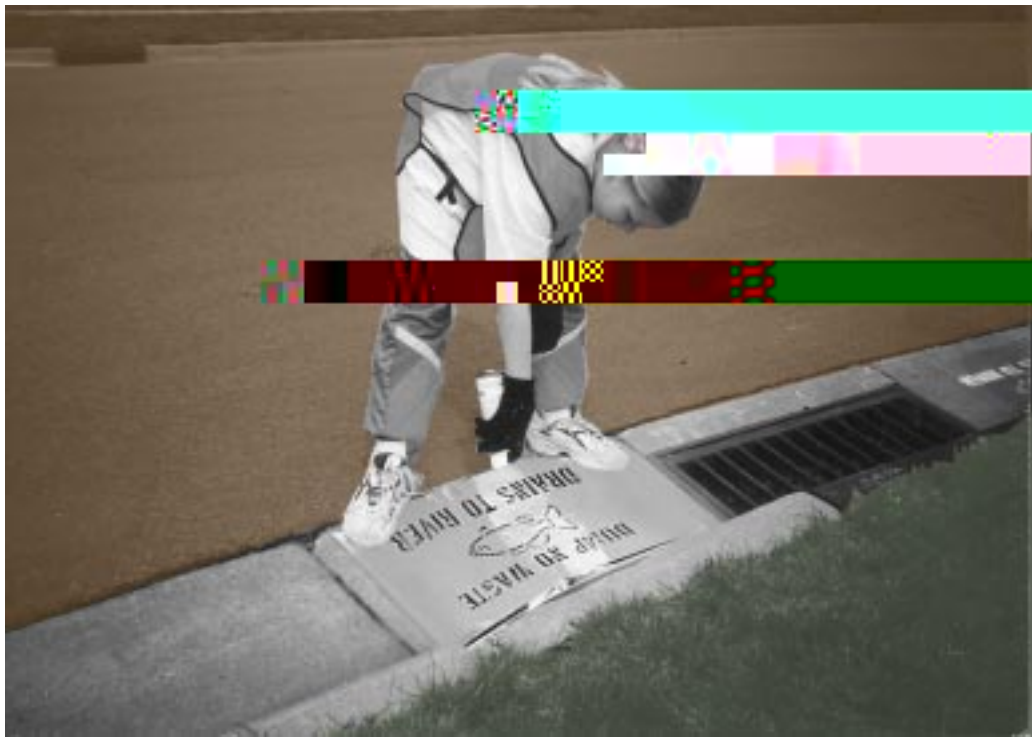


# POLLUTION SOLUTIONS

**P** **g P** **P e e** **e**  
**G ea La e Ba**



**A Re** **e P** **P e e** **G a P g a**  
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**G ea La e Na a P g a** **Off ce**  
**Ja a 1998**

## **ACKNOWLEDGMENTS**

GLNPO would like to thank the grantees for their hard work and commitment to promoting pollution prevention around the Great Lakes basin, and for their reviews during this project. Acknowledgment is due

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## **EXECUTIVE SUMMARY**

From 1992 through 1995, the Great Lakes National Program Office (GLNPO) of the U.S. Environmental Protection Agency (U.S. EPA) awarded over \$1,600,000 in grants for 20 on-the-ground pollution prevention activities. We have supported 11 organizations promoting pollution prevention as the preferred way of doing business in the Great Lakes basin from Duluth, Minnesota to Rochester, New York.

The Federal grant funds invested in pollution prevention projects in the basin have attracted over \$950,000 additional dollars to further advance the projects. Recipients of Federal grants are required to provide a 5% match to their grant awards (either money or in-kind services). Notably, GLNPO pollution prevention grantees have leveraged an impressive 61% cumulative match for the projects funded from 1992 through 1995.

The seed money invested by GLNPO spurred a number of innovative projects which have influenced activities across the nation. Examples of these projects include: the Auto Project which targeted reduction of persistent toxic substances; the Great Printers Project, which reached out to an industry composed of predominantly small businesses to turn pollution prevention into the preferred way of doing business; and Western Lake Superior Sanitary District's pollution prevention efforts to protect Lake Superior.

With the help of our grantees, a great deal has been learned about using pollution prevention as a tool to address current problems and avoid future ones in the Great Lakes basin. Lessons learned include the following:

- Pollution prevention is an important voluntary tool which companies can use to minimize their wastes and save money.
- Regulatory compliance is a strong motivator to initiate consideration of pollution prevention solutions.
- A recipe for project success includes strong public/private partnerships involving local entities.
- It is relatively easy to measure the programmatic success of pollution prevention activities, such as number of companies assessed or fact sheets distributed.
- Extrapolating the quantity of pollution prevented as a direct result of a specific project is much more difficult.

This report serves as a road map to the pollution prevention activities supported by GLNPO and will hopefully spur ideas for new projects. GLNPO summarized the most recent information about each project in a descriptive narrative and compiled the descriptions into a "catalog" (Appendix A). The project descriptions contain the phone numbers and/or E-mail addresses of the project contacts. These are the persons who served as the project directors

promoting pollution prevention in the Great Lakes basin. They are important and valuable resources for future activities. Appendix B contains a list of projects funded by GLNPO in Fiscal Year (FY) 1997. (Note that in FY 1996, since a budget was not passed until mid-year, the GLNPO pollution prevention

remedial programs. Federal, State, Tribal and local government and non-profit partners use Lakewide Management Plans to help address the environmental problems for each specific lake basin. Remedial Action Plans help identify the solutions for the 42 toxic hotspot Areas of Concern.

On the national level, the Pollution Prevention Act of 1990 provided support for pollution prevention activities. Congress declared as national policy that pollution should be prevented or reduced at the source whenever feasible; pollution that cannot be prevented should be recycled. If pollution cannot be prevented or recycled, it should be treated in an environmentally safe manner. Disposal or other release into the environment should be used as a last resort. Pollution prevention and source reduction are terms used interchangeably. Source reduction is defined as any practice which reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment prior to recycling, treatment or disposal.

