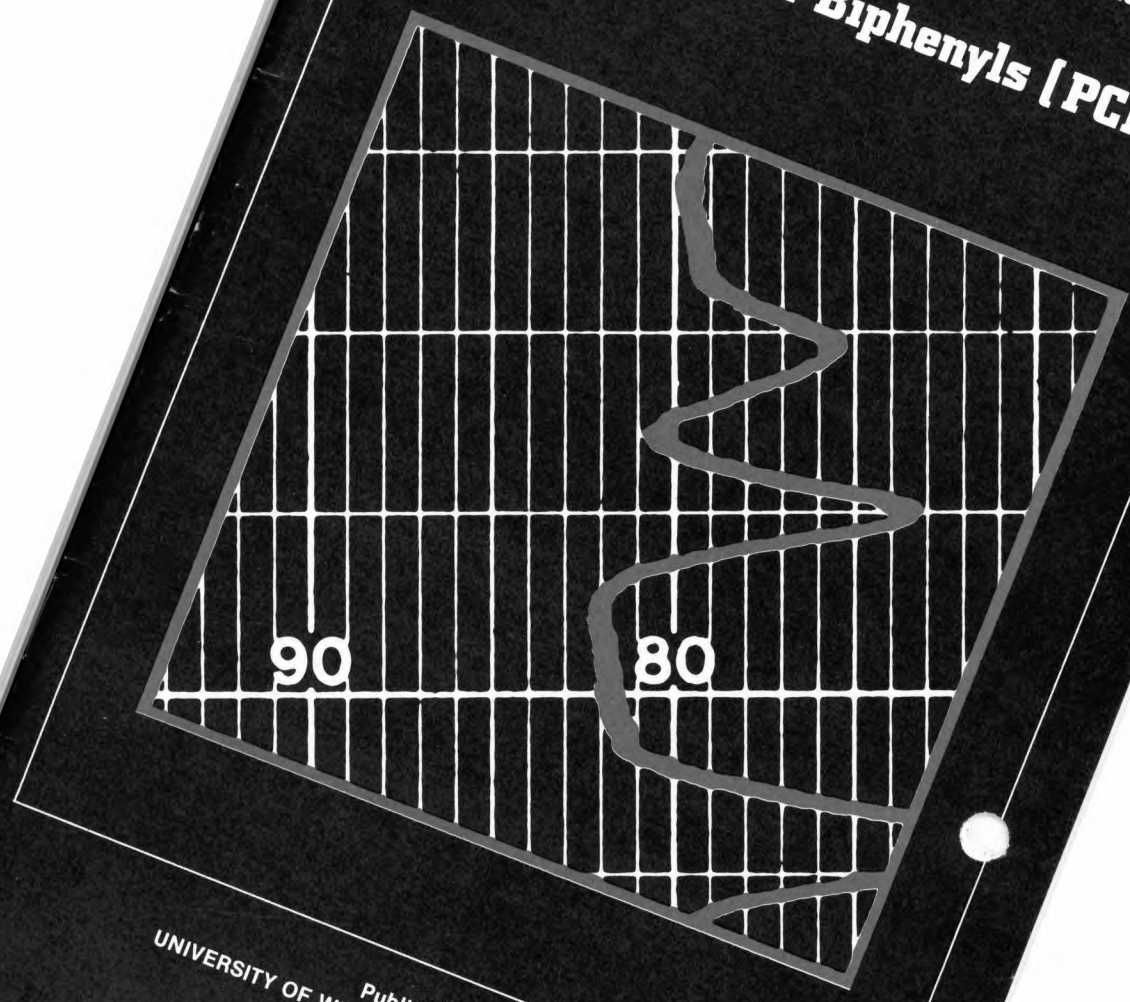
A Select Bibliography of Public Information Materials About Polychlorinated Biphenyls (PCBs)



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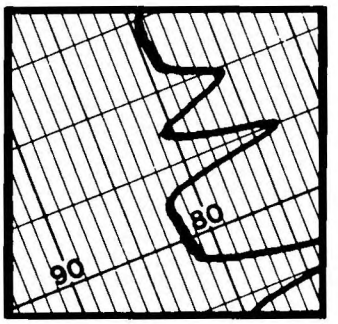

This annotated bibliography of PCB-related publications was compiled as a public information service by the communications staff of the University of Wisconsin Sea Grant Institute. These materials are grouped by agencies and organizations and are divided into two categories: brochures, articles and pamphlets for the general public, and more technical publications that provide in-depth background information on the subject. All the materials described in this booklet are currently available from the organizations listed.

