
ANNUAL PERFORMANCE REPORT

1994

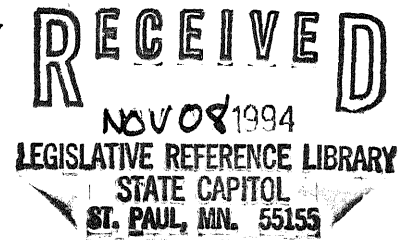
POLLUTION
CONTROL
AGENCY

Prepared: September 15, 1994

Questions, comments should be directed to:

Name: Elaine Johnson
Title: Administrative Services Division Manager
Pollution Control Agency
Address: 520 Lafayette Road St. Paul, MN
Phone: 296-7224

CONTENTS/INDEX
Pollution Control Agency



AGENCY SUMMARY

	<u>Page</u>
PROGRAM 01: Water Pollution Control	
Summary	3
Objectives/Measures	9
PROGRAM 02: Air Pollution Control	
Summary	24
Objectives/Measures	28
PROGRAM 03: Ground Water Protection and Solid Waste Management	
Summary	43
Objectives/Measures	47
PROGRAM 04: Hazardous Waste Management	
Summary	59
Objectives/Measures	66
PROGRAM 06: Policy and Operations Support	
Summary	84
Objectives/Measures	87

AGENCY: Pollution Control

MISSION:

To protect Minnesota's environment to secure the quality of life of its citizens.

GOALS:

- To ensure clean, clear, odorless air; fishable and swimmable water; uncontaminated soil and ground water;
 - To be well-managed through strategic planning, improved operations, fostering innovation, securing adequate funding, and progressive human resource management; and
 - To provide services that are responsive to our customers: the public, regulated community, local units of government and environmental groups; and our overseers: the Citizens' Board, the Governor, the State Legislature, Environmental Protection Agency and Congress.
-

Table 1:

<u>Program</u>	<u>Estimated Expenditures (\$ in Thousands)</u>	<u>Percent of Total</u>	<u>FTE Staff Positions</u>	<u>Percent of Total</u>
01 - Water Pollution Control	\$15,923	20	185.5	24
02 - Air Pollution Control	19,835	25	147.8	19
03 - Ground Water and Solid Waste	22,941	29	186.0	24
04 - Hazardous Waste Management	11,908	15	158.5	21
06 - Policy and Operations Support	8,166	11	90.9	12
<u>Totals</u>	\$78,773	100	768.7	100

ORGANIZATION:

The agency is organized into an administrative support group and 4 divisions that deal with the following operational activities: 1) control of water pollution, 2) control of air pollution, 3) protection of ground water and management of solid waste and 4) management of hazardous waste. The air and water programs are organized in the following manner: environmental assessment and direction; point sources of pollution; and nonpoint sources of pollution. The waste programs are organized by environmental assessment and direction; facilities management; and cleanup.

WAYS TO IMPROVE PROGRAM OUTCOMES:

There are several areas in which changes may be made to improve the outcomes of various programs or processes of the agency.

As a scientific, regulatory body, the agency's decisions can only be as good as the data and information on which they are based. It is critical that the agency be in a position to collect valid and complete data. To this end, the agency needs to increase its capability to assess the state of the environment and to measure the results of its programs and activities. This objective could be accomplished by improved systems for environmental monitoring and the establishment of environmental and programmatic indicators and benchmarks.

Since environmental needs will outnumber the state's resources, prioritization of goals and objectives is necessary for any progress to be made. The agency needs to ensure that its resources are dedicated to the issues that have been determined to be the most significant threats to the environment or human health. A comparative risk study is now under development at the agency to identify Minnesota's most significant environmental issues. The agency has also completed a strategic planning process that should enhance its ability to prioritize issues and shift resources to meet these priorities.

The environment is a holistic system where pollutants are readily transferred among air, water and soil. The organizational structure of the agency into air, water, and waste divisions constructs barriers to shared information among the programs designed to protect the environment. An information management system that removes these artificial barriers so that there is a free exchange of and access to data, results and information could substantially enhance the environmental decisions and thus outcomes of the agency. A computer system is under development at the agency that should accomplish this goal by the end of the decade.

The agency is beginning to realize the importance of understanding its customers' needs and redesigning programs or objectives that better meet these needs. This effort should help agency programs and activities stay on target to achieve mutually desired goals.

WATER POLLUTION CONTROL

Program Drivers:

- Using water quality assessments to guide planning, priorities, decisions
- Employing a balanced set of incentives to protect water quality
- Integrating water quality efforts through basin management
- Establishing effective partnerships with other agencies and organizations
- Nurturing citizen stewardship of water resources

OBJECTIVE 1-1: To focus resources and water pollution control efforts on the Minnesota River basin to accelerate cleanup and restoration.

Measure 1: Monitoring resources focused on the Minnesota River.

Measure 2: The number of citizen participation activities and partnership projects underway.

OBJECTIVE 1-2: To expand and strengthen the overall capabilities of the water program for monitoring and assessment.

Measure 1: The number of permanent automated, ambient and other monitoring sites.

OBJECTIVE 1-3: To maintain the gains in limiting the amount of conventional and toxic pollutants discharged by major point sources.

Measure 1: Pollutants discharged by major industrial and municipal point sources in millions of kilograms.

Measure 2: Percentage of conventional pollutants removed by major municipal treatment facilities.

Measure 3: Amount of toxic compounds discharged by industrial and municipal point sources.

OBJECTIVE 1-4: To reduce the exposure of humans and wildlife to concentrations of toxic chemicals in water and fish tissue so that the potential adverse effects of the chemicals is reduced.

Measure 1: The levels of toxic pollutants in various fish species and selected bodies of water.

OBJECTIVE 1-5: To increase the use of partnerships and cooperative efforts to address water quality problems.

Measure 1: The number of cooperative efforts and partnerships in projects and monitoring for pollution cleanup.

OBJECTIVE 1-6: To ensure that point sources have a high degree of compliance with their permitted discharge limits.

Measure 1: Percent of major point sources in significant compliance with their effluent limits.

Measure 2: Number of compliance inspections completed at major and minor point sources.

Measure 3: Number of municipal wastewater treatment operators receiving training and awards for plant operation.

SUMMARY

AGENCY: Pollution Control Agency
PROGRAM: 01 - Water Pollution Control

EXPENDITURES AND STAFFING (F.Y. 1994)

(\$ in Thousands)

Total Expenditures: \$ 15,923

From State Funds \$ 10,235

From Federal Funds \$ 5,688

Number of FTE Staff: 185.5

PROGRAM GOALS:

- To assure that the quality of Minnesota's lakes and streams meets or exceeds that needed to fulfill the uses desired by the citizens of Minnesota (M.S. 115.03);
- To prevent and control the adverse effects of point and nonpoint pollution on surface waters. (M.S. 115.03); and
- To assess water quality to provide information and data upon which to make social, financial, technical and environmental management decisions (M.S. 115.03).

DESCRIPTION OF SERVICES:

Environmental Assessment and Direction. The environmental direction provided by this service is being shifted to a watershed management approach. The nine major basins and their watersheds will be assessed to determine the condition of the water and the causes of nonattainment of desired water quality. The basins and their watersheds will be prioritized

for program action. This management system will integrate industrial and municipal point source pollution control with nonpoint source pollution control to attain the desired water quality in the most efficient and effective manner.

The agency monitors and assesses the condition of Minnesota waters to determine if program outcomes are effective and program goals are being met. More comprehensive monitoring stations are needed statewide, as well as more accurate and efficient assessment methods (i.e., biological criteria determination, statistical measurement and indexing) of determining water quality. The program determines the incidence and effects of toxics on lakes and streams and reevaluates water quality standards. The program is developing overall, major river basin management (e.g. Upper Mississippi, Red River, etc.) as a comprehensive approach to managing and improving surface water resources.