## **GREAT LAKES AS A POLLUTION PREVENTION LEADER**

As pollution prevention was gaining acceptance and momentum across the nation, several pollution prevention practitioners in the Great Lakes basin were establishing themselves as leaders in the field. These practitioners meet twice each year at the Great Lakes Regional Pollution Prevention Roundtable (GLRPPR) to share information and learn from each other. This group started in 1990 with the U.S. EPA Region 5 States (Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin), meeting to share experiences. The GLRPPR has grown to an international organization with active participants from both U.S. and Canadian portions of the Great Lakes basin. Currently, membership includes about 160 organizations and 345 individuals from the Great Lakes States and Ontario. Organizations represented include State and local environmental agencies, business development agencies, industry and associations, labor unions, environmental advocacy groups, nonprofit research centers, academia, technical assistance providers and Federal agency programs with a Great Lakes and pollution prevention focus.

Recipients of Federal grants are required to provide a 5% match to their grant awards (either money or in-kind services).



This report covers projects funded by GLNPO in Federal fiscal years 1992 - 1995. (The Federal fiscal year runs from October 1 through September 30 of the following year.) Summaries of these projects appear in Appendix A. In FY 1996, due to a mid-year budget agreement, the GLNPO pollution prevention grant process was suspended. Project funding resumed in Federal fiscal year 1997, with the latest round of projects funded in September 1997. See Appendix B for a list of projects funded in FY 1997 and Appendix C for information on GLNPO's funding guidance and grants process.

In addition to GLNPO, there are a number of other funding sources, from other government offices to private foundations, supporting pollution prevention projects in the Great Lakes basin. These organizations informally communicate about their programs to ensure coordination of the projects funded.

## **LESSONS LEARNED**

With the help of our grantees, a great deal has been learned about using pollution prevention to address current problems and avoid future ones in the Great Lakes basin. These lessons include:

- Pollution prevention is an important voluntary tool which companies can use to minimize their wastes. However, regulatory compliance is a strong motivator for companies to become interested in pollution prevention technical assistance. In an effort to comply with regulations, companies will consider pollution prevention solutions.
- Generally, companies do not want to consider reducing only one or two targeted pollutants, but rather look at their business processes more holistically. As a result of this practice, projects targeting these specific pollutants may have unanticipated additional environmental benefits.
- Successful projects include strong public/private partnerships involving local entities. This component should be incorporated into future projects where appropriate.
- It is relatively easy to measure programmatic success of pollution prevention activities, such as the number of companies assessed, or fact sheets distributed. Extrapolating how much pollution was not created as a direct result of a specific pollution prevention project is much more difficult. We do know that companies can save money and reduce their impact on the environment by employing pollution prevention techniques.
- Prevention is a key part of the pollution solution.

**OVERVIEW OF POLLUTION PREVENTION PROJECTS,  
FEDERAL FISCAL YEARS 1992 - 1995**

**Table 1:** *Number of New Projects, Total Dollar Amounts and Dollars Leveraged*

**Table 3:** *GLNPO Funded Pollution Prevention Projects and Dollars by Great Lakes Basin During Fiscal Years 1992 - 1995.*

Basin	Number of Projects	GLNPO Dollars	Dollars Leveraged
Erie	8	\$323,927	\$104,574
Huron	2	\$27,577	\$10,348
Michigan	6	\$373,043	\$256,127
Ontario	3	\$88,577	\$44,448
Superior	11	\$799,591	\$560,837

*\* Note that some projects funded during FY 1992 - 1995 impacted more than one lake basin and are counted multiple times. These multiple basin projects are represented in the Dollar columns by the estimated proportion of funds spent in each basin.*

## CONCLUSION

The Great Lakes basin has a network of informed and motivated businesses, non-profit organizations, universities and government agencies promoting and implementing pollution prevention in the basin. The best indication of the level of pollution prevention expertise is the caliber of projects which have been implemented around the basin. Summaries of the projects funded under GLNPO's grant program are contained in Appendix A of this report.

Along with these summaries are descriptions of products developed under the various grants and information on how to contact the individuals who worked directly on the projects. It is our hope that this information will further strengthen the network of individuals who are working to promote pollution prevention around the Great Lakes basin. These projects, and the persons who worked on them, should be viewed as resources for future activities.

Access our World Wide Web site at: <http://www.epa.gov/glnpo/> on the Internet for information on GLNPO's pollution prevention efforts in the Great Lakes basin. This report will be available on the Internet site in early 1998. We will provide hotlinks to the project contacts and applicable reports mentioned in the grant summaries. If you have any comments on GLNPO's pollution prevention grant program, or if you have ideas about additional areas we should explore for investing our funds, we would love to hear from you.

Please contact:

Danielle Green, Environmental Protection Specialist  
Telephone: 312-886-7594  
Fax: 312-353-2018  
E-mail: [green.danielle@epamail.epa.gov](mailto:green.danielle@epamail.epa.gov)

Elizabeth LaPlante, Pollution Prevention Team Leader  
Telephone: 312-353-2694  
Fax: 312-353-2018  
E-mail: [laplante.elizabeth@epamail.epa.gov](mailto:laplante.elizabeth@epamail.epa.gov)

or contact any of the grantees listed in the project summaries.