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U.W. Sea Grant Institute
Public Information Report # 137

This report was published under the auspices of the Great Lakes Sea Grant Network. Cooperating institutions included the University of Minnesota Sea Grant Program, Michigan Sea Grant Program, New York Sea Grant Institute, University of Wisconsin Sea Grant Institute and the Ohio Sea Grant Program. Funding for the project came from the National Sea Grant Program, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, and from the State of Wisconsin. This report is available free of charge.

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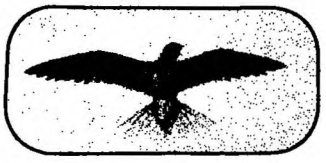

New Publication Announcement

Methods for Analysis of Organic Compounds in the Great Lakes. Joseph J. Delfino, ed. Madison: University of Wisconsin Sea Grant Institute, 1980. $3.00

This 300-page report reflects the expertise of 60 U.S. and Canadian scientists who met in April 1980 to discuss state-of-the-art analytical techniques for detecting the four major types of organic contaminants currently found in the Great Lakes -- polychlorinated biphenyls (PCBs), polynuclear and aliphatic hydrocarbons, pesticides, and industrial chemicals. Topics of discussion included packed column gas chromatography, capillary column gas chromatography, mass spectrometry, and flame ionization and electron capture detectors. Sample collection, preservation, clean-up and fractionation are also covered. An appendix to the report includes reprints of 23 recent journal articles supplied or suggested by participating scientists as sources of additional, detailed information regarding the detection and analysis of organic compounds. The workshop was jointly sponsored by the University of Wisconsin Great Lakes Research Facility, Milwaukee, and the U.W. Sea Grant Institute.

ORDER FORM

Please send _____ copies of Methods for Analysis of Organic Compounds in the Great Lakes to:

NAME: _____

STREET: _____

CITY: _____ STATE: _____ ZIP _____

Enclose $3.00 for each copy requested (make checks payable to "University of Wisconsin Sea Grant Institute") and send this order form to:

Sea Grant Communications
University of Wisconsin
1800 University Avenue
Madison WI 53706

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Public Information Reports & Brochures

■ State of Wisconsin Department of Natural Resources

"Don't Monkey with PCBs!" T. B. Sheffy. Wisconsin Natural Resources 3(3):13-18, May-June 1979.

This is a very readable overview of the history, sources and contamination levels of PCBs in Great Lakes fish. Written by a chemist with the DNR Toxic Substances Surveillance Section, it discusses possible impacts on the state's sport and commercial fisheries if PCB levels in fish sold for human consumption should be lowered to 2 ppm as proposed by the U.S. Food and Drug Administration.

Can We Remove PCBs from Fish? Robert C. Lindsay, Gerald R. Myrdal and John P. Daubert. 1976. Publication No. 12-3600(78). 12 pages.

An informative booklet that describes ways to reduce PCB contamination in fish through careful preparation and cooking. Photographs clearly illustrate each step. Written by scientists with the Wisconsin Department of Agriculture and the University of Wisconsin-Madison Food Science Department.

Department of Natural Resources, Box 7921, Madison WI 53707.

■ University of Wisconsin Sea Grant Program

The Invisible Menace: Contaminants in the Great Lakes. University of Wisconsin Sea Grant Institute. June 1980. WIS-SG-80-134. 60 pages.

This report covers the recent research findings of Wisconsin scientists investigating PCBs and other toxic substances in the Great Lakes. Written for the general public, the report also includes a bibliography of 74 scientific articles published in connection with this research and a general overview of the 1979-80 U.W. Sea Grant Program activities.

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The ABCs of PCBs. Linda Weimer, Warren Downs, Cathy Manson and Peyton Smith. 1978. WIS-SG-76-125. Single copies free.

In a question-and-answer format, this six-page pamphlet provides a comprehensive, yet easily understood, overview of PCBs -- their nature and uses, history, environmental vectors, health impacts and persistence. It also discusses industrial and governmental responses to the problem.

Communications Office, University of Wisconsin Sea Grant Institute, 1800 University Ave., Madison WI 53706.

■ Great Lakes Basin Commission

"PCBs: You Can Store Them Up, But Can You Throw Them Out?" David Staats. Great Lakes Communicator 11(3), December 1980. 8 pages.