Regulation of Municipal and Industrial Point Source Discharges to Surface Waters. This service is responsible for issuing permits, monitoring permitted discharges, providing technical and compliance assistance, and undertaking enforcement actions where appropriate to ensure permit compliance by municipal and industrial dischargers. The activity provides extensive training services and compliance assistance to wastewater treatment system managers and operators. The activity provides financial assistance for wastewater collection and treatment and for stormwater and infiltration separation through the State Revolving Fund and Wastewater Infrastructure Fund, which are administered through the Public Facilities Authority and the Combined Sewer Overflow correction program. This service provides financial assistance, technical assistance and training for septic tank systems.

Controlling and Reducing Nonpoint Sources of Polluted Runoff. A hallmark of the Water Program is the development of innovative, cooperative research and restoration projects for the determining and controlling the sources, causes, and effects of nonpoint source pollution. The activity undertakes cooperative watershed management projects statewide with local units of government and reduce pollution from nonpoint sources. Technical and financial assistance is provided through the state Clean Water Partnership Program, State Revolving Fund and the federal Clean Lakes Program. The activity is responsible for the Minnesota River Assessment and Implementation Projects to reduce the effects of nonpoint pollution in the Minnesota River Basin. The activity regulates feedlots, including permitting and certification, provides technical and compliance assistance, and undertakes enforcement actions where appropriate.

The protection of wetlands and regulation of stormwater runoff is an important function of the water program. The agency also cooperates with the EPA, Wisconsin, Michigan and Ontario in the binational program to protect and improve the water quality of Lake Superior.

BACKGROUND INFORMATION:

MEASURES OF ACTIVITIES (A), WORKLOAD (W), UNIT COSTS (UC) OTHER DATA (O)

<u>Type</u>	<u>Measure</u>			
	Minnesota's Water Wealth			
O	<u>Quantity of Surface Water:</u>			
	Major River Basins	9		
	Total River Miles	91,944		
	Total Lake Acres	3,290,101		
	Total Number of Lakes	11,842		
	Wetland Acres	7,500,000		
O	<u>Uses of Minnesota Waters:</u>			
	<u>Classified Use</u>	<u>Rivers</u>	<u>Lakes</u>	<u>Lake Superior</u>
		(Miles)	(Acres)	(Shoreline Miles)
	Aquatic Life	91,144	3,290,101	272

Domestic Consumption	3,900	636,600	272
Recreation	91,144	3,290,101	272
Agriculture & Wildlife	91,144	3,290,101	272
Industrial Consumption	91,144	3,290,101	272
Aesthetics & Navigation	91,144	3,290,101	272
Limited Resource Value	800		
Nondegradation	90,344	3,290,101	272

A Support for Aquatic Life and Recreational Uses:

The amount of water in Minnesota makes assessment of our water resources, which is monitoring of water quality and evaluation of the data collected, a most difficult challenge. Only 4% of the state's river miles and 15% of our lakes (53% of lake acreage) are currently assessed. Current information is not representative of statewide water quality because sites for monitoring are selected with specific purposes in mind, often in areas where pollution is known or expected. To produce estimates of statewide water quality that have a known degree of accuracy would require monitoring at a statistically representative set of lakes and streams. Aquatic life and recreation are two key uses of water:

<u>Use</u>	<u>Fully Support This Use</u>	<u>Does Not Fully Support Use</u>	<u>Assessed for this use</u>	<u>Total Assessed</u>	<u>State Total</u>	<u>Percent Unassessed</u>
Aquatic Life (River Miles)	67%	33%	1,649*	3,440*	91,944	96%
Recreation (River Miles)	41%	59%	1,628	2,745**	91,944	97%
Recreation (Lake Acres)	80%	20%	1,751,205	1,751,205	3,291,101	47%
Recreation (Lake Numbers)				1813	11,742	85%

* Based on select set of permanent stations.

** Includes permanent stations and short-term stations

Trends in Water Quality

A Assessed River Miles which over the Last Ten Years Have:

	<u>River Miles</u>	<u>Percent of Total</u>
Improved in water quality	445	32%
Remained unchanged in water quality	869	63%
Degraded in water quality	68	5%
River miles for which we can determine trends	1,392	2%
River miles for which trend is unknown	90,552	98%

Because these miles represent a consistent set of sites which are a very small percentage of Minnesota's river miles, they do not necessarily represent water quality in all Minnesota rivers.

A Assessed Lake Acres and Number of Lakes which have for the Past Eight Years:

	<u>Lake Acres</u>	<u>Percent of Total</u>	<u>Number of Lakes</u>	<u>Percent of Total</u>
Improved in water transparency	116,195	47%	44	29%
Remained unchanged in water transparency	126,099	50%	95	63%
Degraded in water transparency	6,769	3%	13	8%
Lake acres/numbers for which we can determine trends	249,063	8%	152	2%
Lake acres/numbers for which trend is unknown	3,041,038	92%	11,590	98%

These figures represent lakes where we have eight or more years of transparency data and are not necessarily representative of all lakes in Minnesota.

Sources to and Regulation of Toxic and Conventional Pollutants in Water

O Mercury from Air and Water Sources:

	<u>Discharged by Water Point Sources</u>	<u>Deposited from Atmosphere (air emissions sources and natural sources)</u>
	<u>Pounds/year</u> <u>Percent of total</u>	<u>Pounds/year</u> <u>Percent of Total</u>
Mercury	30 0.5%	5,000 99.5%

A Point Source Water Permits in F.Y. 94:

	<u>Number of Major Permits</u>	<u>Number Backlogged</u>
Municipal	54	17
Industrial	27	3
	<u>Number of Minor Permits</u>	<u>Number Backlogged</u>
Municipal	696	282
Industrial	432	121
Total	1,200	423

W Regulation of Municipal and Industrial Point Source Discharges to Surface Waters:

	<u>FY 1992</u>	<u>FY 1993</u>
Number of NPDES major facility permit issued or reissued	9	12
Number of NPDES minor facility	116/114	268/144

1994 Annual Performance Report

permits issued/reissued		
Number of Notices of Violation	27	22
Number Administrative Penalties	10	23
Number of Consent Decrees	5	0

W Number of Feedlot Certificates Issued and Animal Units Covered:

		<u>1992</u>		<u>1993</u>		<u>1994</u>
<u>Animal Units*</u> <u>In Feedlots</u>	<u># Issued</u>	<u>Animal Units</u> <u>Covered</u>	<u># Issued</u>	<u>Animal Units</u> <u>Covered</u>	<u># Issued</u>	<u>Animal Units</u> <u>Covered</u>
0-50	48	1,499	77	2,459	150	5,000
51-100	79	6,074	183	13,957	370	28,000
101-200	109	15,869	204	29,533	410	60,000
201-300	59	14,475	104	22,691	210	45,000
301-500	55	20,990	121	46,404	240	92,000
501-750	34	14,576	60	36,729	120	73,000
751-1000	18	15,226	43	37,248	90	74,000
1001-1500	17	20,178	24	28,898	50	58,000
1501-2000	9	16,164	21	35,726	40	71,000
2001-4000	1	2,050	4	10,532	8	21,000
Over 4000	0	0	1	4,500	2	9,000
Total	429	127,101	842	268,677	1,690	536,000

*An animal unit is the waste (manure) produced by: 1) 1 slaughter steer; 2) 2-1/2 swine; Or 3) 100 chickens.

