 1 mg/L effluent concentration using chemical treatment. Lower effluent concentrations are possible, but will require careful plant operation, will require the use of more chemicals, will produce more sludge, and will result in higher costs. Land application of wastes was viewed as a viable alternative under appropriate circumstances. Various new technologies were reviewed, and several appeared hopeful for better phosphorus control at municipal treatment plants.
- nonpoint source loads — The PLUARG results were reviewed. Some Corps of Engineers' Lake Erie study

—The effects on ground water quality of proposed waste discharges requiring Ministry approval will be controlled to protect beneficial water uses, and the requirements on quality and quantity of discharges will be stipulated in Ministry approvals.

Copies of the publication are available from Environment Ontario's water resources and information services branch offices, from all the Ministry's regional offices, and from the Ontario Government Bookstore at 880 Bay Street, Toronto.

DECISIONS

by Elaine Kaplan,

Interstate Water Quality Coordinator
Purdue University — Calumet Campus

In Green Bay — Wisconsin, Benton Harbor — Michigan, Chicago — Illinois and Hammond — Indiana over 120 persons committed 40 hours of valuable time to a course titled *Decisions for Lake Michigan*. Engineers, planners, elected officials, fishermen, reporters, lawyers, administrators, and citizen activists all wanted to learn more about water quality, treatment, law, and the attendant economic/social/political impacts. With the university professors, researchers, naturalists and industrialists who wrote the core curriculum, they explored all facets of the Lake ecosystem.

The Interstate Water Quality Training Project was funded by the Community Services and Continuing Education branch of the Office of Health, Education and Welfare to Purdue University Calumet, Hammond, Indiana in 1978. The program was designed at that University, with the cooperation of the Lake Michigan Federation, as a project for educating citizens who wished to improve water policy decisions in their area. Experts in multi-disciplines were enlisted. Joanne Westphal from the University of Wisconsin, Green Bay agreed to edit written papers.

The project conceived in 1977, by Project Director Thomas D. Sherrard, and launched in the autumn of that year was based on the assumption that the future of Lake Michigan is of vital importance to the 30 million people who live in the four-state region around the Lake; that it is of major significance to the country as a whole as the greatest body of fresh water in the nation, and of critical importance to the 13.5 million who live within the Lake Michigan basin and rely upon it for their health, welfare and in many cases their livelihood.

Classes were underway under the direction of state coordinators before chapters were all completed. Pages were added to working books, local water problems were presented for analysis and discussion, as instructors and trainees gained sophistication in dealing with *Decisions for Lake Michigan*.

The Club of Rome, in its 1972 report referred to the interaction of technical, local, economic, political elements. "It is the predicament of mankind that man can perceive the problematique yet despite his considerable knowledge and skills he does not understand the origin, significance and interrelationships of many components and thus is unable to devise effective responses. This failure occurs in large part because we continue to examine single items in the problematique without understanding that the whole, is more than the sum of its parts".

Heeding these words, the Interstate Water Quality Program addressed the total Lake. It looked at the natural setting, with biological, chemical characteristics, the history, the economic, social and political ramifications, attendant laws and problems. Last but not least the course

stressed the importance of making sound decisions, taking all aspects of Lake Michigan into consideration.

Some of the disparate but relevant subjects covered were the natural setting including the geological history and current configurations of the Lake, the chemical and biological characteristics of water pollution, the economics of the Lake, environmental laws, water treatment methods and the role of citizens in decision-making processes among others. These were presented both in the written curriculum and in lecture and discussion sessions at the four locations.

Evalyn Walsh Laird, attorney, who took the course at Lake Michigan College said, "It was beautiful. I feel that my time was well spent." She intends to use her knowledge as a member of the Illinois Bar Association Environmental Committee.

Other participants commented "The course was a singular opportunity for me not only to become acquainted with technically persuasive facts, but to more fully grasp the interaction of ecological issues and economic issues." "I was impressed by the quality of the participants and learned from them as well as the instructors."