The urgent need to dispose of PCB-contaminated wastes in the Great Lakes region is discussed in the lead article of this issue of the Communicator, which is devoted mostly to the PCB problem. Other articles include "PCBs in the U.S.: The Background," "PCBs in Fish: 'The Worst May Be Over'" and "The Law and PCBs." Two other articles -- "A Fish Eater's Guide to the Great Lakes" and "PCBs: Is There a Technological Fix?" -- are featured in a special insert section.

"PCB Roundtable Reference Booklet." Great Lakes Basin Commission. August 1980. Approx. 25 pages (varies).

This booklet was developed by the Great Lakes Basin Commission for a series of public meetings on PCBs being held in each of the Great Lakes states. The folder contains an outline of information on PCBs, relevant newspaper articles and other publications, a chronology of the history of PCBs and a summary of regulations.

"PCBs and Toxics on the Decrease?" William Sonzogni. Great Lakes Communicator 9(2-3):9-12, November-December 1978.

Written by a water resources scientist, this article describes why scientists are optimistic about the Great Lakes' potential to respond to pollution control efforts.

Great Lakes Basin Commission, 3475 Plymouth Road, Box 999, Ann Arbor MI 48106

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■ University of Minnesota Sea Grant Program

"PCBs in Western Lake Superior and St. Louis River -- Can We Eat the Fish?" Jeff L. Gunderson. Superior Advisory Notes No. 9, April 1980. 4 pages. Single copies free.

This fact sheet details the levels of PCB contaminants in western Lake Superior and St. Louis River fish and whether the fish can be eaten safely.

Sea Grant Extension Program, University of Minnesota-Duluth, 109 Washburn Hall, Duluth MN 55812.

■ United States Environmental Protection Agency — Region V

Toxic Substances in the Great Lakes. United State Environmental Protection Agency. June 1980. 16 pages.

This general public information booklet summarizes the threat posed by PCBs and other toxic substances in all five Great Lakes. It includes a map identifying 53 toxic substances "hot spots" in the region.

"PCBs Revisited." Susan Nelson. EPA Environment Midwest, pp. 10-13, October-November 1979. Single copies free.

Geared toward public understanding of the PCB problem, this monthly newsletter chronicles what the EPA is doing about PCBs and what remains to be done.

Office of Public Information, Region V, U.S. Environmental Protection Agency, 230 S. Dearborn St., Chicago IL 60604.

EPA's Final PCB Ban Rule: Over 100 Questions and Answers to Help You Meet These Requirements. Prepared by the EPA Industry Assistance Office. June 1979. 37 pages.

In a nontechnical and informal question-and-answer format, this booklet presents basic information about PCBs and EPA regulations regarding the use, required records, labeling, testing, handling of spills, storage and disposal of the substance. It is a compliance guide primarily designed for those who deal with PCBs.

Industry Assistance Office, Office of Toxic Substances, TS-799, U.S. Environmental Protection Agency, Washington DC 20460.

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■ State of Michigan Department of Health

"Evaluation of Changes of the Level of Polychlorinated Biphenyls in Human Tissue." Harold E. B. Humphrey. Final report of a study sponsored by the U.S. Food and Drug Administration, Contract #223-73-2209 (unpublished, c. 1976). 86 pages.

This rather technical report is based on a 1973-74 study comparing the PCB levels in the blood of people who regularly ate Lake Michigan sport fish with those who did not. The scientist concludes that the "consumption of Lake Michigan fish contributed substantially to the PCB levels in the blood of humans. The data also justify a continued recommendation that intake of Lake Michigan salmon and lake trout be limited to less than one meal per week or 24 pounds per year." This research is presently being updated by the same investigator.

State of Michigan Department of Health, 3500 N. Logan St., P.O. Box 30035, Lansing MI 48909.

■ Michigan Sea Grant Program

"Michigan Sea Grant Toxic Substances Research: PCBs in the Great Lakes Ecosystem." Upwellings 4(3), December 1980.

This issue of the Upwellings newsletter describes Michigan Sea Grant-funded research on PCBs in the Great Lakes, including PCB uptake by various organisms and burial of the contaminant in lake sediments.

"Michigan Sea Grant Toxic Substances Research: Political, Sociological and Personal Perspectives." Upwellings 4(4), February 1981.

This issue continues the above discussion by describing other Michigan Sea Grant toxic substances research and the reaction of different interest groups to the Toxic Substances Control Act. On the personal level, it discusses steps an individual can take to minimize the exposure to contaminants.