- Appendix A:* Project Summaries FY1992 - 1995
- Appendix B:* List of Projects Funded by the Great Lakes National Program Office in FY 1997
- Appendix C:* The Great Lakes National Program Office's Funding Guidance and Grant Process

U.S. EPA's Great Lakes National Program Office will make *Pollution Solutions*

**Title: MERCURY REDUCTION THROUGH TREATMENT CHEMICAL SELECTION  
(FY95 - GL985131-01-0)**

**Organization:** *Minnesota Pollution Control Agency*

Contact

Carri Lohse-Hanson  
Minnesota Pollution Control Agency  
520 Lafayette Road  
St. Paul, Minnesota 55155  
Telephone: 612-296-9134  
Fax: 612-297-8683  
E-mail: *carri.lohse-hanson@pca.state.mn.us*

Award Amount: \$35,000  
Dollars Leverages: \$1,750  
Project Timetable: 10/1/95 - 6/30/98

**Summary:** The purpose of this project is to reduce mercury that may be reaching Lake Superior through cooling water and effluents from power plants, boilers and other facilities. Cooling water is treated with pH-altering chemicals, such as acid and caustic soda. Certain feedstock chemicals used to alter the pH have been found to contain high levels of mercury. For example, sulfuric acid produced as a by-product from a lead smelter was found to have significantly higher levels of mercury than sulfuric acid from a copper smelter. The project strategy is to promote the switch from high mercury to low mercury chemical feedstocks.

**Environmental Results/Products (Project Ongoing):**

MPCA compiled a list of the boilers in the four Minnesota counties bordering Lake Superior.

A survey for boiler operators was distributed at a State-sponsored boiler workshop. Only 10 operators filled out the survey, but those that did indicated that they would be willing to switch to non-mercury caustic if the price was the same. A few operators indicated they would be willing to pay more.

MPCA collected information on mercury concentrations in various grades of caustic soda from, a chemical supplier and a chlor-alkali producer and the Western Lake Superior Sanitary District (WLSSD). Up-to-date cost information is needed.

MPCA will be working with boiler operators on solid waste management issues. Some boilers use high pressure steam gauges that contain large amounts of mercury. For example, one steam gauge collected during a WLSSD mercury amnesty project contained 30 pounds of mercury. Some boilers may also contain mercury switches.

**GLNPO Project Officer:** Elizabeth LaPlante 312-353-2694



**Title: MERCURY REDUCTION AND POLLUTION PREVENTION IN HOSPITALS  
(FY95 - GL985135-01-0)**

**Organization:** *National Wildlife Federation (in coordination with Monroe County, New York and Western Lake Superior Sanitary District)*

Contact

Guy Williams  
National Wildlife Federation  
Great Lakes Natural Resource Center  
506 E. Liberty, 2nd Floor  
Ann Arbor, MI 48104-2210  
Telephone: 313-769-3351  
Fax: 313-769-1449

Award Amount: \$41,350  
Dollars Leveraged: \$22,016  
Project Timetable: 9/25/95 - 6/30/97



**Title: ZERO DISCHARGE PILOT PROJECT  
(FY95 - GL985121-01-0)**

**Organization:** *Western Lake Superior Sanitary District (in coordination with Monroe County, New York and the National Wildlife Federation)*

Contact

Tim Tuominen  
Western Lake Superior Sanitary District  
2626 Courtland Street  
Duluth, MN 55806-1894  
Telephone: 218-722-3336 x324  
Fax: 218-727-7471  
E-mail: *p2team@cp.duluth.mn.us*

Award Amount: \$100,000  
Dollars Leveraged: \$519,000  
Project Timetable: 9/01/95 - 8/31/98

**Summary:** The Western Lake Superior Sanitary District (WLSSD) is developing an integrated multi-media program to reduce the discharge of mercury using “front end” pollution prevention techniques with hospitals, clinics, educational institutions, laboratories, and dental practices.

**Environmental Results/Products (Project Ongoing):**

The Western Lake Superior Sanitary District staff is conducting on-site visits at hospitals, clinics, educational institutions, laboratories, and dental practices to evaluate prevention, recycling, or treatment opportunities to reduce or eliminate mercury discharges. In cooperation with each type of customer, WLSSD will assist in developing pollution prevention strategies and promoting implementation of these plans. In addition, staff is securing a commitment of zero discharge from WLSSD’s own facilities.

The WLSSD staff and local dentists have developed a process for recycling amalgam waste and strategies for recycling training. Staff is evaluating advanced treatment systems to reduce mercury discharges from dentists.

WLSSD staff identified many mercury-containing sources in hospitals from histopathology labs. Trap cleaning has demonstrated an abundance of historic mercury.

An investigation of the University of Minnesota-Duluth, showed widespread use of mercury-containing equipment and poor management of all potential mercury sources. An audit revealed mercury-free equipment replacement costs are approximately \$10,000. The University is now replacing all equipment and will be line cleaning to remove historic sources of mercury.

WLSSD developed the Blueprint for Mercury Elimination: a Guide for Wastewater Treatment Plants as part of the Zero Discharge Pilot Project. The blueprint, funded by the Great Lakes Protection Fund, is available from WLSSD.

**GLNPO Project Officer:**

**Title: GREAT LAKES ALTERNATIVE CLEANING EDUCATION PROGRAM  
(FY94 - GL995723-01-0)**

**Organization:** *Center for Neighborhood Technology*

Contact

Sylvia Ewing Hoover  
The Center for Neighborhood Technology  
2125 W. North Avenue  
Chicago, Illinois 60647  
Telephone: 773-278-4800 x129  
Fax: 773-278-3840  
E-mail: *sylvia@cnt.org*  
CNT)ckes

Award Amount: \$76,407  
Dollars Leveraged: \$229,304  
*(includes subsequent funding to continue  
work promoting wet cleaning)*  
Project Timetable: 10/1/94 - 10/31/95

**Summary:** The Center for Neighborhood Technology (CNT) demonstrated the commercial viability of a water-based cleaning technique as an alternative to traditional dry cleaning that relies on chlorinated solvents. CNT worked with The Greener Cleaner, a private wet cleaning shop, for one year. CNT

:

CNT launched a week of intensive educational outreach activities, with local partners, in Buffalo, Cleveland, Milwaukee, Detroit, and Indianapolis. CNT developed profiles of the dry cleaning industry in Buffalo, Cleveland, Detroit, Milwaukee, and Northwest Indiana, and introduced dry cleaners in these areas to wet cleaning. CNT also crafted a report on various wet cleaning machines.