PROGRAM DRIVERS:

To protect and improve Minnesota's surface water quality by:

- **Integrating water quality efforts through basin management.** Water quality problems result from a complex mix of pollution sources. To most effectively meet our goals for water quality with limited resources, we need to work with each other and our partners to identify priority water quality problems and concerns, and then develop and implement a range of program strategies that are appropriate to each particular situation. River basin management provides a framework for focusing on the water resources in a specific hydrologic area and linking all monitoring, assessment, point and nonpoint source efforts around a common set of goals and priorities for that area.
- **Using water quality assessments to guide planning, priority setting and decisionmaking.** Physical, chemical and biological measurements are used to determine the conditions of water quality, investigate problems and evaluate the effectiveness of our actions. These assessments, along with an analysis of costs and environmental benefits, should be used to guide planning, priority setting, legislative initiatives, resource allocation and other programmatic decisionmaking. It will be important to focus new resources on our statewide monitoring and assessment program, which currently does not provide adequate coverage. We recognize that cases will occur where data do not exist and cannot be gathered in a reasonable time or cost, and we may need to rely on our best professional judgment.
- **Establishing partnerships with other agencies and organizations to develop effective programs in response to water protection goals, including those of the Clean Water Act.** Successful pollution control relies on organiza-

tions working together to achieve environmental goals. For these efforts to be successful, we must establish effective partnerships which include open communication, decisionmaking based on complete and accurate information and active solicitation of feedback from our clientele concerning our programs and operations. The agency is responsible for developing and administering a variety of programs including monitoring, standard setting, permitting, training, technical and financial assistance, and enforcement of point and nonpoint sources of pollution to equitably abate all sources of pollution.

- **Employing a balanced set of incentives to protect water quality, including information, education, technical assistance, financial assistance and enforcement.** Water quality problems are complex and must be addressed on a case-by-case basis. There are a variety of tools that can be used to achieve environmental goals, and it is necessary to use these in a balanced and progressive approach, recognizing that our goal is compliance with regulations and permits.
- **Nurturing citizen stewardship of water resources.** Water pollution results from the activities of individuals. Pollution prevention, control and water quality improvement must also start with action by public facilities, industry and individuals. The Water Pollution Control Program must promote the role and responsibility of citizens in the cause and solution of these problems by providing information on what causes water quality problems and what nonpolluting alternatives and practices are available.
- **Maintaining gains in water quality.** In the past 25 years, the division's efforts have been responsible for many improvements in water quality, especially in the point source arena. Minnesota has invested over a billion dollars in municipal and industrial wastewater treatment infrastructure. Dramatic improvements in the Rainy River, the St. Louis River, the Mississippi River in the Twin Cities area and Lake Bemidji are well known examples of the environmental successes from this investment. Although programs will change and new programs will emphasize controls on nonpoint source pollution, we must not allow backsliding of the point source water quality improvements that have been achieved. We should continually evaluate our programs and their effectiveness in achieving our goals.

AGENCY: Pollution Control Agency
PROGRAM: 01-Water Pollution Control

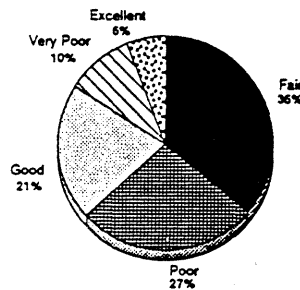
OBJECTIVE, MEASURE

Objective 01-01: Focus resources and water pollution control efforts on the Minnesota River basin to accelerate cleanup and restoration.

Measure (1): Monitoring resources focused on the Minnesota River.

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Chemical Monitoring	63	17	17	17		
River Miles Assessed	94.8	0	95.6	0		
Biological Monitoring	45	0	0	0		
Stream Miles Assessed	943	0	800	0		

**Minnesota River Basin
Fish Community Health 1994**



DEFINITION, RATIONALE, DATA SOURCE:

The Minnesota River is the largest tributary to the Mississippi River and is one of Minnesota's most highly polluted waters. Pollution from nonpoint sources is the primary cause of its current condition. In 1989, the Minnesota River Assessment Project was established to study for four years the effects and causes of nonpoint source pollution on the river. Intensive analysis of chemical and biological parameters identified the extent and sources of the problems. One of the primary goals was to establish improvement of water quality objectives for individual tributaries and sites along the main stem of the river. The study was a springboard for water quality cleanup and improvement projects. Evaluation of pilot projects effectiveness is occurring but evaluations are incomplete at this time and no conclusions can be finalized. Fish communities were evaluated at 116 sites in the Minnesota River Basin. Information from historical records and the least impacted sites was used to develop a ranking system (Index of Biotic Integrity). This index gives us information on the health and make-up of the biological community assessed. Data were obtained from records within the water program, universities, other agencies and local partners.

DISCUSSION OF PAST PERFORMANCE:

The first phase of the program which is assessment, objective establishment and source identification, is completed. The next phase of implementing improvement and cleanup projects has begun.

PLAN TO ACHIEVE TARGETS:

Monitoring and assessment needs to continue throughout the duration of the program to determine the effects and improvements which will occur due to the pollution control activities. Water quality modeling and interpretation of the results of various pilot watershed projects in the basin is underway and will guide the future efforts in the basin. Various BMP's will be tested and recommended in the next phase of this ten year effort to clean up the river. Clean Water Partnerships will be a major mechanism to use local resources to achieve basin-wide goals.

OTHER FACTORS AFFECTING PERFORMANCE:

The Minnesota River basin is a very large geographical area (approximately 20% of the state) which requires a large amount of effort to address the diverse and complex pollution problems which it contains. This is also the water program's first attempt at comprehensive basin-wide assessment and targeted programming within key watersheds to achieve water quality goals through local partnerships. A ten year commitment has been made to clean up this river basin; this effort is a national model. A great deal of information and experience as to what works and what doesn't work is being gained and the program is continually changing to benefit from that experience.

Measure (2): The number of citizen participation activities and partnership projects underway.
--

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Advisory Committees	3	4	4	4e		
Clean Water Partners	8	10	9	9e		
Active School Programs	6	15	15	15e		

Blue Earth Basin River Initiative:

The Blue Earth River basin includes approximately one-fifth of the land area in the Minnesota River basin. Five counties in the Blue Earth basin are working together through a joint powers board with the Board of Water and Soil Resources to implement best management practices in this portion of the basin. Funding is provided through the MPCA and the Legislative Commission on Minnesota Resources. A different project has been designed in each county to experiment with varied approaches. The following efforts are underway:

<u>County</u>	<u>Project</u>
Blue Earth	Manure Nutrient Testing and Feedlot Runoff Treatment System
Faribault	Buffer strips along ditches and streams

Martin	Buffers for surface intakes
Waseca	Ditch buffers
Watsonwan	Septic system upgrade

Additional Education/Outreach/Citizen Participation Activities:

	<u># Meetings</u>	<u># People Attending</u>
1991 Public Meetings	3	125
1994 Open Houses in Minnesota River Basin	4	330

Quarterly newsletter River Reach 1992-1994: Mailing list of 1,500

Speaking engagements/Minnesota River 1990-1994: 250

Minnesota River Multimedia Compliance Assistance Project:

A compliance assistance project targeted for the Minnesota River Basin began in October 1993. The goal of the project was to reduce pollution from industrial discharges in the basin by ensuring compliance with environmental regulations. The main focus of the project was joint, multimedia (air quality, water quality, hazardous waste, solid waste) compliance inspections. Thirteen inspections have been completed. Agency staff have also augmented single medium inspections with a newly developed multi-media inspection checklist that allows a single inspector to assess compliance in more than one program. The checklist was employed in more than 50 otherwise single program inspections during 1994

DEFINITION, RATIONALE, DATA SOURCE:

The water program vigorously encourages and promotes partnerships to enhance effectiveness of programs to control water pollution. These partnerships have resulted in more coordination among local, state, and federal agencies, less duplication of effort and the pooling of resources to solve complex water quality problems. This whole partnership effort is enhanced and strengthened by strong citizen participation and public information. Data were obtained from water program records.

