

**WMRC Reports**  
Waste Management and Research Center

**Pollution Prevention  
Survey Results for  
Illinois Association of  
Wastewater Agency  
Members**

**Illinois State University**

**TR29  
April 1997  
Electronic Version**



## **About WMRC's Electronic Publications:**

This document was originally published in a traditional format.

It has been transferred to an electronic format to allow faster and broader access to important information and data.

While the Center makes every effort to maintain a level of quality during the transfer from print to digital format, it is possible that minor formatting and typographical inconsistencies will still exist in this document.

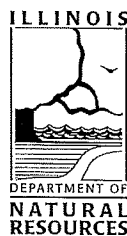
Additionally, due to the constraints of the electronic format chosen, page numbering will vary slightly from the original document.

The original, printed version of this document may still be available.

Please contact WMRC for more information:

**WMRC**  
**One E. Hazelwood Drive**  
**Champaign, IL 61820**  
**217-333-8940 (phone)**

**[www.wmrc.uiuc.edu](http://www.wmrc.uiuc.edu)**



WMRC is a division of the  
Illinois Department of Natural  
Resources

# Pollution Prevention Survey Results for Illinois Association of Wastewater Agency Members



## WMRC Reports

TR-029

April 1997

The complex block contains three vertically stacked elements. The top element is a small line graph with a jagged pattern similar to the larger one on the left. The middle element is a table with a header row and several data rows. The bottom element contains the text 'TR-029', the WMRC logo, and the date 'April 1997'.

[Redacted]									

Prepared by  
**The Illinois Waste  
Management and  
Research Center**

**Pollution Prevention Survey  
Results for Illinois Association  
of Wastewater Agency Members**

Illinois Waste Management and Research Center

This report is part of WMRC's Technical Report Series. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

## EXECUTIVE SUMMARY

The Illinois Waste Management and Research Center (WMRC), working in conjunction with the Illinois Association of Wastewater Agencies (IAWA), surveyed IAWA members in the Spring of 1996 to obtain information necessary to facilitate collaboration on pollution prevention (P2) issues and programs. A total of 62 Illinois POTWs were surveyed to determine: 1) which industries would benefit most from P2, 2) what types of activities would be most effective in promoting P2, and 3) what partnerships could be formed to expedite adoption of P2. This report summarizes the feedback from 33 survey respondents.

Industrial users contributed significant proportions of the overall treatment load to many of the respondent's facilities, averaging 11.8% of the total load for all facilities combined, and ranging from 0% to 78%. All of the respondents discharged their effluent to nearby rivers. Twenty-one percent of the respondents indicated that they adjust fees for waste loads according to the volume of usage, while only 1 of the respondents indicated that fees for exceeding pretreatment limits were an important source of income.

Agricultural application was the preferred method of sludge disposal used by most respondents. However, landfills, distribution and marketing, and other methods were also popular means depending on the POTW size and the proportion of inflow that was received from industrial users. Facilities with higher inflows from industrial users were less likely to use agricultural application and large POTWs were more likely to use landfills in addition to agricultural application than small ones.

Pollutants generated by industrial users of greatest concern to survey respondents included metals, pH, FOG, BOD and total toxics. Mercury, cyanide, and chlorine were also identified as pollutants of concern due to various state and federal regulations. Respondents identified metal finishing sites, electroplating sites and food processing facilities as the industrial operations that generate wastes that cause the most treatment problems. Most POTWs have not adopted waste reduction programs at their facilities, however, most of the respondents have involved some staff in P2.

The vast majority of respondents believed that activities involving direct interaction with industrial facilities to assess industrial processes and identify P2 opportunities would facilitate implementation of P2. Most respondents identified consultants and state agencies as the best technical assistance resources for industrial users. However, more respondents had actually referred, or were "very interested" in referring industrial users to WMRC than any other technical assistance provider. Most respondents felt that their POTW should promote P2 and were also interested in expanding existing P2 efforts.