In Fall 1995, CNT held a wet cleaning conference in Chicago. Attendees included representatives from dry cleaners, trade association leaders, equipment manufacturers, suppliers, representatives from environmental organizations, and regulators. All Great Lakes States, except Minnesota, were represented at this conference. This major symposium allowed an opportunity for stakeholders and industry to start merging ideas on wet cleaning.

This project received extensive media coverage, including coverage in the three main dry cleaning trade publications.

**GLNPO Project Officer:** Danielle Green 312-886-7594

**Title: CAMPAIGN FOR A SUSTAINABLE CALUMET REGION  
(FY94 - GL995704-01-0)**

**Organization:** *Center for Neighborhood Technology*

Contact

Ignacio Correa-Ortiz	Award Amount:	\$89,045
Center for Neighborhood Technology	Dollars Leveraged:	\$4,686
2125 W. North Avenue		
Chicago, Illinois 60647		
Telephone: 773-278-4800 x120	Project Timetable:	10/01/94 - 10/31/95
Fax: 773-278-3840		
E-mail: <i>ico@cnt.org</i>		

**Summary:** The Center for Neighborhood Technology (CNT) developed a model community participation process for the cleanup and responsible reuse of brownfield sites in Southeast Chicago.

**Environmental Results/Products:**

CNT developed a brownfield slide show, a “Bill of Rights” outlining general criteria for cleanup and reuse of brownfield sites in Southeast Chicago, and brownfield fact sheets: The Challenge of Brownfields: Recycling Old Industrial Property into Opportunities for Community Redevelopment and A Community Checklist for Identifying Potential Environmental Hazards at Old Commercial or Industrial Sites.

The report, “Recycling Contaminated Land: A Community Resource Guide” is available at: [http://www.cnt.org/sus\\_man/bf3.htm](http://www.cnt.org/sus_man/bf3.htm) on the Internet. There have been over 1200 visits to this site.

Through community group input, CNT identified priority brownfield sites in Southeast Chicago. These include USX South Works, Wisconsin Steel, Anderson/Schroud LTV property, West Pullman brownfields cluster near 119th/Halstead and a 25 acre parcel south of Altgeld Gardens.

A working group met periodically to discuss local brownfields issues. Regular participants included: Community Workshop on Economic Development, Mexican Community Committee, Southeast Environmental Task Force, Chicago State Neighborhood Assistance Center, People for Community Recovery, Citizens for a Better Environment and the Chicago Legal Clinic. Priorities for the working group members included establishing a training program at a local educational institution to provide residents with the capacity to access environmental technician and cleanup jobs, identifying methods to influence brownfields redevelopment decisions at the larger sites, and promoting sustainable redevelopment of brownfield sites.

**GLNPO Project Officer:** Danielle Green, 312-886-7594

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**Title:**



**Title:**

**Title: ERIE COUNTY CLEAN SWEEPS II  
(FY94 - GL995675-01-0)**

**Organization:** *Erie County Department of Environment & Planning, Division of Environmental Compliance Services*

Contact



**Title: AUTO INDUSTRY POLLUTION PREVENTION PROJECT: PHASE II  
(FY94 - GL995696-01-0)**

**Organization:** Michigan Department of Environmental Quality (formerly Department of Natural Resources)

Contact

Marcia Horan	Award Amount:	\$76,680
Michigan Department of Environmental Quality	Dollars Leveraged:	\$48,520
Environmental Assistance Division		
P.O. Box 30457	Project Timetable:	10/1/94 - 12/31/95
Lansing, Michigan 48909-7957		
Telephone: 517-373-9122		
Fax: 517-335-4729		
E-mail: <i>horanm@state.mi.us</i>		

**Summary:** This project built upon previous voluntary efforts by Chrysler, Ford and General Motors (Auto Companies) to reduce the release of persistent toxic substances in the Great Lakes basin. Michigan staff focused the Auto Industry Pollution Prevention Project: Phase II efforts on establishing an Auto Project Advisory Group, enhancing coordination with the Canadian Auto Project, expanding outreach to suppliers, and evaluating the 1991 Auto Project agreement and list of targeted persistent toxics.

**Environmental Results/Products:**

Since 1991, the year the Auto Project began, releases of the targeted 65 listed Great Lakes persistent toxic (GLPT) substances from auto company facilities (as reported under in the Toxic Release Inventory) have declined every year except one. These reductions, mainly accomplished through the use of specific pollution prevention actions, process improvements, and recycling, are explained in detail in the Auto Project pollution prevention reports and case studies.

The Michigan Department of Environmental Quality (MDEQ), AAMA, Chrysler, Ford and General Motors published the Automotive Pollution Prevention Project: Progress Report II. MDEQ also published a bound document containing 33 pollution prevention case studies and an addendum with 20 case studies submitted by the auto companies. The June 1997 US Automotive Pollution Prevention Project: Progress Report III details efforts beyond this grant period, including data on reportable releases of U.S. EPA Toxics Release Inventory (TRI) chemicals and pollution prevention activities and accomplishments for each of the three participating companies. It is available from MDEQ. Information on the Auto Project, including 60 pollution prevention case studies, is available at: <http://www.deq.state.mi.us/ead/p2sect/auto/> on the Internet.

The project partners formed an Auto Project Advisory Group composed of representatives from trade associations, higher education, technology centers, public interest groups, a foundation and government. During the grant period, they met twice a year to review progress on the Auto Project. The Canadian Auto Project and U.S. Auto Project representatives met on a semi-annual basis to enhance binational pollution prevention efforts in the automotive industry and to exchange information regarding their respective projects.