Michigan Sea Grant Program, 2200 Bonisteel Blvd., Ann Arbor MI 48109.

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■ New York Sea Grant Program

"A Perspective on Fish Contaminants." Michael Duttweiler. Sea Grant Extension Program Fact Sheet. May 1978. 3 pages. 15¢

"Sources of Fish Contaminants." Michael Duttweiler. Sea Grant Extension Program Fact Sheet. May 1978. 4 pages. 10¢

"Fish Contaminants and Human Health." Michael W. Duttweiler. Sea Grant Extension Program Fact Sheet. May 1978. 4 pages. 15¢

This is a series of three freshwater fish contamination fact sheets covering (1) the definition, history and economic impacts, detection, regulation and implications of fish contaminants; (2) the types of contaminants, how they enter the aquatic system, interaction among and corrective measures for contaminant problems, and (3) the agencies with jurisdiction over Great Lakes contaminants, procedures used to establish "safe" levels of toxic substances and management alternatives for minimizing the contaminants problem.

"Fish Contaminants: Minimizing Your Intake." Michael Duttweiler. Slide-tape show. 1980. 55 color slides, script and cassette tape. $25, or free rental.

This 10-minute slide-tape program reviews trimming and cooking procedures to minimize the presence of fat-soluble contaminants in fish flesh. An analysis of the variation in contaminant accumulation by species, size and source of fish is given.

Cooperative Extension Service, Fernow Hall, Cornell University, Ithaca NY 14853.

"Fish Contaminants: Minimizing Your Intake." Michael W. Duttweiler and Michael P. Voiland. April 1979.

This brief flyer examines how a fish's species, size and home waters can influence its level of PCB contamination. The SUNY Sea Grant Extension publication focuses on Lake Ontario contaminants (among them Mirex) but also has useful information on how to prepare fish to minimize organic contaminants.

Sea Grant Extension, Morgan III, SUNY College, Brockport NY 14420.

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■ Ohio Environmental Protection Agency

"Polychlorinated Biphenyls (PCBs)." Ohio EPA Environmental Facts. Two-sided one-page public fact sheet (current).

This fact sheet describes what PCBs are and why they have become an environmental problem. The sheet briefly describes the PCB situation in Ohio and the monitoring of PCBs in drinking water.

Ohio EPA Public Interest Center, P.O. Box 1049, Columbus OH 43216.

■ Ohio State University Sea Grant Program

"PCBs in Lake Erie Fish." Twine Line Special Issue: Sea Grant Information for Ohio Fishermen, 1(3), July 1979.

Published in mid-1979, this is a discussion of the possible impacts of the FDA's proposed maximum of 2 ppm of PCBs in commercial fish. The standard, scheduled for implementation August 28, 1979, is still in abeyance. Nonetheless, the article provides valuable insights on the PCB problem as seen by sport and commercial fishing organizations as well as rank-and-file commercial fishermen.

"Reducing Levels of PCBs and Other Contaminants in Fish for the Table." Ohio Sea Grant Fact Sheet No. 7, 1980.

This six-page flyer provides guidelines on reducing consumption of PCBs and other contaminants in fish according to the type and size of fish eaten, the frequency of intake, and the way the fish is trimmed and cooked. Recommended trimming methods are fully illustrated.

Ohio Sea Grant Program, Ohio State University, 484 W. Twelfth Ave., Columbus OH 43210.

■ Sea Grant Today

"Toxic Chemicals in the Great Lakes." Whitney Gould. Sea Grant 70s 9(5):6-7, 12; May 1979.

This is a survey of University of Wisconsin Sea Grant research on Great Lakes toxic chemical contaminants, particularly PCBs. The aims and applications of each research project are described briefly and in nontechnical language.

Sea Grant Today, Virginia Polytechnic Institute and State University, Blacksburg VA 24061.

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■ National Academy of Sciences

"Looking at Polychlorinated Biphenyls as an Environmental Object Lesson." H. Dale Langford. News Report 29(9):1-5, September 1979.

This is an inhouse review of Polychlorinated Biphenyls, a report of a National Academy of Sciences committee on PCBs. It summarizes the best apparent means of detecting and disposing of PCBs, given the difficulties involved. The report also points out that the two principal pre-release testing schemes for new chemicals proposed by the U.S. Environmental Protection Agency would not have detected most of the nonoccupational hazards posed by PCBs if they were tested as new compounds today.