Many respondents were interested in providing or participating in a wide variety of P2 activities associated with: distributing information; participating in various P2 programs and task forces; incorporating P2 into regulations and enforcement; and, education of the public and industrial users with respect to P2. While many respondents were interested in providing or participating in various activities, relatively few respondents had actually implemented any activities. Therefore, tremendous potential exists for developing programs in cooperation with Illinois POTWs that will facilitate implementing activities to promote P2.

**Pollution Prevention Survey Results for Illinois  
Association of Wastewater Agency Members**

**INTRODUCTION**

In the spring of 1996, the Illinois Waste Management and Research Center (WMRC) working in conjunction with officials from the Illinois Association of Wastewater Agencies (IAWA) decided to survey IAWA members to determine potential areas for effective collaboration between the two organizations. WMRC and IAWA representatives worked together with the Survey Research Lab at the University of Illinois at Chicago to develop a pollution prevention survey which was sent out to 62 Illinois municipalities. The key informational areas that this survey attempted to address are:

- P2 activities that would benefit POTWs and their customers most
- Identification of industries that would benefit most from P2 assistance
- P2 activities and services that POTWs and/or other agencies should offer
- Potential for forming partnerships to facilitate dissemination of P2 principles and techniques

The text and tables provided below attempt to summarize the opinions of the various survey respondents. Any questions or comments regarding the interpretation of this information should be addressed to:

Tim Lindsey, Manager  
Pollution Prevention Program  
Illinois Waste Management and Research Center  
1 East Hazelwood Drive  
Champaign, IL 61820  
(217) 333- 8955

## GENERAL POTW PROGRAM INFORMATION

The POTWs that responded to the P2 survey varied greatly in the volume of wastewater that they treat and the quantities of sludge that they generate. Table 1 provides a summary of daily and dry flows and sludge production data provided by respondents.

**Table 1. POTW Production Parameters**

Parameter	Low	High <sup>1</sup>	Chicago	Average <sup>1</sup>
Daily Flow (MGD)	.24	31.00	1,380	8.99
Dry Flow (MGD)	.22	26.80	910	8.94
Sludge Production (lb/Day)	120	220,000	1,210,400	218.97

<sup>1</sup>Data in these columns do not include Chicago.

All of the respondents reported that they discharge their effluent to a nearby river as opposed to lake or groundwater discharges that are sometimes used by POTWs in other parts of the country. Only 1 of the 33 respondents indicated that fees for exceeding pretreatment limits are an important source of revenue at their facility. Twenty-one percent of the respondents indicated that they adjust fees for waste loads according to the volume of usage.

Industrial users contributed significant proportions of the overall treatment load to many of the survey respondent's facilities. However, some of the respondents indicated that no industry was present in their service area. Table 2 shows that industrial user contribution to the overall treatment load ranged from a low of 0% to a high of 78%. The average industrial user load contribution for all respondents was 11.8%.



**Table 2. Industrial User Summary**

Parameter	Low	High <sup>1</sup>	Chicago	Average <sup>1</sup>
% Flow From Industrial Users	0	78	13	11.8
No. of Industrial Users	0	1,109	4,100	119
No. of Pretreatment Facilities	0	87	609	8
Pretreatment Budget (\$)	0	\$610,772	\$7,019,000	\$81,788
Cost per Industrial User (\$)	0	\$40,000	\$1,712	\$11,832

<sup>1</sup>Data in these columns do not include Chicago.

Commercial users also provided a significant contribution to the overall load managed by responding POTWs, averaging 10.6% of the total treatment load. However, as was the case with industrial users, some POTWs served no commercial users while other POTWs managed commercial discharge wastes that comprised as much as 22% of their total treatment load.

The relative treatment load provided by residential users also varied considerably. Residential users contributed as little as 11% of the total flow to a POTW from a heavily industrialized area while POTWs servicing predominantly suburban bedroom communities received as much as 98% of their flow from residential users. Residential users contributed an average of 72.6% of the total flow for all of the surveyed POTWs. Table 3 provides a summary of flow contributions from commercial and residential users.