The American Automobile Manufacturers Association (AAMA) trade association and the Auto Companies co-sponsored the Michigan Department of Environmental Quality (MDEQ) annual waste reduction conference in the Detroit metropolitan area in December 1994 and 1995. The U.S. and Canada Auto Project partners jointly sponsored the “North American Supplier Environmental Workshop” in October 1995. More than half the participants at the North American conference were auto suppliers. All 5,000 tier-one auto suppliers for Chrysler, Ford and General Motors received project progress reports, which included pollution prevention case studies.

Project Progress Beyond the Grant Period

In 1996 the auto companies decided to broaden the project from an exclusive focus on the Great Lakes to one including operations in the entire United States. This expansion reflects the fact that pollution prevention activities are implemented on a corporate-wide basis. Current industry efforts target all materials of concern rather than being limited to the 65 persistent toxic chemicals focused on for the Great Lakes basin. It is important to note that 74% of the auto companies’ U.S. facilities are located in the Great Lakes States. The Auto Project has matured from a government led and funded project to



The outreach programs, while extremely effective for delivering the pollution prevention message, also served as a non-threatening method to supply regulatory compliance information. The highest rate of attendance for the programs occurred when there was an emphasis on regulatory compliance information, thus indicating that compliance issues motivate companies to investigate pollution prevention options.

#### Technical Assistance

SHWEC conducted 75 pollution prevention assessments for very large manufacturers with over 200 employees to very small vehicle maintenance, machine shops and marinas with only two or three employees. In addition, SHWEC responded to approximately 200 requests for detailed information packages containing regulatory guidance fact sheets, new and existing manufacturing technology information, materials substitution information and vendor information.

The largest amount of mercury recovered was from recycling of fluorescent lamps. Specific mercury reductions occurred in medical facilities and veterinary facilities. The Childrens Hospital of Milwaukee was a 1996 winner of the *Wisconsin Governors Award for Hazardous Waste Reduction*. Another hospital eliminated a mercury problem when SHWEC discovered that batteries containing mercury and containers with other toxics were being incinerated instead of separated from the waste streams. In addition, many companies assessed by SHWEC implemented pollution prevention projects.

#### Survey

SHWEC conducted surveys at the beginning and at the end of the project period to gather environmental trend information relating to pollution prevention. Over 78% of the companies responding to the surveys indicated that they have completed a project to eliminate a hazardous waste, air emission or wastewater discharge in the last two years. The companies surveyed represent a cross-section of hazardous waste-generating industries. The two main reasons cited in this survey as to why companies have implemented pollution projects are regulatory compliance and concern for the environment. Economics was not a significant motivator.

#### Partnerships

SHWEC introduced a “business to business” pollution prevention roundtable by establishing Partners for Business Environmental Quality in Waukesha County. This provides one-stop shopping for businesses looking for environmental information including pollution prevention, waste reduction and recycling. SHWEC also worked with coalitions such as the Southeast Wisconsin Waste Reduction Coalition and individual industrial groups in several Wisconsin counties.

**GLNPO Project Officer:** Danielle Green, 312-886-7594

**Title:        **ERIE COUNTY REGIONAL MUNICIPAL POLLUTION PREVENTION PROGRAM**  
              **(FY93 - GL995373-01-0)****

**Organization:** *Western New York Economic Development Corporation/Erie County*

Contact

Tom Hersey	Award Amount:	\$50,000
Erie County Department of Environment and Planning	Dollars Leveraged:	\$6,000
95 Franklin Street	Project Timetable:	10/01/93 - 9/30/96
Buffalo, New York 14202		
Telephone: 716-858-7674		
Fax: 716-858-7713		
E-mail: <i>hersey@cdbg.co.erie.ny.us</i>		

**Summary:** Erie County, New York established a pollution prevention partnership with the Regional Municipality of Hamilton-Wentworth, Ontario. The Erie County Office of Pollution Prevention also worked with other local governments within Erie County to adopt pollution prevention policies, practices, and procedures.

**Environmental Results/Products:**

Bilateral Partnership with Hamilton-Wentworth

The Regional Municipality of Hamilton-Wentworth and Erie County signed a Memorandum of Understanding on March 30, 1995 which formally launched training and information sharing networks linking the communities.

Erie County conducted two pollution prevention training sessions for Publicly Owned Treatment Works (POTW) employees. Over 100 POTW inspectors and managers from both New York and Ontario attended these sessions. The Regional Municipality of Hamilton-Wentworth hosted two Pollution Prevention Symposiums for municipal officials throughout Canada and the United States, with more than 150 officials attending these workshops.

The bilateral partnership has enhanced information sharing, allowing both governments to avoid duplicating efforts. Erie County and the Regional Municipality of Hamilton-Wentworth continue to share information about pollution prevention processes, policies and training.

Erie County/Town of Amherst Pollution Prevention Alliance

The Erie County Office of Pollution Prevention (ECOPP) established a \$20,000 grant program, soliciting proposals from the 44 municipalities within Erie County. Originally, ECOPP envisioned dividing the funds for local pollution prevention efforts between four municipalities. However, the Town of Amherst was the only municipality which demonstrated interest in carrying out the program. Thus the grant program focus shifted towards supporting incorporation of pollution prevention strategies into one local government's policies and procedures.