National Academy of Sciences, 2101 Constitution Ave. N.W., Washington DC 24018.

■ WGBH-TV

"A Plague on Our Children." Transcript of a NOVA television program. June 1980. Cost: $2.

This NOVA program transcript deals with problems posed by PCBs and 2,4,5-T (Agent Orange). The information is general and includes a history of PCB use and a review of current research on the health and environmental effects of PCB contamination. (Note: for PCBs especially, see Part II, p. 23 of transcript.)

WGBH Transcripts, 125 Western Ave., Boston MA 02134.



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In-Depth Background Information on PCBs

Background to the Regulation of Polychlorinted Biphenyls (PCBs) in Canada. Report of the Task Force on PCBs to the National Health and Welfare Committee on Environmental Contaminants. Technical Report 76-1. April 1976. 169 pages. Environment Canada, Ottawa, Ontario, K1A OH3, Canada.

An exhaustive investigation into and report on the PCB problem in Canada, particularly in the Great Lakes region, together with recommendations on regulating the use of PCBs and mitigating their impacts. It includes a bibliography, keyed to sections of the report, that is extensive, but current only through 1975. This is oriented toward a professional, rather than public, audience.

Birthright Denied: The Risks and Benefits of Breast-Feeding. Stephanie G. Harris and Joseph H. Highland. 1977. 66 pages. Cost: $1.50. Environmental Defense Fund, 1525 Eighteenth St. N.W., Washington DC 20036.

This fairly technical booklet explores the problems of contaminants in human breast milk and discusses how women can decide whether to breast-feed their children.

Disposal of Polychlorinated Biphenyls and PCB-Contaminated Materials. Prepared by the Electric Power Research Institute. (recent publication). 300 pages. Electric Power Research Institute, 3412 Hillview Ave., Palo Alto CA 94304.

Published for three-ring binders, this is an excellent reference on the background of the PCB problem, especially as it relates to the electric power industry. It describes specific technologies for the storage and/or disposal of liquids and solids contaminated with PCBs.

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Environmental Protection Agency Support Document/Voluntary Environmental Impact Statement and Polychlorinated Biphenyls (PCBs) Manufacturing Processing Distribution in Commerce and Use Ban Regulation (Section 6(e) of TSCA): Economic Impact Analysis. Prepared by the EPA's Office of Toxic Substances. April 1979. 159 pages. Industry Assistance Office, Office of Toxic Substances (TS-793), 401 M. Street S.W., Washington DC 20460.

The EPA responds in detail to "major comments" from industries made before PCB use was restricted. Included is an extensive analysis of anticipated industrial/economic impacts of PCB regulations on everything from railroad locomotives to waste oil. A good source of information, but very detailed and specialized.

National Conference on Polychlorinated Biphenyls. Conference proceedings prepared by the Office of Toxic Substances, U.S. Environmental Protection Agency. (EPA-56016-75-004). November 1975. 471 pages. Available from the National Technical Information Service, U.S. Department of Commerce, Springfield VA 22161.

This publication features presentations by scientists, engineers, economists, industry spokesmen, special interest groups, environmentalists, government regulators and others with information on the PCB problem. The aim of the conference was to bring together experts in the field to examine the latest data and assess ways to reduce the PCB problem. The report is very technical, but spiced with plainspoken opinions on the problem offered by fishermen and environmental groups. A thorough reference list is included.

Polychloriated Biphenyls. Prepared by the Committee on the Assessment of Polychlorinated Biphenyls in the Environment, National Academy of Sciences. 1979. 182 pages. Cost: $7.25. Available from the Office of Publications, National Academy of Sciences, 2101 Constitution Ave. N.W., Washington DC 20418.

Perhaps the definitive publication on PCBs, this 182-page book covers PCB transport throughout the environment (sources and distribution), policy assessment (health, environmental and economic impacts) and guidelines for evaluating the potential toxicity of chemicals (general testing requirements for evaluating toxic substances and assessment of the PCB hazard). Sea Grant scientists Anders Andren and James R. Allen of the University of Wisconsin-Madison were members of the committee, chaired by Alfred M. Beeton, head of the Michigan Sea Grant Program.

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Polychlorinated Biphenyls: An Alert for Food and Feed Facilities. Steven D. Jellinek. December 1979. 18 pages. Office of Toxic Substances, U.S. Environmental Protection Agency, 401 M. Street S.W., Washington DC 20460.