**Table 3. Commercial and Residential User Summary**

Parameter	Low	High <sup>1</sup>	Chicago	Average <sup>1</sup>
% Flow From Commercial Users	0	33	6	10.6%
No. of Commercial Users	0	3,768	6,000	828
% Flow from Residential Users	11	98	81	72.6%
No. of Residential Users	1,200	57,250	1,500,000	16,345

<sup>1</sup>Data in these columns do not include Chicago.

As indicated in Table 4, agricultural application was the preferred method of sludge disposal used by most respondents. However, 40% of the medium and 56% of the large sized facilities also used landfills for sludge disposal, while only 14% of the small facilities used landfills. Distribution and marketing and other methods were used by relatively few respondents as methods for sludge disposal.

**Table 4. Methods of Sludge Disposal Used by Various Sized Facilities**

Facility Size <sup>1</sup>	Landfill	Agricultural Application	Distribution & Marketing	Other Methods <sup>2</sup>
0-250 MGD (14)	14%	79%	7%	7%
251-1,000 MGD (10)	40%	70%	10%	0%
> 1,000 MGD (9)	56%	89%	11%	2%

<sup>1</sup>Numbers in parentheses indicate sample size within the category

<sup>2</sup>Includes landfill cover, bio-remediation, and landscaping on public land.

Sludge disposal methods used by respondents were variable depending on the percent of inflow that was received from industrial users. Table 5 suggests that respondents receiving greater than 14% of their flow from industrial users were less likely to use landfills and agricultural application as sludge disposal methods than respondents with lower proportions of industrial users. The respondents receiving higher quantities of industrial discharges were also more likely to pursue other methods of sludge disposal. Respondents that receive less than 2% of their inflow from industrial users were most likely to use agricultural application disposal methods and least likely to pursue other disposal methods.

**Table 5. Methods of Sludge Disposal used by Facilities with Various Levels of Industrial Discharges**

% of Inflow from Industrial Users <sup>1</sup>	Landfill	Agricultural Application	Distribution & Marketing	Other Methods <sup>2</sup>
0 - 2% (11)	45%	91%	9%	9%
3 - 13% (6)	67%	83%	17%	17%
> 14% (8)	25%	63%	0	25%

<sup>1</sup>Numbers in parentheses indicate sample size within the category

<sup>2</sup>Includes landfill cover, bio-remediation, and landscaping on public land.

## **POLLUTANTS AND INDUSTRIES AFFECTING POTW WASTE TREATMENT**

Table 6 provides a summary of various pollutants of concern to the respondents due to regulatory and public concerns. As shown, metals appear to concern POTWs more consistently than most of the other pollutants. Metals were of greatest concern with respect to regulations associated with sludge management, while local discharge limits and NPDES permit constraints were also important considerations. Mercury appeared to be of great concern to respondents with respect to sludge regulations, local discharge limits, and NPDES permits. Cyanide concerned many of the POTWs with respect to NPDES permits and local discharge limits. The vast majority of respondents (75.8%) were concerned with chlorine levels associated with their NPDES permits. Approximately one-third of the respondents were concerned with virtually all of the pollutants with respect to future regulatory concerns.

**Table 6. Pollutants of Concern to POTWs Due to Various Regulatory Concerns<sup>1</sup>**

Regulatory Requirement	Pollutants of Concern To Various POTWs (% of respondents noting pollutant)									
	Mercury	Cyanide	Metals	Pesticides	VOCs	PAHs	Other Organics	Chlorine	Toxicity	Other
NPDES Permits	42.4	48.5	51.5	18.2	15.2	9.1	24.2	75.8	39.4	9.1
Local Discharge Limits	48.5	51.5	54.5	6.1	21.2	6.1	18.2	0	18.2	3
Sludge Regulations	51.5	30.3	78.8	24.2	18.2	12.1	18.2	3.0	21.2	12.1
Air Toxics Regulations	3.0	3.0	3.0	6.1	18.2	9.1	12.1	0	0	0
Future Regulatory Concerns	30.3	24.2	30.3	39.4	36.4	24.2	33.3	27.3	39.4	21.2
Detected Sludge Influent or Effluent	24.2	18.2	42.4	12.1	9.1	3.0	12.1	3.0	9.1	3.0
Public Concerns	15.2	9.1	9.1	15.2	15.2	6.1	6.1	9.1	18.2	0
Other Concerns	3.0	6.1	3.0	0	3.0	0	0	0	0	0

<sup>1</sup>These data represent percentages of respondents that identified these pollutants as a concern with respect to the various regulatory concerns identified.

