

Human Health Risks from Chemical Exposure: The Great Lakes Ecosystem, edited by R. Warren Flint and John Vena, Lewis Publishers, Inc., 121 S. Main St., Chelsea, MI 48118, 1991, ISBN 0-87371-435-0, 295 pp, \$86.70.

The Great Lakes watershed is an important resource to residents of the U.S. and Canada, providing drinking and irrigation water, food (especially fish and wildlife) and other uses for more than 30% of the American population and a sixth of the land area.

This volume records the present knowledge (much of which is derived from studies in the Lake Ontario region), how the data was obtained and recommendations for future studies regarding the contamination of the basin in all its aspects. As toxic contamination and excessive nutrients loading have contributed to the serious, but reversible pollution. The hazards to human health as well as the fish and ecosystem are now better understood, but many uncertainties exist and must be resolved by comprehensive cross-disciplinary evaluation of the issues.

The two editors, both with extensive backgrounds and experience in limnological and oceanographic research and on the risks of adverse reproductive concerns and cancer associated with environmental pollutants and occupational health hazards, have been assisted by 102 contributors, all of whom have excellent connections.

Starting with a review of how chemicals affect humans and other living things, the discussion progresses to the many compounds which have been studied in the lakes during the past 30 years. Body burden has been shown to be critical in such studies.

The changes over the years for which data are available are noted in much detail. These are related to human and animal health hazards and effects. The environmental and wildlife toxicology exposures, the epidemiology of exposure to toxic chemicals, the contribution from clinical medicine, the social sciences risk and assessment of exposure from toxic chemicals, laws and education efforts, and the interdisciplinary research still needed are all treated in considerable detail.

This is a sobering account of the achievements to date, but they are yet incomplete if the Great Lakes are to be restored to a more acceptable condition. The book is well referenced, and is recommended without reservations for anyone concerned about chemicals and the ecosystems.

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