

Ongoing efforts in PBT education and outreach

The reduction of PBT chemicals entering into the Great Lakes basin is a priority. A variety of organizations work to develop both outreach materials and waste reduction opportunities which are directed to the public and industry. The organizations include multiple levels of government from the federal to the municipal level, citizen groups, environmental groups, as well as industry. These organizations use many different outreach techniques ranging from websites to newspaper advertisements in order to educate the public on issues involved with PBT chemicals. The purpose of this whitepaper is to outline many of the recent and/or on-going PBT reduction education and outreach efforts in the Great Lakes basin.

Because there is such a wide variety of education and outreach programs throughout the basin ranging from small communities to national programs, only general topics of education and outreach are addressed in the white paper.

Great Lake Workgroup and Forum Activities:

Many of the Great Lakes have individual workgroups and forums dedicated to addressing a wide array of Great Lake issues. Many of the workgroups have communication/public involvement committees which have a long-term commitment to communications, public involvement/ outreach, and education. The Great Lake Forums (Superior, Michigan, and Erie) have worked collectively with the workgroups to focus on a series of projects that educate the citizens of the basin on PBT issues through education and outreach techniques that include: 1) traveling displays, 2) websites. 3) newspaper inserts, and 4) mailing lists as a means to deliver information. Below are a list of the types of programs conducted in the basin which involve both waste reduction as well as education and outreach and activities:

- Voluntary installation of amalgam separators in all Minnesota dental offices statewide;
- Local programs to recover mercury switches from new and used automobiles, including a sponsored auto switch-the-switch event, an event to remove fluids and batteries from abandoned cars and the development an abandoned car ordinance;
- Establishment of collection depots for thermostats which were sent to a processor where mercury is removed. Also, there are proposed state programs which offer a mercury free thermostats in exchange for an older thermostat;
- Mercury thermometer collections and swaps have been implemented. In many cases outreach materials were available to the public;
- Local programs established to purchase sodium vapor security lighting to replace the old mercury vapor lamps;
- Abandoned waste collections were carried out in areas of the basin. In addition, periodic curbside white goods collections have been carried out;
- Cities and environmental groups have partnered to divert mercury bearing products including button batteries, fluorescent lights and thermostats from landfill disposal;
- Local school districts have signed the mercury free pledge. .Clancy (the mercury detecting dog) has assessed schools for mercury contamination and programs have been established to educate students, teachers and school faculty of the risks of mercury. Programs have included includes technical assistance and facility audits and collection of mercury devices and other hazardous waste;
- Various workshops on a number of PBT subjects including, the hazards of burn barrels, mercury reduction, and development of a dental best management practices manual for mercury disposal and management;
- Statewide publication of PBT articles in natural resource magazine;
- Development of PBT posters for mercury, PCB and the hazards of burn barrels;
- Dedicated staff to work with the community on mercury reduction and burn barrel projects;
- Forum development of fish consumption outreach materials to address environmental justice concerns. Over 17,750 brochures have been distributed.

Great Lakes States and Tribal fish consumption advisories

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Great Lakes states and tribes have extensive fish contaminant monitoring programs and issue advice to their residents about how much fish and which fish are safe to eat through a variety of mediums including printed material, websites, and public outreach. This advice ranges from recommendations limiting consumption of specific sizes, species, and or water bodies to unlimited consumption of fish from various locations. Advice from these agencies to limit consumption of fish is mainly due to levels of PCBs, mercury, chlordane, dioxin, and toxaphene in fish and tribal advisories in particular are issued to be culturally sensitive.

Educational Tools for educators

There are many useful online resources for educators to learn new information to share with students and to download teaching and presentation materials. Information ranges from teaching aids for elementary and highschool students (T.E.A.C.H. program) to materials that can be used to educate communities (Enviro Tools).

NOAA National Sea Grant Program

Sea Grant is a nationwide network (administered through the National Oceanic and Atmospheric Administration [NOAA]), of 30 university-based programs that work with coastal communities. The National Sea Grant College Program engages this network of the nation's top universities in conducting scientific research, education, training, and extension projects designed to foster science-based decisions about the use and conservation of our aquatic resources.

Federal Programs

A variety of federal agencies provide PBT educational information to the public via their websites. This information includes such items as data and reports (SOLEC), a clearing house for Great Lakes information (GLIN), and public friend fact sheets on a variety PBTs (ATSDR ToxFAQs).