Table 7 provides a summary of the various types of industrial operations discharging wastes to POTWs that cause treatment problems. As shown, metal finishing and electroplating operations contribute the largest numbers of facilities with discharge problems. A total of 84 metal finishing sites and 60 electroplating sites were identified by respondents as having discharge problems. Specific pollutants of concern from these facilities include various metals (in particular Cr, Cu, Zn, Ni, Cd, Pb, and Ag); pH; fats, oils and grease (FOG); biochemical oxygen demand (BOD) and total toxics (TTO). Food processing facilities also contributed a large number (47) of facilities with discharge problems associated with BOD, FOG, pH and total suspended solids (TSS). Other industry sectors with significant numbers of operations that cause discharge problems for responding POTWs include iron and steel (7), metal molding (4), organic chemicals (4), coil coating (3), and plastics molding and forming (3).

Zinc was the pollutant most frequently noted by respondents as a pollutant of concern, followed by copper; fats, oils and grease; chromium; lead; cyanide; and nickel. Mercury was not noted as frequently as might have been expected based on the data provided in Table 6. However, it should be noted that sources of mercury pollution are most often associated with health care facilities such as hospitals and dental offices and data associated with these facilities was not solicited as part of this survey.

**Table 7. Summary of Industrial Operations with Discharge Problems**

Industry Sector	Total Number of Operations	Operations with Discharge Problems	% of Operations with Discharge Problems	Pollutants of Concern <sup>1</sup>
Metal Finishing	303	84	27.7	Cr, Cu, Zn, Ni, Cd, Pb, Ag, CN, BOD, FOG, pH, TTO
Electroplating	154	60	39.0	Cu, Zn, Pb, Fe, Zn, Cr, Ni, Cd, Ag, pH, CN, TTO
Food Processing	511	47	9.2	Cu, Cr, CN, Fe, Ni, Pb, Hg, Zn, SO <sub>2</sub> , BOD, TSS, FOG, pH, Total Organics
Iron and Steel	53	7	13.2	Zn, Fe, Pb, Cr, Ni, NH <sub>3</sub> , CN, TTO, FOG, TSS Phenol, solvents
Metal Molding (foundries)	12	4	33.3	Cu, Zn, Pb, TSS, BOD, FOG, TTO, NH <sub>3</sub> , phosphates
Organic Chemicals, Plastic and Synthetic Fibers	22	4	18.2	Pb, Zn, CN, NH <sub>3</sub> , COD, TTO
Coil Coating	9	3	33.3	Cr, Cu, Zn, Fl, Mn, CN, TTO, FOG
Plastics Molding and Forming	43	3	7.0	Zn, Fe, Cu, Cr, Ni, Pb, Hg, TSS, FOG, BOD, CN
Leather Tanning and Finishing	3	2	66.7	Cr, pH, SO <sub>2</sub>
Textile Mills	8	2	25.0	Cu, Cr, Fe, Ni, Pb, Hg, Zn, pH, TSS, BOD, FOG, CN
Aluminum Forming	12	2	16.7	Fl, Cr, Zn, CN, FOG, TTO
Printing	59	2	3.4	Ag, Cu, Cr, Fe, Ni, Pb, Hg, Zn, pH, CN, FOG, solvents
Battery Manufacturing	1	1	100	Cr, Hg, Ni, Ag, Cu, Zn, Mn, Cd, Co, Pb, CN
Petroleum Refining	1	1	100	Cr, NH <sub>3</sub> , FOG
Porcelain Enameling	2	1	50.0	Zn, Cr, Pb, Ni