The Town of Amherst, with assistance from Erie County, developed a work plan to incorporate pollution prevention into its policies and procedures. In April 1996, it established



**Environmental Results/Products:**

After detailed on-site assessments, RETAP staff identified problems and opportunities to reduce waste and achieve cost savings for the facilities. The assessments were free, voluntary, nonregulatory, and confidential. RETAP conducted 26 preassessments and 14 full assessments at 10 industries and 16 institutions. The types of industries assessed included wastewater treatment, metals/machinery fabrication, wood products, corrugated medium, solid waste management, automoti Sv98ddiu~rr1F61manaw1 Rfltpltr7fltp

After detailed on-site assessments, RETAPhospiion,oductschools—elltr7[(conhightschool,pes of indust.03 medicomm(



**Title: MERCURY/PCB OUTREACH AND COLLECTION PROGRAM AND TECHNICAL ASSISTANCE  
(FY93 - GL995440-01-0)**

**Organization:** *Minnesota Pollution Control Agency*

Contacts

Mercury/PCB Project

Emily Moore  
Minnesota Office of Environmental Assistance  
Problem Materials Program  
520 Lafayette Road N. (2nd Floor)  
St. Paul, MN 55155-4100  
Telephone: 612-215-0201  
Fax: 612-215-0246  
E-mail: *emily.moore@moea.state.mn.us*

Technical Assistance Project

Ned Brooks  
Minnesota Pollution Control Agency  
520 Lafayette Road  
St. Paul, MN 55155  
Telephone: 612-297-8680  
Fax: 612-297-8676  
E-mail: *ned.brooks@pca.state.mn.us*

Award Amount: \$115,000

Dollars Leveraged: \$5,750

Project Timetable: 10/01/93 - 9/30/95

**Summary:** Minnesota conducted an outreach program for mercury and PCB-containing products and delivered pollution prevention technical assistance to small and medium-sized businesses in the Lake Superior basin.

**Environmental Results/Products:**

Outreach

Staff identified mercury and PCB-containing wastes generated by service industries and conducted a series of meetings and interviews with stakeholders to discuss the needs of the affected community and suggestions for how to address the problem. Project stakeholders included contractors, businesses, trade associations, chambers of commerce, local and State governments, utilities, product manufacturers and suppliers, haulers, and recycling and disposal companies. Staff also participated in trade shows and monthly meetings of business organizations in order to educate attendees about mercury issues.

Slide Shows

Staff developed two slide presentations. The first slide show targets trade groups that generate mercury and PCB containing wastes and is designed for use with brochures (see below). It motivates contractors and service technicians to manage their wastes properly and to keep mercury and PCBs out of the waste stream. The second slide show, designed for the general public, is specifically about mercury. It encourages consumers to purchase alternative products, where appropriate, and informs consumers how to dispose of mercury-containing products.

### Brochures

Staff developed brochures on mercury and PCBs. The mercury brochure contains fact card inserts describing common items which contain mercury. These brochures can be found at: <http://www.epa.gov/glnpo/p2/> on the Internet.

### Display

Staff developed a display to show the types of products that contain mercury. The display titled, "WHO ME? Do I Contribute Mercury to the Environment?," has two components. There is a three-panel display board with pictures and text about mercury's effect on the environment. A collection of mercury-containing products assembled on the table in front of the display board shows items such as a thermostat, switches and fluorescent lights. This collection is accompanied by text about mercury contained in the products and non-mercury alternatives.

State specific copies of the display are housed at the Michigan and Wisconsin environmental regulatory agencies, and throughout Minnesota. Two generic copies are housed at the U.S. Environmental Protection Agency in Chicago.

### Collection

Minnesota staff worked with the partners to identify collection needs, potential collection sponsors, regulatory and economic barriers to collection and proper management of mercury-containing wastes. There is a need to develop waste collection systems which are convenient and economically feasible for service industries and businesses.

Staff obtained the rights to use a logo for fluorescent bulb recycling projects. This logo, modeled after the chasing arrows recycling symbol, is in the public domain and thus can be used as part of a unified campaign around Lake Superior (and beyond) for lamp collection programs.

### Technical Assistance

A team from the University of Minnesota-Duluth Department of Chemical Engineering generated a potential client list for pollution prevention assessments, cataloged and reviewed pollution prevention literature, and called potential clients. They used data from five Publicly Owned Treatment Works (POTWs) to scan for priority pollutants. They also conducted an information needs assessment and examined the way businesses used existing pollution prevention information.

### Site Assessments

Nine pollution prevention assessment site visits were made to businesses (3 oil distributors, 2 printing companies, a furniture refinisher, a laboratory, a veterinary hospital, a printed circuit board assembler, and a large forest products facility). Based on the site visits, team members drafted a report which included recommendations for pollution prevention opportunities. Each assessment took approximately 50 staff-hours to complete and included four team members visiting the businesses, gathering pollution prevention information, and writing the report.





**Title: TOXICS POLLUTION PREVENTION MENTORING  
(FY93 - GRANT # GL995412-01-0)**

**Organization:** *Western Lake Superior Sanitary District*

Contact

Tim Tuominen	Award Amount:	\$95,000
Western Lake Superior Sanitary District	Dollars Leveraged:	\$5,000
2626 Courtland Street		
Duluth, MN 55806-1894	Project Timetable:	9/1/93 - 9/30/96
Telephone: 218-722-3336 x324		
Fax: 218-727-7471		
E-mail: <i>p2team@cp.duluth.mn.us</i>		

**Summary:** The purpose of this project was to help Lake Superior communities build pollution prevention capabilities. The Western Lake Superior Sanitary District (WLSSD) worked directly with Virginia, Minnesota; Marquette, Michigan; Ashland, Wisconsin; and Superior, Wisconsin to develop toxic reduction plans. Project activities included: pollution prevention awareness for wastewater treatment plant managers and operators; a toxic pollution prevention needs survey; facilitating local toxic reduction meetings; developing business-specific pollution prevention opportunities and waste management guidelines; and assisting local communities around Lake Superior to develop toxic reduction plans. The grant included funds for the pilot communities to develop and implement the plans.