DISCUSSION OF PAST PERFORMANCE:

The Minnesota River Project has created a model for assessing and prioritizing water quality efforts on a basin-wide basis. Past pollution activities have been applied statewide and have been point source oriented. Nonpoint source pollution is four times greater a problem than are point sources of pollution (in volume of pollutants and surface water acres affected). Focusing on a comprehensive watershed based approach allows for more targeting of limited resources and relies on local partnerships for demonstrable environmental results.

PLAN TO ACHIEVE TARGETS:

The Minnesota River basin will continue to be an area where resources and efforts are focused, partnerships are formed and the public informed. Our goal is to restore a significant portion of the river basin to its designated use by the year 2001. Ongoing efforts to test key watershed impacts of best management practices as well as the expansion of Clean Water Partnerships will be critical strategies in this effort.

OTHER FACTORS AFFECTING PERFORMANCE:

Long term projects requiring years of effort for major results to be seen, may lose funding priority to shorter term projects with more immediate results.

Objective 01-02: To expand and strengthen the overall capabilities of the program for monitoring and assessment.

Measure (1): The number of permanent automated, ambient and other monitoring sites.

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
No. of automated sites	0	0	0	10e		
Long-term ambient sta.	78	81	78	34e**		
Condition sites*	0	0	0	100e		

* Condition monitoring will be conducted in summer 1995 in accordance with the Red River of the North Basin Monitoring Plan, which will be developed by May 1995. The estimated 100 sites noted above include integrated monitoring at random sites and for longitudinal surveys on priority rivers.

** A change in monitoring strategy will focus resources in other monitoring areas.

DEFINITION, RATIONALE, DATA SOURCE:

Minnesota's water wealth presents the water program with a staggering challenge. Monitoring and assessment is the backbone of pollution control programs. Monitoring information is essential to determine if problems exist, the sources of problems, and effectiveness of pollution control activities. Monitoring is essential to determine the effectiveness of control of point source pollution control measures, best management practices for nonpoint source pollution and other measures to resolve water quality impairments and meet water quality goals. Data were developed from records from the water program.

DISCUSSION OF PAST PERFORMANCE:

Currently, only about 4% of our river miles and about 15% of the total number of Minnesota lakes have been monitored sufficiently for use assessment to determine whether they meet water quality standards. Locations of past sites were not statistically based and, therefore, provided a biased statewide picture. Sites were placed below point sources of pollution and targeted for areas where pollution was suspected. This provided, at the time, the best opportunity to find and assess the impact of point source pollution, but did not provide a complete picture of water quality statewide.

PLAN TO ACHIEVE TARGETS:

The increase in permanent automated stations is a first step in expanding the capabilities of the water programs. The automated monitoring equipment for stations previously funded through the Capital Budget will provide real time samples from natural events occurring during weekends or at night and establish permanent stations for future trend analysis.

A new monitoring strategy coupled with the basin management approach will provide information to assess the condition of water in basins, identify problem sources (point sources and nonpoint sources) and determine effectiveness of pollution control measures. Resources are needed to establish a statistically based network of chemical and biological monitoring which can be rotated to different, major basins so that all basins are monitored on a five-year cycle.

OTHER FACTORS AFFECTING PERFORMANCE:

Unplanned natural events such as floods may reduce monitoring efforts and dramatically alter water quality.

Objective 01-03: Maintain the gains in limiting the amount of conventional and toxic pollutants discharged by major point sources.

Measure (1): Pollutants discharged by major industrial and municipal water point sources in millions of kilograms.
--

Actual Performance	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Indust. Total Solids	2.210	2.298	2.200e	2.200e		
Indust. Total BOD	1.248	.949	1.200e	1.200e		
Munic. Total Solids	5.726	6.903	5.700e	5.700e		
Munic. Total BOD	3.964	4.742	4.000e	4.000e		

DEFINITION, RATIONALE, DATA SOURCE:

Biochemical Oxygen Demand (BOD) and Total Solids have been the traditional measures of a point source's potential for pollution. BOD reduces the oxygen content of water, and oxygen levels may become so low that fish cannot live.

Suspended solids discharged into water may cause the waterbody to fill in, which reduces aquatic habitat. Solids may also carry nutrients that cause algae blooms and toxic pollutants that harm fish. Major point sources contribute over 70% of all the conventional point source pollutants discharged. Data are obtained from monitoring completed by the point sources and submitted to the PCA as a requirement of discharge permits.

DISCUSSION OF PAST PERFORMANCE:

The level of conventional pollutants discharged into the waters of the state has been greatly decreased over the last 25 years by the construction of new treatment facilities for municipalities. Over one billion dollars has been spent to build these facilities. The passing of the federal Clean Water Act provided extensive permitting authority to require limits to pollution from industrial and municipal sources.

PLAN TO ACHIEVE TARGETS:

With municipal point sources, we try to limit the amount of pollutants by providing technical and financial assistance pollution prevention, training to improve efficiency of operation of existing facilities and money to upgrade treatment systems. With industries, we continue to encourage pollution prevention and capital expenditure to upgrade and improve systems.

OTHER FACTORS AFFECTING PERFORMANCE:

There is a constant opposing dynamic between reducing the amount (mass) of conventional pollutants released into the waters of the state from existing point sources and the need for cities and industries to grow and expand. Increased effectiveness in removing pollutants may be offset by a growing number of sources. Nature, such as the flood of 1993, may also increase pollutant loadings by increasing water volumes, increasing erosion and disabling treatment facilities.

Measure (2): Percentage of conventional pollutants removed by major municipal wastewater treatment facilities.
--

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
% Total Susp. Solids	93.5	92.8	93.5e	93.5e		
% Total BOD	95.2	94.2	95.0e	95.0e		

DEFINITION, RATIONALE, DATA SOURCE:

Increased efficiency of pollutant removal limits pollutants discharged into waterbodies. Data are obtained from monitoring completed by the point sources and submitted to the agency as a requirement of discharge permits.

DISCUSSION OF PAST PERFORMANCE:

Generally, municipal wastewater treatment facilities are required by law to meet secondary treatment standards, which are 85% removal of pollutants. Removal efficiencies above this are encouraged. Removal efficiencies are reviewed and, where it is necessary to protect water quality, the standards are made more stringent.

PLAN TO ACHIEVE TARGETS:

Increased and improved training of wastewater treatment plant operators can provide significant benefits. A well trained, competent operator can increase the efficiency of a wastewater treatment process. Financial assistance through the State Revolving Fund can provide resources to maintain and upgrade treatment facilities. Inflow and infiltration of stormwater into treatment plant systems will increase loadings due to untreated discharges during rain events at wastewater treatment plants that are at or near capacity in dry weather.

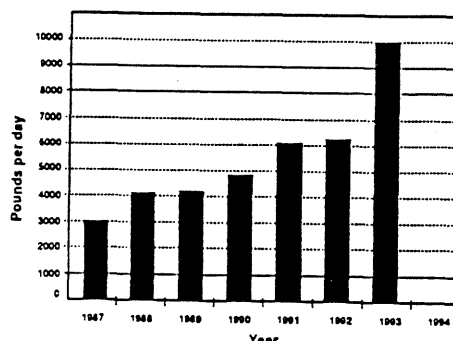
OTHER FACTORS AFFECTING PERFORMANCE:

Natural disasters such as the flood of 1993 may increase pollutant loadings by increasing water volumes and adversely impacting the efficiency of the treatment process.