**Table 7. Continued**

Industry Sector	Total Number of Operations	Operations with Discharge Problems	% of Operations with Discharge Problems	Pollutants of Concern <sup>1</sup>
Pulp, Paper, and Paperboard	6	1	16.7	TSS, BOD, TTO, color
Nonferrous metal forming	6	1	16.7	Fe, <b>Zn</b> , As, Cu, Ni, Pb, Cd, Fl, Sb, Hg, Be, Cr, Mo, Co, Ag, Au, NH <sub>3</sub> , Toluene, TTO, CN
Pharmaceutical Manufacturing	10	1	10.0	CN
Electrical/Electronic Components	20	1	5.0	As, Cd, Cr, Fl, Zn, Sb, <b>Pb</b> , Cu, Solvents
Inorganic Chemicals	6	0	0	Zn, Cu, Pb, Ni, Cr, Fe, Se, Ag, Fl, Sb, As, Hg, CN, <b>pH</b> , Specialty Chemicals
Timber Product Industry	4	0	0	Phenol, Creosote
Rubber Processing	2	0	0	Pb
Copper Forming	1	0	0	Cu, Cr, Pb, Ni, Zn, TTO, FOG
Steam Electric Power Generating	1	0	0	Cd, Fe, Hg, Zn, pH, TSS
Pesticides	1	0	0	
Buildings Paper and Board Mills	0	0	0	
Other <sup>2</sup>	36	9	25.0	Numerous

<sup>1</sup> Pollutants in bold print were noted on more than 1 survey.

<sup>2</sup> Includes the following operations: hospital, distillery, commercial laundry, hospital, photo processing, industrial cleaner, centralized waste treatment facility, slaughterhouse, metal stamping, laboratory, glassworks, groundwater treatment facility, restaurant

## EXISTING POTW WASTE REDUCTION PROGRAMS

As indicated in Table 8, waste reduction programs have not been widely adopted within the internal operations of most POTW facilities. Laboratory operations and building or grounds maintenance were the activities that respondents identified most frequently as areas where they have implemented waste reduction programs (39.4% each). POTW process or material substitutions were implemented by 18.2% of the respondents.

**Table 8. % Of Respondents With Waste Reduction Programs At Their Facilities**

<b>Area With Waste Reduction Program</b>	<b>% of Respondents With Program in Specific Area</b>
Laboratory Operations	39.4
Building or Grounds Maintenance	39.4
POTW Process Changes or Material Substitutions	18.2
Other <sup>1</sup>	9.1

<sup>1</sup>Includes process water substitution for potable water in operations and chemical supplier management and reuse of unused chemicals

Table 9 provides a summary of the numbers of POTW staff that are involved in P2 activities. As shown, pretreatment coordinators are involved with P2 activities in 15 of the 33 responding POTWs. Inspectors are involved in P2 in 10 of the surveyed operations, while operators participate in P2 at 7 of the POTWs. Engineers and communications/public relations personnel are involved in P2 at 1 facility each. None of the respondents indicated that their facility employed a P2 specialist.



**Table 9. Staff Members Involved in P2 Activities**

<b>Job Title</b>	<b>Number of Staff Involved</b>	<b>Number of Facilities</b>
Inspectors	4	1
	2	4
	1	5
	0	23
Operators	29	1
	17	1
	11	1
	8	1
	4	2
	3	2
	1	2
0	23	
Engineers	1	2
	0	31
Pretreatment Coordinators	1	15
	0	18
Communications/Public Relations	1	3
	0	30
P2 Specialist	0	33
Other <sup>1</sup>	32	1
	9	1
	1	1

<sup>1</sup> Includes Maintenance personnel, Chemists, and Director of Waste Treatment Facilities

**ACTIVITIES AND ORGANIZATIONS FOR PROMOTING POLLUTION PREVENTION**

Table 10 provides a summary of activities that respondents believe would facilitate the implementation of P2 practices. It is noteworthy that the top two identified activities involve direct interaction with industrial facilities to assess industrial processes and identify P2 opportunities. A second tier of respondents (activities 3 through 5) suggest that P2 could be effectively promoted through distribution of various documents, such as: guidance documents for specific

industries, strategies for incorporating P2 into business plans, and case histories regarding successful P2 projects. Activities 6 and 7 were focused on seminars and training for trade groups and POTW personnel. Other activities identified by approximately half of the respondents included waste reduction audit training, outreach information, and characterization of discharges.