As a result of the project there is now a group of some 130 persons who as a result of this training can be called upon to give mature and informed consideration to issues as they arise in connection with the future of the Lake. Also a substantial group of academic experts have been enlisted and involved in a similar way in the future of the Lake.

CORPS OF ENGINEERS REORGANIZATION PROPOSALS

On May 25, Major General Richard L. Harris, North Central Division Engineer, United States Corps of Engineers, announced his recommendations for realignment and reorganization of the district offices in the Great Lakes and Upper Mississippi River Basins.

The recommendations, if approved by higher level authorities in Washington, D.C., will encompass the following actions:

- a. Transfer of the St. Louis District from the Lower Mississippi Valley Division to the North Central Division.
- b. Disestablishment of the Chicago District.
- c. Transfer of Great Lakes Basin watershed functions and responsibilities currently assigned to the Chicago District to the Detroit District. This includes the Lake Michigan watershed in northeastern Illinois and eastern Wisconsin, as well as all of the northwestern portion of the State of Indiana.
- d. Transfer of the river-oriented functions and responsibilities of the Chicago District to the Rock Island (Illinois) District. This includes the Illinois, Chicago and Kankakee rivers in Illinois, and the Lower Fox River in Illinois and Wisconsin.
- e. Transfer to the Detroit District the lake-oriented work of the St. Paul District, including the Duluth-Superior field office.
- f. Establishment of a special liaison office for the metropolitan Chicago area at North Central Division Headquarters in Chicago.

The North Central Division study is part of a nationwide effort of the Chief of Engineers to seek the most efficient and effective posture for the Corps of Engineers in accomplishing its mission. Comments may be forwarded directly to the Office, Chief of Engineers, Attn: DAEN-RMI, Department of the Army, Washington, D.C. 20314 until July 15, 1979.

Despite state efforts to stem the loss of the nation's agricultural land, farmland continues to disappear at a rate of nearly three million acres a year, according to a report released in May by the President's Council on Environmental Quality (CEQ).

The report, prepared for CEQ by the National Conference of State Legislatures (NCSL), notes that prime farmland usually provides the best sites for cities, suburbs, artificial lakes and other development. If the conversion of farmland to these other uses continues, the report says, "there is the potential for long-term damage to the country's agricultural capacity."

The report, *A Survey of State Programs to Preserve Farmland*, was prepared by Bob Davies, staff director for rural development at the NCSL's Office of Federal-State Relations, and Joe Belden of Roger Blobaum and Associates in Washington. It is one of a series of CEQ-sponsored studies of agricultural problems and land use issues.

The report shows that states are trying to preserve farmland primarily through preferential property tax assessments. Under these programs, land used for agriculture is assessed and taxed at its agricultural value, instead of at its commercial market value if it were converted to residential or industrial development.

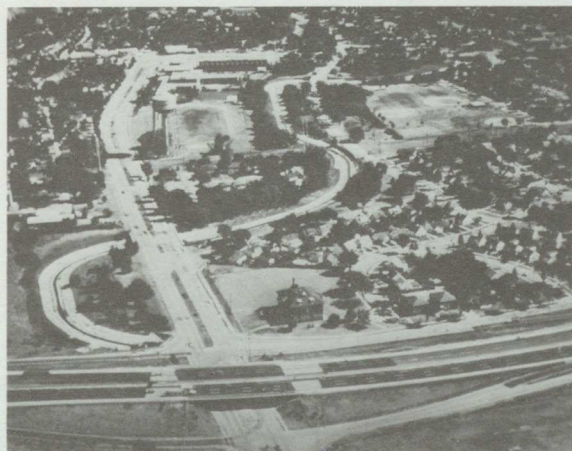
Besides preferential property tax assessments, the most common techniques used by the states to preserve farmland are:

- Purchase of development rights, in which the state pays the farmer the difference between the farm value of his land and the development value. This program, though costly, is the one now generating the most interest among state officials.
- Agricultural districting, a compromise between rigid zoning and preferential assessment in which restrictions are placed on government powers affecting farmland and preferential assessment is available. New York adopted a districting program in 1971 and Virginia has passed a similar program. Illinois, Ohio and Pennsylvania are also considering this approach.
- Transfer of development rights, in which local governments are allowed to set aside areas for farmland preservation and transfer the development rights to other areas where development would be permitted.