Great Lakes Mid-Atlantic Center for Hazardous Substance Research

The Center places strong emphasis on technology transfer through its two community outreach programs: Technical Outreach Service to Communities (TOSC), and Technical Assistance to Brownfields Communities (TAB). These programs are making a significant impact by providing information and education to communities faced with environmental challenges such as clean-up of Superfund sites and redevelopment of Brownfields.

National Pollution Prevention Roundtable

The P2 roundtable provides forums for the direct exchange of ideas and expertise as well as through a number of programs designed to disseminate the most current data on pollution prevention policy developments, practices and resources. Information is exchanged through workgroups, national meetings, a publication program, and topic specific electronic listserves.

Great Lakes Tribes

Great Lakes Indian Fish and Wildlife Commission

- Produces GIS-based color coded maps that point tribal members to inland lakes with walleye that are lower in mercury;
- Published articles in its quarterly newspaper (Masinaigan or "talking paper") on how to enjoy fish safely by choosing to eat fish species that are lower in contaminants, smaller fish, to trim away fat and skin tissues, and cooking methods that can also reduce contaminants;
- Currently working on ways that can better educate tribal members on how to avoid contaminants in fish and still maintain their cultural lifeways, and particularly to educate sensitive populations on these issues. This may include educating tribal health care professionals and having more discussions on tribal radio stations, TV stations, and at tribal meetings.

Many tribes are involved in educating their members on the hazards associated with burn barrels.

Ongoing efforts in PBT education and outreach Reference material

ATSDR ToxFAQs – <http://www.atsdr.cdc.gov/toxfaq.html>

The ATSDR ToxFAQs™ is a series of summaries about hazardous substances developed by the ATSDR Division of Toxicology. Information for this series is excerpted from the ATSDR Toxicological Profiles and Public Health Statements. Each fact sheet serves as a quick and easy to understand guide. Answers are provided to the most frequently asked questions (FAQs) about exposure to hazardous substances found around hazardous waste sites and the effects of exposure on human health.

Enriro Tools - <http://www.envirotools.org/about.shtml>

The EnviroTools materials are aimed at community assistance leaders, outreach assistance providers and citizen leaders. Through the Internet, we provide easy access to the materials in a form that can be distributed to communities. Many of the materials are written for folks who have little or no background in site cleanup, and all of the materials have been "pilot tested" through community assistance carried out under the EPA-funded [TOSC](#) and [TAB](#) programs.

Great Lakes States and Tribal fish consumption advisories

Great Lakes states and tribes have extensive fish contaminant monitoring programs and issue advice to their residents about how much fish and which fish are safe to eat. This advice ranges from recommendations limiting consumption of specific sizes, species, and or water bodies to unlimited consumption of fish from various locations. Advice from these agencies to limit consumption of fish is mainly due to levels of PCBs, mercury, chlordane, dioxin, and toxaphene in the fish.

Minnesota- <http://www.health.state.mn.us/divs/eh/fish/index.html>

Wisconsin- <http://dnr.wi.gov/org/water/fhp/fish/pages/consumption/>

Illinois- <http://www.idph.state.il.us/envhealth/fishadv/fishadvisory04.htm>

Indiana- http://in.gov/isdh/dataandstats/fish/fish_2001/using_advisory.htm

Ohio- <http://www.epa.state.oh.us/dsw/fishadvisory/>

Michigan- http://www.michigan.gov/documents/FishAdvisory03_67354_7.pdf

Pennsylvania-
<http://www.dep.state.pa.us/dep/deputate/watermgmt/wqp/wqstandards/fishadvis/fishadvisory.htm>

New York- <http://www.health.state.ny.us/nysdoh/fish/fish.htm>

Great Lakes Indian Fish and Wildlife Commission - <http://www.glifwc.org/>

1. GLIFWC produces GIS-based color coded maps that point tribal members to inland lakes with walleye that are lower in mercury
2. GLIFWC currently has a grant designed to further enhance and develop our ability to communicate fish contaminant information to its member tribes.
3. Other tribal organizations and many individual tribes in the Great Lakes region provide or are in the process of developing their own culturally sensitive fish consumption advice.