Measure (3): Amount of toxic compounds discharged by industrial and municipal point sources.

Actual Performance	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
#/day of elemental**						
WLSSD	6,200	10,000	0			
Boise Cascade	52,306*	--	19,000e			
Potlatch	35,014*	--	0			

Elemental Chlorine Use By The Western
Lake Superior Sanitary District



* = values prior to 1990

** = pounds per day of elemental chlorine

DEFINITION, RATIONALE, DATA SOURCE:

Elemental chlorine causes the formation of organochlorines, some of which are very toxic and persistent in the environment. These toxic compounds, such as dioxin, may cause cancer, reproductive abnormalities and other serious health effects. Reduction of release of organochlorines into water will reduce the exposure of humans and wildlife and reduce the potential for adverse effects. Data were obtained from the monitoring and assessment information provided by the point sources.

DISCUSSION OF PAST PERFORMANCE:

In the past, chlorine was the chemical used by industry and municipalities to provide the required waste treatment and for production processes. Since there were few substitutes and little information available on the effects of these chemicals, use continued and expanded.

PLAN TO ACHIEVE TARGETS:

Pollution prevention in the form of product substitution has been the major factor in the reduced use of elemental chlorine and production of organochlorines in the paper industry. The paper industry found that chlorine dioxide could be substituted for elemental chlorine resulting in a large reduction or elimination of organochlorine production and a product acceptable to the consumer. Tighter permit requirements provided an incentive for industry to develop an alternative process. This tightening of requirements and enforcement of environmental laws will continue to provide incentives. Western Lake Superior Sanitary District (WLSSD) is now conducting a pilot effort to determine if it is able to meet state standards without the use of elemental chlorine. Advances in science and knowledge concerning the harmful effects of organochlorine chemicals has provided the incentive to try this measure.

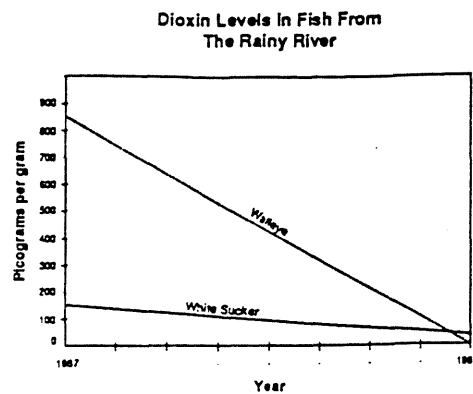
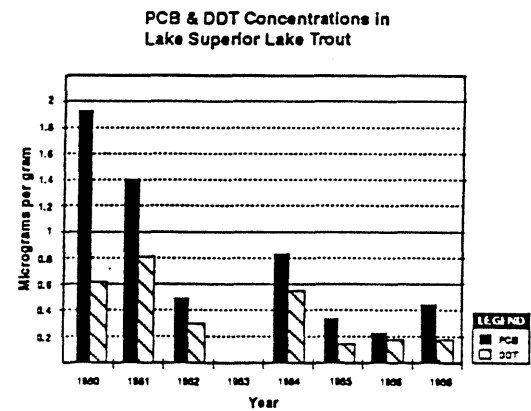
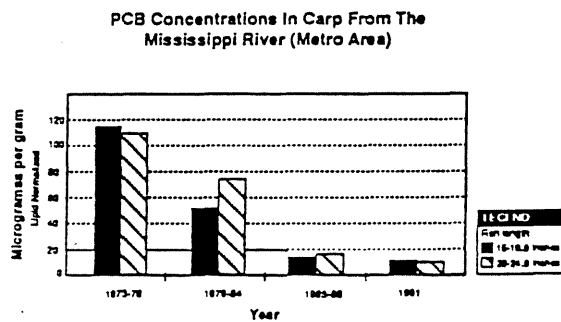
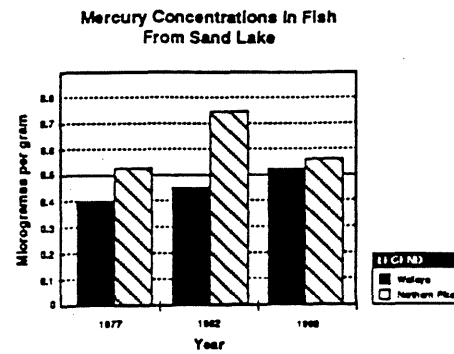
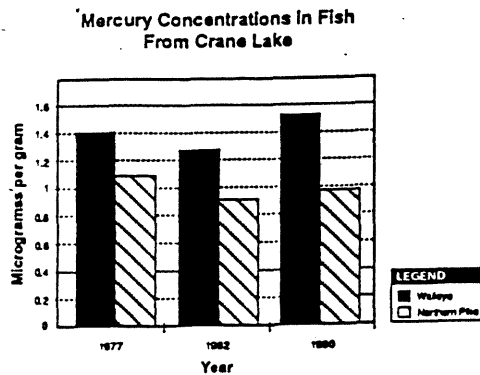
OTHER FACTORS AFFECTING PERFORMANCE:

The science and knowledge concerning techniques to assess these toxic chemicals and their effects is constantly changing. This may mean our goals and objectives must also change.

Objective 01-04: To reduce the exposure of humans and wildlife to concentrations of toxic chemicals in water and fish tissue so that the potential adverse effects of the chemicals are reduced.

Measure (1): The levels of toxic pollutants in various fish species and selected bodies of water.

Actual Performance F.Y. 1992 F.Y. 1993 F.Y. 1994 F.Y. 1995 F.Y. 1996 F.Y. 1997



DEFINITION, RATIONALE, DATA SOURCE:

The reduction in the level of toxic pollutants in fish tissue reduces the exposure to wildlife and humans from these chemicals. Reduced exposure decreases the potential toxicological effects, such as reproductive dysfunctions, cancer or other maladies. Toxic pollutants may be released into the environment by point source discharges, nonpoint sources such as air deposition, and other cross media sources. Air deposition is responsible for over 95% of the PCBs entering Lake Superior and of the mercury entering surface water. Data were obtained from the EPA, Department of Natural Resources and records of the water program.

DISCUSSION OF PAST PERFORMANCE:

The water quality program (1989) found that fish collected between 1970 and 1988 from 15 northeastern Minnesota lakes showed an average increase in mercury concentration of 0.013 ug/g per year. Levels of mercury are now appearing to stabilize and possibly are declining in some lakes. The major source of mercury is from atmospheric deposition. In 1991, agency staff found that fish tissue concentrations of PCBs had decreased in the Twin Cities area of the Mississippi between 1973 and 1988. The 1991 data shows this downward trend to be continuing. However, these concentrations are still above the fish consumption advisory level, and we continue to monitor PCBs in Mississippi River fish. Dioxin levels in fish of the Rainy River also appear to be declining. This appears to coincide with the elimination of the use of elemental chlorine by the paper mill on the river.

PLAN TO ACHIEVE TARGETS:

The water program will use a combination of strategies to reduce the level of toxic pollutants entering state waters. We will maintain the gains of the point source program by seeking compliance with discharge limits in permits and water quality standards through technical and financial assistance, training, and as a last resort, enforcement actions. We must meet the challenge of coordinating nonpoint source activities with the programs in air, solid waste and hazardous waste. to reduce toxic pollutant contamination of our environment.