**Environmental Results/Products:**

Pollution Prevention Awareness

WLSSD developed a short presentation for wastewater treatment plant managers and operators on the regulatory need to reduce toxics in Publicly Owned Treatment Works (POTW) discharge, an overview of pollution prevention and its advantages, and examples of successful pollution prevention projects in industry. WLSSD presented this information at local State operator meetings in Marquette, Michigan; Ashland, Wisconsin; and Aurora, Minnesota.

Needs Survey

WLSSD surveyed Lake Superior POTWs to determine what they believed would be most effective in reducing toxics at their source. There is a need for communication about toxics with industrial, business and residential POTW customers. There appears to be a need for POTWs to learn what can and cannot go down the drain and which materials contain toxics of concern for Lake Superior.

Specific Business Opportunities

WLSSD distributed pollution prevention information to pretreatment operators, hospitals, and dentists.

Community Toxic Reduction Plans

Virginia, Minnesota; Marquette, Michigan; Ashland, Wisconsin; and Superior, Wisconsin all took different tacks when developing toxic reduction plans. In Virginia, Minnesota the project was run by the POTW operator, a private consulting firm. In Marquette, Michigan, city employees ran the

program, with consultant support for the final reporting. In Ashland, Wisconsin a partnership was formed between the city, Northland College, businesses, and environmental groups. All of the pilot cities developed public information campaigns.

In **Virginia, Minnesota** on-site assessments were completed at a number of large facilities and other places known to discharge chemicals of concern for Lake Superior. These included a small electric cooperative, a municipally owned steam electric utility, a manufacturer, and a dental practice. The municipality placed information on mercury in the local paper and developed a zero discharge workbook listing businesses and possible toxics that they could likely discharge.

The **Marquette, Michigan** plan included a public awareness campaign which emphasized what residents and businesses could do to eliminate discharge of Lake Superior chemicals of concern. Outreach to a hospital and local businesses centered on reduction of toxic discharges. Marquette developed 11 educational handouts and 12 newspaper ads and a public service announcement which addressed the pollutants of concern for Lake Superior. These materials stress the use of non-polluting alternatives, and provided techniques and instructions for the appropriate disposal of household hazardous waste. Pollutant-specific fact sheets on mercury, lead, copper, silver, formaldehyde, and PCBs were published in local newspapers.

**Ashland, Wisconsin** produced two reports: Zero Discharge Model Project, Ashland, Wisconsin and Zero Discharge Campus Project, Northland College. With a community-based focus group, the municipality evaluated commercial, industrial and residential sources of the nine chemicals of concern for Lake Superior.

In the **Superior, Wisconsin** toxic reduction plan, data on effluent was examined to determine whether any additional compounds should be focused on. Industry-specific pollution prevention information was sent to targeted industries: photographic industries, dentists, clinics, nursing homes, a university and a technical school. Pollution prevention information was also published in the local newspaper.

#### Lessons Learned

It is important to educate the local pollution prevention champion at the POTW.

Support from management, the local governing body, and the community early in the process is crucial.

Each community needed to go through the process of deciding which chemicals of concern were a problem for them and thus should be the focus for their pollution prevention efforts.

A professional group or the general public, rather than a specific facility, may be the appropriate target for pollution prevention activities. It is important to develop a strategy with specific pollution prevention activities in cooperation with the targeted group or facility personnel.

**GLNPO Project Officer:** Danielle Green, 312-886-7594

**Title: POLLUTION PREVENTION ASSESSMENTS IN SUPPORT OF THE LAKE SUPERIOR BINATIONAL PROGRAM - TECHNICAL ASSISTANCE TO INDUSTRIES (FY93 - GL995466-01)**

**Organization:** *Wisconsin Department of Natural Resources*

Contact

Phillip (Jack) Annis	Award Amount:	\$57,000
Pollution Prevention Specialist	Dollars Leveraged:	\$3,000
University of Wisconsin, Cooperative Extension	Project Timetable:	10/01/93 - 09/30/95
Solid and Hazardous Waste Education Center		
161 W. Wisconsin Avenue, Suite 6000		
Milwaukee, Wisconsin 53203		
Telephone: 414-227-3371		
Fax: 414-227-3165		
E-mail: <i>pannis@facstaff.wisc.edu</i>		

**Summary:** The Solid and Hazardous Waste Education Center (SHWEC) provided pollution prevention information, education and technical assistance to waste generators in the four Wisconsin counties in the Lakes Superior basin. Building awareness among the waste generators about the resources available from SHWEC, the Wisconsin Department of Natural Resources and local resources, and building linkages with municipal operations, primarily Publicly Owned Treatment Works (POTWs) in the Lake Superior basin, were key project objectives. Though the project was designed to target reductions of specific bioaccumulating substances, primarily PCBs and mercury, facilities were approached with the opportunity to reduce all types of wastes.

**Environmental Results/Products:**

SHWEC inventoried and identified companies discharging directly to the Lake Superior watershed and to the POTWs. SHWEC provided training to POTW pretreatment coordinators on basic pollution prevention concepts with special emphasis on discharges from dentists, photo developers and medical laboratories.

SHWEC completed 15 technical assistance assessments. Many of the targeted businesses were reluctant to invite SHWEC to their facilities. This may have been due to a distrust of government. Local partnerships (e.g., "Green Star" programs in Ashland and Superior, Wisconsin) can help establish the trust that is needed among waste generators, the community, regulators, and technical assistance programs.

SHWEC conducted five workshops for marinas and boat repair facilities, small quantity generators, and the wood finishing industry.

Outreach materials included information on services offered by SHWEC and other resources (including county Community Resource Development Agents) for targeted businesses in the Lake Superior basin in Wisconsin.