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4. Many tribes are involved in educating their members on the hazards associated with burn barrels.

More detailed info on GLIFWC's work:

1. GLIFWC has been very active in education and outreach, particularly related to fish consumption with our member tribes in northern WI, MI, and MN. Tribal harvest of walleye in spring is a very important cultural and subsistence activity. Because tribal members expressed concerns over mercury contamination in fish, GLIFWC currently issues GIS-based, color-coded maps that alert tribal members to inland lakes (mostly in WI) that have walleye lower in mercury (based on our database of mercury analyses in walleye).
2. GLIFWC also conducted a five year study that looked at tribal member's fish consumption patterns throughout the year in order to determine how much people were eating and if consumption was bunched around spring harvest or spread more evenly throughout the year. The goal was to provide an extensive database to help us better assess the type of fish consumption advice we should be giving to tribal members. As you probably are aware, fish consumption by tribal people is generally greater than that by most other folks, so we don't feel other fish consumption advice that is available (i.e. from States) is practical to apply to these people.
3. GLIFWC has published articles in its quarterly newspaper (Masinaigan or "talking paper") on how to enjoy fish safely by choosing to eat fish species that are lower in contaminants, smaller fish, to trim away fat and skin tissues, and cooking methods that can also reduce contaminants.
4. GLIFWC is currently working on ways that we can better educate tribal members on how to avoid contaminants in fish and still maintain their cultural lifeways, and particularly to educate sensitive populations on these issues. This may include educating tribal health care professionals and having more discussions on tribal radio stations, TV stations, and at tribal meetings.

Minnesota Chippewa Tribe Research Lab -

<http://www.mnchippewatribe.org/wqd.htm>

General Assistance Program (GAP)

Funded by the U.S. Environmental Protection Agency, the GAP contract provides the following services:

- Fish tissue analysis for mercury contamination
- Preparation of (6) subsistence fish consumption guides by reservation and by lake
- Technical assistance for resource contamination issues, water quality management, quality assurance plan development, drinking water analysis, and surface water analysis
- Research and advocacy for Tribal health, environmental quality and funding issues

Aroostook Band of Micmacs Environmental Health Department -

<http://www.micmac-nsn.gov/index.html>

St. Regis Mohawk Tribe, Environment Division - <http://www.srmtenv.org/>

Cheyenne River Sioux Tribe - <http://www.sioux.org/>

The Great Lakes Information Network <http://www.great-lakes.net/envt/pollution/toxic.html>

The Great Lakes Information Network (GLIN) is a partnership that provides one place online for people to find information relating to the binational Great Lakes-St. Lawrence region of North America. GLIN offers

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a wealth of data and information about the region's environment, economy, tourism, education and more. Thanks to its strong network of state, provincial, federal and regional partner agencies and organizations, GLIN has become a necessary component of informed decision making, and a trusted and reliable source of information for those who live, work or have an interest in the Great Lakes region.

Great Lakes Mid-Atlantic Center for Hazardous Substance Research -

<http://www.engin.umich.edu/dept/cee/research/HSRC/index.html>

The mission of the Great Lakes Mid-Atlantic Center for Hazardous Substance Research is to foster and support integrated, interdisciplinary, and collaborative efforts that advance the science and technology of hazardous substance management to benefit human and environmental health and well-being.

The Center places strong emphasis on technology transfer through its two community outreach programs: Technical Outreach Service to Communities (TOSC), and Technical Assistance to Brownfields Communities (TAB). These programs are making a significant impact by providing information and education to communities faced with environmental challenges such as clean-up of Superfund sites and redevelopment of Brownfields.

Great Lake Workgroup and Forum Activities

Lake Superior LaMP - <http://epa.gov/glnpo/lakesuperior/2004/index.html>

Lake Erie LaMP - <http://epa.gov/glnpo/lakeerie/2004update/index.html>

Lake Michigan LaMP - <http://epa.gov/glnpo/lakemich/2004update/index.html>

Lake Ontario LaMP - <http://epa.gov/glnpo/lakeont/2004/louupdate2004.pdf>

Lake Huron Binational Partnership - <http://epa.gov/glnpo/lakeont/2004/louupdate2004.pdf>

NOAA National Sea Grant Program - <http://www.nsgo.seagrant.org/>

Environmental stewardship, long-term economic development and responsible use of America's coastal, ocean and Great Lakes resources are at the heart of Sea Grant's mission. Sea Grant is a nationwide network (administered through the National Oceanic and Atmospheric Administration [NOAA]), of 30 university-based programs that work with coastal communities. The National Sea Grant College Program engages this network of the nation's top universities in conducting scientific research, education, training, and extension projects designed to foster science-based decisions about the use and conservation of our aquatic resources.