OTHER FACTORS AFFECTING PERFORMANCE:

Some chemicals, such as PCBs and DDT, decrease over time when major sources are eliminated and reach a stable level or plateau. The plateau is maintained by a large number of small sources, which are difficult to find or control, and add up to a problem. We need to educate the public and the policy makers about the large contribution of air sources that contribute to toxins in our lakes and streams. We are constantly getting new information about the toxic impacts of dioxins and other toxins (carcinogenicity and reproductive impacts). As new knowledge is confirmed, policies will change and more stringent restrictions may result.

Objective 01-05: To increase the use of partnerships and cooperative efforts to address water quality problems.

Measure (1): The number of cooperative efforts in projects and monitoring for water pollution cleanup.

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
CWP Program	33	40	44	55e		
Lake Assessment	13	16	16	16e		
CLMP*	440	520	550	600e		

* Citizen Lake Monitoring Program

DEFINITION, RATIONALE, DATA SOURCE:

The water program supports citizen and local government involvement to build stewardship of the water resource and local responsibility for pollution problems. The water program vigorously encourages and promotes partnerships to enhance effectiveness of water pollution control programs. These partnerships have resulted in more coordination among local, state, and federal agencies, less duplication of effort and the pooling of resources to solve complex water-quality problems. This whole partnership effort is enhanced and strengthened by strong citizen participation and public information. Data were obtained from water program records

DISCUSSION OF PAST PERFORMANCE:

The water program has a long history of cooperation and participation in partnerships. An example is the Citizen Lake Monitoring program, which the water program has managed for the last 15 years. In this program, citizens select a lake and measure the clarity of the water using a simple test. The data is then sent to the MPCA at the end of summer. This program provides valuable data to the water program and educates the participating citizens about water quality issues.

PLAN TO ACHIEVE TARGETS:

The water program will continue and expand its successful efforts of the past. Expanded public outreach and information and technology sharing will occur. Use of computer tools such as the Lakes Bulletin Board makes extensive information on lakes available to anyone with a computer and a modem. We will need to expand Clean Water Partnerships throughout the state, and in particular in the Minnesota River Basin to most effectively achieve our goals in that basin.

OTHER FACTORS AFFECTING PERFORMANCE:

Travel distances and the complex nature of water problems makes citizen participation and cooperation difficult at times. Lack of statewide nonpoint source ambient monitoring stations, biological monitoring, and a statistically-based monitoring network result in ineffective methods of measuring the progress of our nonpoint and point source work efforts.

Objective 01-06: Ensure that point sources have a high degree of compliance with their permitted discharge limits.

Measure (1): Percent of major point sources in significant compliance with their wastewater effluent limits.
--

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
% of Compliance	92.5%	97%	97%e	97%e		

DEFINITION, RATIONALE, DATA SOURCE:

Major point sources of pollution contribute over 70% of all point source wastewater discharges to state waters. Each major point source has a permit which limits the amount of pollutants they may release. These permit limits protect water quality in the receiving stream and are technologically feasible. Compliance with the permit limits protects water quality. The objective is to maintain compliance through efficiencies and voluntary action because the program has lost

significant amounts of federal and state resources, which reduces efforts to track permittee activities and take corrective action if problems occur. Permit fees now cover only about 30% of the cost of issuing and following a permit through to compliance. Compliance data are obtained from the permittee as a result of monitoring and reporting requirements in the permit.

DISCUSSION OF PAST PERFORMANCE:

The shifting of resources and the efficiency and effectiveness of experienced staff have allowed the program to increase compliance through the first years following the reduction of resources, but we do not think this level of service can continue indefinitely. Normal staff turnover will decrease the presence of experienced staff in the program. In addition, once you have made as many process improvements as possible, the level of service will decrease as additional stress and requirements are added. Lack of permittee assistance and compliance efforts exist now due to diminishing state and federal subsidies to our permit program fees.

PLAN TO ACHIEVE TARGETS:

To achieve and maintain gains in compliance, we will continue to shift and maximize resources. Fee increases are now the only available mechanism for covering program costs. Maximizing voluntary compliance, increased staff training and maintenance of experienced staff will assist the program in meeting its objective. Increased use of electronic technology and data management will also assist in achieving this objective. Basin prioritization of pollution sources may divert resources from point source compliance efforts to nonpoint source compliance in some watersheds/basins. Resources may also need to be shifted to unsewered communities, failed on-site systems and inflow and infiltration problems that result in larger pollution threats to a basin.

OTHER FACTORS AFFECTING PERFORMANCE:

Challenges to permit conditions and litigation may drain staff time and resources away from achieving this objective.

Measure (2): Number of compliance inspections completed at major and minor point-sources.

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Major Point Source						
Municipal	40	47	40e	40e		
Industrial	19	18	18e	18e		
Minor Point Source						

Municipal	135	92	92e	92e
Industrial	71	54	54e	54e

DEFINITION, RATIONALE, DATA SOURCE:

Compliance inspections are made to verify the accuracy of data and information submitted by permittees as a result of the self-monitoring and reporting requirements in permits. Inspections also determine if the facilities are being operated in compliance with permit conditions and other laws, rules and statutes. In addition, these on-site visits provide an opportunity for staff to meet wastewater facility operators, discuss problems, and provide technical assistance and advice.

DISCUSSION OF PAST PERFORMANCE:

Falling resource and staff levels have required the program to prioritize activities, shift resources and increase efficiency to increase compliance inspections. A shift to regionalize the inspection staff has been beneficial. Regional staff currently supported by indirect dollars need to be shifted to general fund resources in order to increase regional efficiencies without losing program efforts.

PLAN TO ACHIEVE TARGETS:

Further shifting of resources and responsibilities to regional offices and prioritization of activities will be used to maintain past efforts with reduced resources.

OTHER FACTORS AFFECTING PERFORMANCE:

Major unexpected pollution episodes such as spills and natural events may reduce staff hours committed to this activity, as was the case during the 1993 floods. A shift in basin prioritization will result in the potential for reduced compliance inspections of point source permittees in order to address unsewered communities, inflow and infiltration problems and

on-site septic system needs.

Measure (3): Number of municipal wastewater-treatment operators receiving training and awards for plant operation.

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Excellent Oper. Awards	158	182	182e	182e		
Collection System Trg.	18	17	17e	17e		

DEFINITION, RATIONALE, DATA SOURCE:

Increased and improved training of wastewater treatment plant operators can provide significant benefits. A well trained and competent operator can greatly increase the efficiency of a wastewater treatment process. Public recognition of efforts to do a good job is a strong incentive to continue to improve operation of a wastewater treatment facility. Established criteria must be met to receive the award. Data were obtained from records kept by the water program.

DISCUSSION OF PAST PERFORMANCE:

The water quality program has been a national leader in the training of wastewater treatment with facility operators. The National Environmental Training Association presented the training unit of the water program its highest award for excellence, "National Trainers of the Year".

PLAN TO ACHIEVE TARGETS:

Efforts will be made to increase staff efficiency and increase the course fee to support this effort.

AIR POLLUTION CONTROL

Program Drivers:

- *Clean air act amendments of 1990
- *Training outreach/assistance
- *Special pollution issues
- *Nonattainment statutes
- *Ozone study
- *Ozone study

OBJECTIVE 2-1: To measure improvements to air quality.

Measure 1: The number of days air pollution standards were not met.

Measure 2: Number of air pollution monitoring sites for criteria pollutants.

OBJECTIVE 2-2: To study pollutants which have a toxic or cumulative impact on human health or the environment.

Measure 1: Number of monitoring sites for special air pollutants.