Copies of *A Survey of Programs to Preserve Farmland* are available from the National Conference of State Legislatures, 444 North Capitol Street, N.W., Washington, D.C. 20001. Please send a self-addressed mailing label.

Other CEQ studies now in progress on related issues include:

- A comprehensive analysis of methods and prospects for integrated pest management, including policy recommendations for federal agencies.
- A study of agricultural land use and related environmental problems in arid and semi-arid lands in the United States.
- A look at human settlement trends in rural areas of the United States and their effects on the land.
- A review of federal agency environmental impact statements to insure that impact on farmland is being given sufficient consideration.



Example of the land use shift from agriculture.

IJC UPPER LAKES REPORT RELEASED

During the first week of June, the International Joint Commission released its report to the Governments of the United States and Canada on the Upper Lakes Reference. Overall, the Commission stated that tougher controls on phosphorus and toxic substances and controls on growth and development are needed to maintain the excellent water quality of Lake Superior and Lake Huron-Georgian Bay.

The report, entitled "Water Quality of the Upper Lakes," follows five years of exhaustive study after the Governments, in 1972, asked the IJC to determine the extent and causes of pollution in the Upper Lakes, to identify practicable remedial measures, and to recommend measures to prevent further degradation.

Major findings of the IJC report include:

- 1) Growth and development should be permitted, but the two Governments should require developers of lakeshore sites to demonstrate, before projects are approved, that no pollutants will be discharged into the Lakes.
- 2) Persistent chemicals should be banned until a potential user demonstrates no potential damage to health or property because of either acute toxic effects or concentration potential in fish, water and sediment.
- 3) IJC says that transboundary pollution occurs in the St.

Marys River as a result of the discharge of phenolic substances from the Algoma Steel Corporation at Sault Ste. Marie, Ontario.

- 4) Water use problems occur in several areas, particularly Saginaw Bay on Lake Huron and Duluth-Superior Harbor on Lake Superior, as a result of inputs of nutrients and organic substances. The nutrient inputs to Saginaw Bay are also degrading the open waters of southern Lake Huron.
- 5) Excessive algae growth due to phosphorus is not a major problem in most of the Upper Lakes, but could become one if phosphorus pollution is not minimized.
- 6) A drinking water standard for asbestos should be established as soon as possible because of pollution of the western arm of Lake Superior by taconite tailings waste (asbestos) by Reserve Mining Company.

The Commission recommends that the Governments limit new phosphorus inputs to the lesser of 1) those achievable by best practicable treatment, 2) target loads (in the 1978 Agreement), and 3) the margin of safety above the water quality objective.

The Commission said, "While accommodating growth and development, stringent point source controls should be applied as part of an offset policy to ensure that loadings from point sources do not increase with the

growth. Sediments, water and fish in many nearshore areas of both lakes exhibit unacceptably high concentrations of heavy metals and toxic organic substances as a result of their discharge, both intentional and inadvertent, into the environment."

The Commission recommended that "The Governments adopt as policy for Lake Huron and Lake Superior the philosophy of nondegradation proposed by the Commission. Inherent in the adoption of this policy to achieve the goals of nondegradation is the obligation to develop the scientific and technical information base required for proper management; encourage development of new and innovative manufacturing and waste treatment technology; encourage public education and involvement in long range planning and in the decision making process; and encourage industrial participation."

Copies of the full report (113 pages) or its summary (18 pages) are available from the IJC, 100 Metcalfe Street, Ottawa, Ontario K1P 5M1, 1717 H Street NW-Ste 203, Washington, D.C. 20440, or from the Editor.

FOR ADDITIONAL COPIES

Write to Patricia Bonner - Editor, Great Lakes Focus, IJC Regional Office, 100 Ouellette Avenue, Windsor, Ontario, Canada N9A 6T3.

GREAT LAKES FOCUS

On Water Quality

International Joint Commission - Windsor, Ontario

VOLUME 5, ISSUE 2

JUNE 1979