**Title: INDUSTRIAL WASTE WATER OPERATOR POLLUTION PREVENTION  
TRAINING  
(FY92 - X995882-01-0)**

*Organization: Michigan Department of Environmental Quality (formerly the Michigan Department of Natural Resources)*

Contact

Robert Jackson, Chief  
Grants & Information (SARA Title III) Unit  
Pollution Prevention Section  
Environmental Assistance Division  
Michigan Department of Environmental Quality  
P.O. Box 30004  
Lansing, Michigan 48909  
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E-mail: *jacksorc@state.mi.us*

Award Amount: \$40,000  
Dollars Leveraged: \$2,105  
Project Timetable: 10/1/92 - 2/15/95

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**Title: POLLUTION PREVENTION AND PUBLIC AWARENESS CAMPAIGN FOR LAKES SUPERIOR AND MICHIGAN BASIN (FY92 - X995881-01-0)**

**Organization:** *Minnesota Pollution Control Agency, in partnership with Illinois, Indiana Michigan and Wisconsin State environmental agencies.*

Contact

Ned Brooks  
Minnesota Pollution Control Agency  
520 Lafayette Road  
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Telephone: 612-297-8680  
Fax: 612-297-8676  
E-mail: [ned.brooks@pca.state.mn.us](mailto:ned.brooks@pca.state.mn.us)

Award Amount: \$160,000  
*(Pollution Prevention Awareness Campaign - \$100,000, Minnesota, Wisconsin Household Hazardous Waste - \$20,000, Very Small Quantity Generator Program Development - \$40,000)*  
Dollars Leveraged: \$8,000  
Project Timetable: 10/1/92 - 9/30/94

**Summary:** This grant supported a pollution prevention awareness campaign for Lakes Michigan and Superior, household hazardous waste collection between Minnesota and Wisconsin, and a program for management and reduction of waste from very small quantity generators.

**Environmental Results/Products:**

Pollution Prevention Awareness Campaign

Illinois, Indiana, Michigan, Minnesota, and Wisconsin conducted a unified public awareness campaign that addressed pollution prevention and toxics of concern in the Lake Superior and Lake Michigan drainage basins. Partners in this project included U.S. EPA, State Remedial Action Plan coordinators, the Lake Superior Bi-National Work Group Communication Team, and the Lake Michigan Lakewide Management Plan team.

The partners produced two outreach pieces: Protecting Our Great Lakes, a pollution prevention public awareness campaign for individuals in the Lake Superior and Michigan basins, and a Disposal Guide to Household Hazardous Wastes, detailing responsible ways to dispose of various products commonly found in homes and garages. The disposal guide can be found at: <http://www.epa.gov/glnpo/p2/Lkwatchc.html> on the Internet.

Minnesota- Wisconsin Household Hazardous Waste

Through funding under this grant, Wisconsin residents were able to deliver household hazardous waste to the permanent household hazardous waste education and collection center in Duluth, Minnesota.

Very Small Quantity Generator Program Development

There are approximately 2,000 conditionally exempt or very small quantity generators (VSQGs) of hazardous waste in the Minnesota portion of the Lake Superior basin. These generators have few options for properly disposing of their waste and need information and assistance to begin preventing pollution. With funds from this grant, the Western Lake Superior Sanitary District (WLSSD) developed a program for VSQGs in Minnesota and Wisconsin for management and reduction of waste. In addition

to collecting already generated hazardous wastes, Minnesota assisted participating VSQGs in identifying opportunities and resources for pollution prevention with an emphasis on toxics of concern for Lake Superior.

**GLNPO Project Officer:** Danielle Green 312-886-7594

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**LIST OF PROJECTS FUNDED BY THE GREAT LAKES NATIONAL PROGRAM  
OFFICE IN FY 1997**

<b>Council of Great Lakes Industry</b> <i>Mobilizing/Coordinating Industry Support of the Virtual Elimination Strategy</i>	\$70,000
<b>Great Lakes United</b> <i>Virtual Elimination Strategy Implementation Project</i>	\$70,000
<b>Illinois Environmental Protection Agency</b> <i>Reducing Mercury Releases Through Pollution Prevention in Healthcare Facilities</i>	\$82,800
<b>Indiana Department of Agriculture</b> <i>Clean Sweeps</i>	\$30,000
<b>Menominee Indian Tribe of Wisconsin</b> <i>Household Hazardous Waste Cleansweep</i>	\$12,000
<b>Michigan Department of Agriculture</b> <i>Clean Sweeps</i>	\$60,000
<b>Michigan Department of Environmental Quality</b> <i>Mercury Pollution Prevention Project</i>	\$100,000
<b>National Wildlife Federation</b> <i>Non-governmental Organization Involvement in Implementating Virtual Elimination</i>	\$70,000
<b>Pennsylvania Department of Environmental Protection</b> <i>A Partnership for Prevention (Mercury)</i>	\$75,000
<b>Wisconsin Department of Natural Resources</b> <i>Pollution Prevention Specialist</i>	\$18,400

## **THE GREAT LAKES NATIONAL PROGRAM OFFICE'S FUNDING GUIDANCE AND GRANT PROCESS**

Each Fall, the Great Lakes National Program Office (GLNPO) issues its Great Lakes Funding Guidance which asks interested Applicants to submit short Preproposals for Great Lakes projects. Following internal screening, reviewers internal and external to U.S. EPA evaluate the remaining Preproposals based on criteria in the Great Lakes Funding Guidance. Evaluations are based on the Funding Guidance criteria and take into account recommendations on specific needs and priorities of geographic areas within the Great Lakes, particularly those of Lakewide Management Plans and their included geographic initiatives (such as the Remedial Action Plans for Areas of Concern). Each preproposal is generally evaluated by at least 3 GLNPO staff in addition to the external reviewers. GLNPO uses these evaluations to determine the projects for which full proposals will be requested. Applicants are then requested to submit full proposals. Following negotiations, full proposals are submitted, final decisions are made, and awards are tendered. Awards can be issued as early as April; however, most are issued in August and September.