OBJECTIVE 2-3: To provide direction to minimize or abate the impacts of air pollution through the development of rules and programs.

Measure 1: Reducing the number of areas where air pollution standards are not met.

Measure 2: State implementation plan development and rulemaking.

OBJECTIVE 2-4: To operate an efficient air emission permit regulatory program that results in environmental benefits.

Measure 1: Environmental benefits of permitting.

Measure 2: Permitting efficiency.

Measure 3: Amount of air pollutants emitted from stationary sources.

SUMMARY

AGENCY: Pollution Control
PROGRAM: 02 - Air Pollution Control

EXPENDITURES AND STAFFING (F.Y. 1994)

(\$ in Thousands)

Total Expenditures:	\$	19,835
From State Funds	\$	17,770
From Federal Funds	\$	2,065

Number of FTE Staff:	147.8
-----------------------------	-------

PROGRAM GOALS:

The Air Pollution Control Program is the state program to protect ambient air quality. The program's primary goal is clean, clear, odorless air. The mission of the program is to improve and maintain air quality to protect human health and the environment. The specific goals of the program are:

- To assess human health and environmental impacts of emissions of air pollution from industrial point sources and nonpoint sources (M.S. 116.42-.45; 116.454)
- To provide the direction to minimize or abate air pollution impacts on human health and the environment through development of rules and programs (M.S. 116.01; 116.07, subds. 2 and 4)
- To conduct a regulatory program for industrial point sources so that compliance with state and federal environmental laws, rules and permits that protect air quality is achieved in an efficient and effective manner (M.S. 116.07, subds. 2 and 4; 116.07, subd. 4a; 116.07, subd. 4d; 116.081)
- To abate impacts on human health and the environment from nonpoint source air pollution sources, such as automobiles, development that generates traffic, and small non-industrial sources (M.S. 116.60-.65; 116.70-.74)

DESCRIPTION OF SERVICES:

Assessing the Impacts of Air Emissions. Air quality monitoring is one of the best ways to assess the impacts that air emissions have on human health and the environment. In addition to providing basic information about the quality of the air in Minnesota, monitoring data can help identify where the air program has been effective and where additional effort is needed to reduce air pollution. A minimum number of monitoring sites in Minnesota is required by the Environmental Protection Agency (EPA), and these sites are part of a national trends network. Recently, the monitoring activity has begun shifting its focus from the more traditional pollutants, like sulfur dioxide and particulates, to highly toxic air pollutants. In addition, the program operates a monitoring program for acid deposition and has recently initiated monitoring for mercury deposition.

Providing Direction. To help ensure that all of the requirements of the federal Clean Air Act Amendments (CAAA) of 1990 are met, it is necessary to develop new rules and programs and to develop plans for reducing air pollution in areas where air quality standards are not met. Providing direction also involves identifying and proposing legislative changes that might be needed to fully implement the CAAA the overarching federal legislation to protect and improve air quality. The Act and EPA's subsequent regulations have many specific requirements that are required of states. Careful planning and direction are needed to meet these requirements in ways that are best for Minnesota. State Implementation Plans are the agreements that states make with EPA to implement the requirements of the Act and to demonstrate that standards for air quality are being met. These state implementation plans include enabling statutes, rules, permits and administrative orders.

Conducting a Regulatory Program for Industrial Point Sources. Conducting the regulatory program for industrial point sources is the largest activity of the Air Pollution Control Program. This activity includes permitting, compliance determination, enforcement and small business technical assistance.

The Permitting Program is responsible for issuing permits controlling air pollution to industrial point sources to protect public health and the environment. Changes required by the CAAA will dramatically increase the number of sources required to have a permit in Minnesota.

The Compliance Program determines the compliance status of industrial point sources through the review of emissions testing, Continuous Emissions Monitoring (CEM) data, other enhanced monitoring data and inspections. This program maintains a database of source-specific compliance information, tracks permit and enforcement actions and annual emissions and collects air quality fees from reported annual emissions.

The Enforcement Program inspects facilities, enforces laws, and, where appropriate, collects civil monetary fines for noncompliance with state and federal air quality regulations. The enforcement program also is responsible for regulating compliance with regulations for asbestos renovation/demolition and chlorofluorocarbons (CFCs).

Small business technical assistance is a new program that is a component of the regulatory program for point sources. This program provides assistance to small businesses on the new requirements of the CAAA and includes an ombudsman who will act on behalf of small businesses and a Small Business Assistance Council to advise on assistance efforts.

Nonpoint Air Pollution Sources. The primary programs responsible for reducing pollution from nonpoint air sources are the Motor Vehicle Emissions Inspection Program, transportation planning activities, the Indirect Source Permit Program and the Noise Pollution Program.

To help meet standards for air quality in the Twin Cities, the Legislature authorized the Motor Vehicle Emission Inspection Program in 1988. The CAAA requires a commitment to continue this program in order to maintain air quality standards into the future. In addition to reducing emissions of carbon monoxide, the program reduces hydrocarbons that contribute to ozone formation and toxic air pollutants such as benzene and formaldehyde.

Transportation planning involves the review of transportation-related development projects to ensure that air quality will not be severely affected. New conformity provisions of the CAAA and the Intermodal Surface Transportation Act greatly expand the transportation planning and review process.

The Indirect Source Permit Program requires that permits be issued before construction begins for certain projects that affect motor vehicle traffic that could degrade air quality. Typical projects include freeway expansions, shopping malls, sports facilities and mixed land-use development.

The Noise Pollution Program was established to help reach compliance with state noise standards. Staff participate in the environmental review and permitting of projects that create noise such as highway construction. Staff also assist local units of government with monitoring and resolving noise issues. A separate staff position funded through an agreement with the Metropolitan Airports Commission (MAC) works solely on issues related to airport noise.

BACKGROUND INFORMATION:

Passage of the federal 1990 Clean Air Act Amendments (CAAA) has dramatically changed the scope of the Air Pollution Control Program in Minnesota. The CAAA have required states to implement air emission fees to pay for the bulk of the program's activities. This requirement was authorized by the Legislature in 1991. The CAAA expand the number of air pollutants that must be regulated from 6 to more than 190. In addition, the number of sources subject to regulation has increased dramatically. In 1990, the Air Pollution Control Program regulated approximately 1000 industrial point sources. Recently, as a result of the increased requirements of the CAAA, the program sent 20,000 letters to sources that may now be subject to regulation. The mailing was an attempt to better identify and inform these sources of the new regulatory requirements that may affect them in the future.

The CAAA require that the regulatory program for point sources be supported by fees on the emissions of air pollutants. In 1992, a total of 1115 sources reported emissions of 446,000 tons. Over the last few years, total emissions have gone down, while the number of sources required to report has increased by almost 45%.

Many of the sources subject to new regulations will be small businesses. To help these sources understand and meet these new requirements, a new program activity, the Small Business Assistance Program, was created. It includes an Ombudsman and a Small Business Assistance Council to provide compliance assistance. Thousands of small businesses soon will be required to register with the agency for the first time because they emit a pollutant newly regulated under the CAAA.

Another significant requirement of the CAAA is to submit plans for meeting air quality standards in areas where the standards are currently not met (nonattainment areas). Currently, about 2.3 million Minnesotans live in areas that do not fully meet air quality standards (the Twin Cities and Rochester). State Implementation Plans (SIPs) are being developed to bring these areas into full compliance. Many industrial sources in these areas have been or will be required to change operations or install new control equipment to meet these SIPs. The EPA has announced plans to review the federal air quality standard for ozone. The current ozone standard is being met in Minnesota. If the standard is lowered, as many speculate, much of Minnesota could become nonattainment for ozone. Such a change would significantly increase the level and cost of regulation to do business in the state.