This recent EPA booklet discusses the uses and hazards of PCBs, particularly in the food and animal feed industries. It includes a "checklist for action," information on identifying PCBs in industrial products, replacing equipment using PCBs, and safer handling and storage of PCBs. It also lists products containing PCBs, their trade names and manufacturers, and regional EPA and FDA offices to contact for assistance.

"Polychlorinated Biphenyls: Criteria Modification Hearings." U.S. Environmental Protection Agency. Federal Register 44(106):31514-68, May 31, 1979. Available from Office of Industry Assistance, Office of Toxic Substances, U.S. Environmental Protection Agency, 401 M. Street S.W., Washington DC 20460.

This federal government document outlines the EPA's final rule implementing the provisions of the Toxic Substances Control Act. This rule declared that the manufacture, processing, distribution and use of PCBs were banned as of July 1, 1979, unless specifically exempted by the agency.

"Polychlorinated Biphenyls (PCBs): Reduction of Tolerances." Submitted by the U.S. Food and Drug Administration. Federal Register 44(127):38330-40, June 29, 1979. Available from Bureau of Foods (HFF-312), U.S. Food and Drug Administration, Department of Health, Education and Welfare, 200 C. Street S.W., Washington DC 20204.

This is the final rule under which the FDA acted to reduce the tolerances for "unavoidable residues" of PCBs in several classes of food. Specifically, the FDA was reducing the allowable PCB content in fish and shellfish from 5 parts per million to 2 ppm. The PCB levels permitted in milk and dairy products, poultry and eggs were also reduced. (Due to a challenge from the National Fisheries Institute, the new standard for PCBs in fish and shellfish has not been implemented.)

Seasonal Changes in PCB and Fat Concentration in Migrating Salmonids in the Lower Sheboygan River. T. B. Sheffy, T. M. Aten, P. Schultz, J. Raider and T. Gibson. March 1979. 8 pages. Wisconsin Department of Natural Resources, P.O. Box 7921, Madison WI 53707.

This report covers the PCB levels found in migrating salmon through the year. Scientists found that PCB and fat levels in migrating salmonids in the lower Sheboygan River were significantly higher in September and early October than in late October and January.

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Toxic Substances in the Great Lakes. Joseph J. Delfino. Technical Report ES782, December 1978. 33 pages. Wisconsin State Laboratory of Hygiene, Environmental Sciences Section, William D. Stovall Bldg., 465 Henry Mall, Madison WI 53706.

This report was prepared for "Decisions for Lake Michigan," a course offered by the Interstate Water Quality Training Program and coordinated by Purdue University-Calumet and the Lake Michigan Federation. Its intended audience included government officials, environmentalists, representatives of industry and citizens concerned with water quality and toxic substances in the Great Lakes. This report emphasizes Lake Michigan.

Methods for Analysis of Organic Compounds in the Great Lakes. Joseph J. Delfino, ed. University of Wisconsin Sea Grant Institute Technical Report WIS-SG-80-236, 1980. 300 pages. Cost: $3.00. Sea Grant Communications Office, University of Wisconsin, 1800 University Ave., Madison WI 53706.

This highly technical report, aimed at scientists involved in Great Lakes contaminants research, discusses scientific methods and analytical techniques for detecting PCBs and other contaminants. Reprinted in an appendix are more than a dozen scientific journal articles on PCB research, including the one cited above.

Toxic Substances Survey of Lake Michigan, Lake Superior and Tributary Streams: First Annual Report. T. B. Sheffy and J. R. St. Amant. September 1980. 12 pages. Wisconsin Department of Natural Resources, P.O. Box 7921, Madison WI 53707.

This is a progress report on a project funded by the Wisconsin Coastal Management Program to conduct a systematic and comprehensive survey of 16 toxic substances in fish throughout Wisconsin's coastal zone. This progress report gives data on 283 fish samples from 63 locations along Lakes Michigan and Superior.

U.S. Directory of Current Research on Toxic Substances in the Great Lakes. May 1980. 39 pages. Great Lakes Information Center, Michigan Sea Grant Program and Great Lakes Basin Commission, 3475 Plymouth Rd., Box 999, Ann Arbor MI 48106.

This directory provides an overview of ongoing or recently completed research efforts dealing with toxic substances in the Great Lakes. The information for this comes from the Smithsonian Science Information Exchange (SSIE), universities, government agencies and private research laboratories. Entries include the project title, the investigator, the research organization and the contact address.



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