**Table 10. Activities that Respondents Believe Would Facilitate Implementation of P2**

	<b>Activities</b>	<b>% of Respondents</b>
1.	Detailed Assessments at Industrial Facilities	87.9
2.	On-Site Presentations at Industrial Facilities to Identify P2 Opportunities	81.8
3.	Guidance Documents for Specific Industries	78.8
4.	Action Plans for Incorporating P2 into the Business Plan of a Corporation	75.8
5.	Case Histories Regarding Successful P2 Projects	69.7
6.	P2 Seminars for Trade Groups	63.6
7.	On-site P2 Training for POTW Inspectors, Staff, and Managers	60.6
8.	Waste Reduction Audit Training	57.6
9.	P2 Outreach Information	57.6
10.	Characterization of Commercial and Residential Discharges	48.5
11.	Other	3.0

Tables 11 and 12 summarize where respondents believe P2 technical assistance should come from (Table 11) and the respondents' interest level in referring users to experts from various groups (Table 12). The information in these tables appears to conflict. In Table 11, respondents identified consultants as the preferred source of P2 technical assistance. Table 12 indicates that over half (54.6%) of the respondents either have already made referrals to WMRC or are "very interested" in doing so. Consultants were only half as popular (27.3% had already made referrals or are "very interested" in doing so) as WMRC according to the Table 12 data. The reason for this discrepancy is unclear. However, these results may be related to the fact that WMRC has actively promoted its technical

assistance resources to various Illinois POTWs. It is noteworthy that in both tables federal agencies (Table 11) and USEPA (Table 12) were the lowest rated technical assistance resource.

**Table 11. % of Respondents Identifying Resources that Should Supply P2 Technical Assistance**

<b>Technical Assistance Resource</b>	<b>% of Respondents Identifying Resource</b>
Consultants	69.7
State Regulatory Agencies	60.6
State Nonregulatory Agencies	60.6
POTWs	48.5
Federal Agencies	30.3
Other <sup>1</sup>	12.1

<sup>1</sup>Includes trade organizations and not-for-profit organizations

**Table 12. % of Respondents Interested in Referring Users to Various Technical Assistance Resources**

<b>Technical Assistance Resource</b>	<b>% of Respondents With High Interest Level in Referring Users to Resource<sup>1</sup></b>
Experts at WMRC	54.6
Experts that Work in Industry or Trade Groups	33.3
Experts that Work as Consultants	27.3
Experts at IEPA	24.3
Experts at USEPA	21.2

<sup>1</sup>% of respondents that have either made referrals to these resources or noted that they are "very interested" in doing so

Some of the respondents indicated that they already offer P2 technical assistance to their users. Table 13 shows that smaller POTWs (less than 250 mgd) were almost twice as likely to provide technical assistance than were users from medium and large sized POTWs. The smaller POTWs also indicated more frequently that they felt their operations should be involved in promoting P2.

**Table 13. P2 Technical Assistance Offered by POTWs of Various Sizes**

<b>Facility Size</b>	<b>% of Respondents that Offer P2 Technical Assistance</b>	<b>% of Respondents that Feel their Agency Should Promote P2</b>
Small (0 - 250 mgd)	38%	71%
Medium (251 - 998 mgd)	20%	50%
Large (999 - 3,100 mgd)	22%	67%
<b>Total</b>	<b>27%</b>	<b>64%</b>

Table 14 indicates that POTWs which accept higher percentages of their inflow from industrial users are more likely to be interested in expanding their P2 efforts. Additionally, most of the respondents indicated that they felt their facility should promote P2 to their industrial users.