Indiana – Illinois Sea Grant - <http://www.iisgcp.org/>

Minnesota Sea Grant - <http://www.seagrant.umn.edu/>

Wisconsin Sea Grant - <http://www.seagrant.wisc.edu/>

Michigan Sea Grant - <http://www.miseagrant.umich.edu/>

Ohio Sea Grant - <http://www.sg.ohio-state.edu/>

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Pennsylvania Sea Grant - <http://www.pserie.psu.edu/seagrants/seagindex.htm>

New York Sea Grant - <http://www.seagrants.sunysb.edu/>

National Pollution Prevention Roundtable - <http://www.p2.org/>

One of the most important roles of NPPR is to provide members with timely and accurate information on pollution prevention. We do this by providing forums for the direct exchange of ideas and expertise as well as through a number of programs designed for dissemination of the most current data on pollution prevention policy developments, practices and resources.

NPPR members have the opportunity to participate in [Workgroups](#) which help to disseminate information on cutting edge issues relating to pollution prevention amongst peers. Workgroups are the lifeblood of the organization and play a major role in organizing tracks and sessions at national conferences and act as advisors on documents, reports and position papers issued by NPPR.

NPPR holds [National Meetings](#) that facilitate pollution prevention network building and the collaboration of ideas, resources and research on various topics. Members are able to attend these meetings with discounted registration fees, when appropriate.

Additionally, NPPR has an active [Publications Program](#) which includes newsletters and many other documents and reports. Many of the Roundtable's publications are either free to members or can be purchased at a discount.

The Roundtable also has four topic specific [Electronic Listservs](#), P2 Policy, P2 Tech, P2 Trainer and P2 Energy. All four listservs function as forums for sharing P2 information and act as discussion groups for pollution prevention practitioners. Through the listservs, subscribers have direct access to information and knowledge from hundreds of pollution prevention experts world wide. Listservs are currently available throughout the P2 community and are not limited to NPPR members.

State of the Lakes Ecosystem Conference – http://cfpub.binalational.net/solec/intro_e.cfm

The State of the Lakes Ecosystem Conferences (SOLEC) are hosted by the U.S. Environmental Protection Agency and Environment Canada on behalf of the two countries. These conferences are held every two years in response to a reporting requirement of the binational Great Lakes Water Quality Agreement (GLWQA). The purpose of the Agreement is "to restore and maintain the physical, chemical and biological integrity of the Great Lakes Basin." The conferences are intended to report on the state of the Great Lakes ecosystem and the major factors impacting it, and to **provide a forum for exchange of this information amongst Great Lakes decision-makers**. However, these conferences are not intended to discuss the status of programs needed for protection and restoration of the Great Lakes basin, but to evaluate the effectiveness of these programs through analysis of the state of the ecosystem. Another goal of the conference is to **provide information to people in all levels of government, corporate, and not-for-profit sectors that make decisions that affect the Lakes**.

T.E.A..C.H. Great Lakes – <http://www.great-lakes.net/teach/>

TEACH Great Lakes features mini-lessons on many Great Lakes topics: environment, history & culture, geography, pollution and careers & business. Geared for elementary through high school students, the modules are continually expanded and updated and include links to a glossary to help explain scientific terms and acronyms. This site will continue to grow in the months ahead, so please explore now but stop by again soon!

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US Fish and Wildlife Service – <http://greatlakes.fws.gov/education.htm>

The Mission of the U.S. Fish & Wildlife Service: working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

The Great Lakes Basin Ecosystem Team has several outreach products ready for use and is in the process of completing others. The team has developed a 40-foot display (pictured) and a more portable 10-foot display for use at special events around the basin. These displays outline the U.S. Fish and Wildlife Service's primary responsibilities and roles in the Great Lakes including the management of National Wildlife Refuges, law enforcement, conservation of endangered and threatened species, and protection of migratory birds and fishes.