**Table 14. % of Respondents with High or Moderate Interest in Expanded P2 at Their Facility**

<b>% of Flow Contributed by Industrial Users</b>	<b>% of Respondents with High or Moderate Interest in Expanded P2 at their Facility</b>	<b>% of Respondents that Feel their Facility Should Promote P2 to Industrial Users</b>
0 - 2% of total flow (44% of respondents)	55%	73%
3 - 13% of total flow (24% of respondents)	67%	67%
> 14% of total flow (32% of respondents)	100%	75%
<b>TOTAL</b>	<b>72%</b>	<b>72%</b>

Few of the respondents indicated that they require P2 plans from their various industrial users. According to Table 15, The most common condition that respondents require a P2 plan for involved selected industries or industrial categories (18.2%) followed by spill contingency plan discharges (15.2%). Solvent management and enforcement action settlements required P2 plans for 12.1 and 9.1% of the respondents respectively. P2 plans were required as a condition of all permit renewals by 2 of the respondents.

**Table 15. % of Facilities that Require P2 Plans for Specific Conditions**

Condition Requiring P2 Plan	POTWs that Require P2 Plan	
	Number	%
Selected Industries or Industrial Categories	6	18.2
Spill Contingency Plan Discharges	5	15.2
Solvent Management	4	12.1
Enforcement Action Settlements	3	9.1
All Permit Renewals	2	6.1
Other	1	3.0

Table 16 provides a summary of P2 activities that respondents were interested in providing or participating in. As shown, respondents were "somewhat" or "very" interested in a wide variety of topics. However, very few of the respondents have actually implemented any of the activities. Respondents were most interested in providing/participating in specific P2 topics associated with providing information to industry and commercial businesses to help them reduce waste. Participating in household hazardous waste collection programs was another P2 activity that respondents showed relatively strong interest in. Participating in a consortium with government agencies to provide technical assistance and participating in a community task force on P2 were both identified by over half of the respondents as activities that they are "somewhat" or "very" interested in. Based on the relatively high interest levels in some of these proposed activities and the relatively low implementation rates, it would appear that some of these activities would offer strong potential for promoting P2 through POTWs.

**Table 16. Respondents Interested in Providing/Participating in Specific P2 Topics**

<b>P2 Activities</b>	<b>% of Respondents With High or Moderate Interest Level in Topics<sup>1</sup></b>	<b>% of Respondents that Have Already Implemented the Topics</b>
Providing Information to Industry and Commercial Business to Help Them Reduce Waste	63.6	3.0
Participate in Household Hazardous Waste Collection Programs	60.7	9.1
Participate in a Consortium with Government Agencies, Universities, etc. to Provide Technical Assistance for Waste Reduction	51.6	0
Participate in a Community Task Force on P2	51.6	0
Require P2 Plans for Spill Contingency Plans	48.5	6.1
Require P2 Plans for Enforcement Action Settlements	48.5	0
Require P2 Plans for Solvent Management	45.4	6.1
Provide Technical Assistance to Commercial Users to Help Them Implement P2 Activities	42.4	3.0
Promote Waste Minimization Techniques with Chemical Suppliers, Trade Associations, and Other Groups through the Use of Alternative Chemicals	42.4	3.0
Provide P2 Audits/Assessments to Industry and Commercial Business to Aid in Reducing Problem Wastes	39.4	3.0
Provide a Technical Assistance Library for Dischargers	39.4	3.0
Encourage Voluntary P2 from Industrial Dischargers Through a 33/50 Type of Program	33.3	0
Require P2 Plans for Selected Industries or Industrial Categories	30.3	3.0

<sup>1</sup>% of Respondents that noted they were "somewhat" or "very" interested in these topics

Table 17 summarizes education activities that respondents identified as being of "strong" or "moderate" interest to them. Public education regarding household hazardous waste reduction was clearly the activity that respondents were most interested in providing or participating in. Other potential activities with strong to moderate interest involved distributing success stories, including articles in newsletters, sponsoring workshops and compiling success stories. Although a reasonable amount of interest was identified with respect to these activities, it is noteworthy that very few respondents had actually implemented any of them.

**Table 17. Respondents Interested in Providing/Participating in Specific P2 Education Activities**

<b>Education Activity</b>	<b>% of Respondents With High or Moderate Interest Level in Activities<sup>1</sup></b>	<b>% of Respondents that Have Already Implemented the Activities</b>
Providing Public Education on Household Hazardous Waste Reduction	51.5	0
Distributing P2 Success Stories	33.4	3.0
Including P2 Articles in Newsletter or Contribute to Other Newsletters	30.3	3.0
Sponsoring a P2 Workshop or Video Teleconference	21.3	3.0
Compiling P2 Success Stories	21.3	3.0
Hosting a P2 Exhibition or Fair	15.1	3.0
Organizing or Participating in a P2 Speakers Bureau	12.2	6.1

<sup>1</sup>% of Respondents that noted they were "somewhat" or "very" interested in these topics

Some of the respondents expressed interest in incorporating P2 into pretreatment and enforcement programs (Table 18). Incorporation of a P2 clause into pretreatment ordinances was the most popular activity identified by the respondents. However, relatively strong interest was also identified in activities associated with incorporating P2 into the permitting process, industrial inspections, permit applications and permit renewals. Again, although relatively strong interest was expressed with respect to these activities, few of the respondents had actually implemented any of them.

**Table 18. Respondents Interested in Topics Regarding Incorporation P2 into Pretreatment and Enforcement**

<b>Pollution Prevention Activity</b>	<b>% of Respondents With High or Moderate Interest Level in Activities<sup>1</sup></b>	<b>% of Respondents that Have Already Implemented the Activities</b>
Incorporating a P2 Clause into Pretreatment Ordinances	42.5	6.1
Incorporating a P2 Clause into Permitting Process	39.4	3.0
Incorporating P2 Advice into Industrial Inspections	36.4	18.2
Requiring P2 Plans for all New Permit Applications	33.3	6.1
Requiring P2 Plans for All Permit Renewals	27.3	6.1

<sup>1</sup>% of Respondents that noted they were "somewhat" or "very" interested in these topics

As shown in Table 19, some of the respondents expressed "high" or "moderate" interest in participating in certain incentive and recognition activities related to P2. Encouraging, sponsoring, or participating in an economic incentive program for P2 was the most popular activity identified. However, respondents also expressed some interest in P2 award programs, reduction of sampling/reporting requirements for respondents with P2 plans, and declaring a formal P2 day, week or month. As was the case with the activities identified in Tables 16 through 18, very few of the respondents had actually implemented any of these activities.



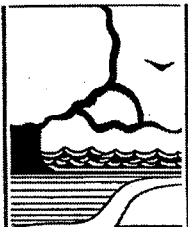
**Table 19. Respondents Interested in Topics Regarding Incentives and Recognition for P2**

<b>Incentive and Recognition Activity</b>	<b>% of Respondents With High or Moderate Interest Level in Activities<sup>1</sup></b>	<b>% of Respondents that Have Already Implemented the Activities</b>
Encouraging, Sponsoring or Participating in an Economic Incentive Program for P2	33.3	0
Creating or Sponsoring a Local P2 Award Program	30.3	0
Reducing Sampling and Reporting Requirements for Industrial Permittees Who Implement P2 Plans	27.3	9.1
Declaring a Formal P2 Day, Week, or Month	27.3	0

<sup>1</sup> % of Respondents that noted they were "somewhat" or "very" interested in these topics

**CONCLUSIONS**

Results of this survey suggest that a wide variety of industries that impact POTWs would benefit from P2. Additionally, many of the most problematic pollutants identified by respondents could be reduced through P2 measures. Most POTWs are interested in participating in numerous activities to promote P2, however, their involvement in P2 to date has been relatively limited. Tremendous potential exists with respect to utilizing POTWs as conduits to promote P2 at industrial facilities. Providers of P2 technical assistance need to work more closely with POTWs to coordinate efforts associated with promoting P2.



Illinois  
Department of  
**Natural Resources**

---