The changes in nonpoint source pollution required by the CAAA affect the most people and may be the least understood. Motor vehicles are one of the largest sources of emissions of carbon monoxide, nitrogen oxides, compounds that react to form ozone and toxic air pollutants such as benzene and formaldehyde. Motor vehicles travelled over 42 billion miles in Minnesota last year. The number of motor vehicles and the number of total miles travelled is increasing. Both of these factors lead to increased congestion and air pollution.

The CAAA have a number of specific requirements for motor vehicle emissions. First, motor vehicle emission inspections are required in over 60 major metropolitan areas around the country that do not fully meet standards for air quality (like the Twin Cities). Second, new gasoline formulations are required for these areas. In the Twin Cities, oxygenated gasoline is being required in the late fall and early winter. Finally, and the least understood, new and more complicated environmental review is required for transportation projects to ensure they do not adversely affect air quality. Nearly all transportation improvement projects, even those considered to be minor, must undergo a thorough, multi-agency review to make sure they conform to the CAAA before federal funding can be approved.

Nationwide, about 60% of the carcinogenic toxic pollutants, 60% of the carbon monoxide and 40% of the ozone or smog-producing pollutants come from motor vehicles. As a result, the CAAA added new and significant requirements for motor vehicle inspection programs to reduce motor vehicle emissions, required the use of oxygenated and other "clean" fuels, and enhanced transportation planning requirements to lower motor vehicle emissions. All of these measures are essential in order to reduce motor vehicles' impact on human health and the environment.

PROGRAM DRIVERS:

- **Clean Air Act Amendments of 1990:** The single factor that affects the extent and direction of the many activities of the Air Pollution Control Program is the 1990 amendments to the CAAA. This Act is the driving force behind approximately

95% of the Program's activities. These activities include most of the permitting and compliance and enforcement programs, all of the programs related to motor vehicle emissions, all of the air quality planning activities, much of the toxics program and most of the monitoring program.

- **Training/Outreach/Assistance:** Over the last two years, the Air Pollution Control Program has undertaken a new major initiative on training and education for the new permitting program that will begin later this year. That effort has included developing and conducting training sessions around the state and the development and distribution of numerous informational materials. This initiative on training and outreach has recently received an award for excellence by the National Association of Professional Environmental Communicators. In addition, the Small Business Assistance Program, approved by the legislature, has begun offering technical assistance on how small businesses can comply with the new federal air quality requirements.
- **Special Pollution Issues:** There are a few special pollution issues that have become an important focus of the Air Pollution Control Program. These issues are: exposure to toxic air pollutants, acid rain and mercury. The agency has had a monitoring and research program for acid rain for some time. Now the monitoring effort is trying to determine if the federal acid rain program will protect Minnesota resources. The Air Program is developing the capability of measuring ambient levels of toxic air pollutants and has several monitoring sites in place. Mercury is an environmental problem that requires more study and the Air Program is actively working with other agency programs to better understand this problem.
- **Nonattainment Status:** Several areas of the state, primarily in the Twin Cities, are still classified by the EPA as not fully complying with air quality requirements and standards. As long as these areas remain classified as "nonattainment," stringent emission reduction programs will be required and restrictions affecting economic development will be in place that otherwise would not be needed. In addition, the people living and working in these areas are more at risk due to the air quality problems. A major goal of the Air Program is to successfully address the air quality issues in these areas and have EPA reclassify them to be in "attainment" with requirements and standards.
- **Air Toxics Strategy:** Title III of the Clean Air Act Amendments requires new controls and permits for sources emitting any of 189 toxic air pollutants. To implement this program and to ensure that the resulting controls will sufficiently protect public health and the environment, the agency developed, and the Air Program is implementing, a new Air Toxics Strategic Plan.
- **Ozone Study:** Currently, the federal ozone standards are being met in Minnesota. However, the margin of safety is small. Also, EPA has announced plans to review the ozone standard by 1996. Many believe that the likely result of that review will be a tightening of the standard, which could result in areas of Minnesota being classified as nonattainment. This change in classification would bring with it many new and potentially expensive regulations that would affect not only industry, but also motorists and individuals.

AGENCY: Pollution Control
PROGRAM: 02 - Air Pollution Control

OBJECTIVE, MEASURE

Objective 02-01: To measure improvements to air quality.

Measure (1): The number of days air pollution standards were not met.

Calendar Year	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>1993</u>
Number of Days	142	120	35	9

DEFINITION, RATIONALE, DATA SOURCE:

Air quality standards are set by state and federal regulations to be protective of human health and the environment. One of the most important ways to help meet the Air Program's goal of assessing the impact of air pollution emissions on human health is to determine how often standards for air quality are not being met. The source of this data is the Air Program's ambient monitoring network. The data are regularly assessed to ensure their quality. Data are presented for calendar year 1993 rather than F.Y. 1994 because at the time this report was prepared the last month of data for F.Y. 1994 had not been fully reviewed for quality.

DISCUSSION OF PAST PERFORMANCE:

This measure demonstrates a steady improvement in air quality in Minnesota, the result of many years of effort by agency staff and the regulated community to develop, apply and comply with regulations to reduce emissions and improve air quality.

PLAN TO ACHIEVE TARGETS:

The Air Pollution Control Program has a planning effort underway to continue to improve air quality. The goal is to meet air quality standards throughout the state. This planning is discussed in more detail under Objective 3.

OTHER FACTORS AFFECTING PERFORMANCE:

There are two factors that affect air quality that are not under direct control of the Air Pollution Control Program. First, natural factors can have a significant impact on air quality. For example, forest fires hundreds of miles away can increase particulate levels in Minnesota. In addition, weather can affect air quality. Dry, warm weather can result in higher levels of particulates and ozone. Cool weather with temperature inversions can lead to increased levels of carbon monoxide. Second, the number of motor vehicles operating in Minnesota is still on the rise, as is the annual number of vehicle miles travelled and the amount of congestion on highways and major streets. All of these conditions can result in higher emissions of air pollutants. While there are a number of activities in place that help reduce motor vehicle pollution, these activities do not have a direct effect on the number of vehicles and the number of vehicle miles travelled.

Measure (2): Number of Air Pollution Monitoring Sites for Criteria Pollutants.

Calendar Year	<u>1980</u>	<u>1990</u>	<u>1991</u>	<u>1993</u>
Sulfur Dioxide	32	21	30	25
Nitrogen Oxides	23	7	11	11
Carbon Monoxide	9	11	9	14
Fine Particulates	0	32	31	37
Ozone	9	6	5	7
Lead	21	7	7	7

DEFINITION, RATIONALE, DATA SOURCE:

Criteria pollutants are pollutants for which a federal or state standard exists for ambient air quality. Measure (1) reports how many days a year these standards are not met. This measure reports on how many locations such measurements are made. If there were only a few monitoring sites, the information in Measure (1) would be less meaningful. The more monitoring sites there are, the more reliable the information presented in Measure (1). Measure (2) reports sites that are owned and operated by the agency and sites that are owned and operated by industry because of specific requirements in permits. The agency provides oversight and auditing for facility-operated monitoring sites. The EPA requires that the state operate a minimum number of sites.

DISCUSSION OF PAST PERFORMANCE:

The number of monitoring sites for most pollutants has been reduced over the years. This has been a result of concentrating the monitoring efforts where the levels of air pollution are the highest. Most, but certainly not all, monitoring activity is located in the urban areas of the state: the Twin Cities, Duluth, Rochester and St. Cloud, where industrial activity and motor vehicle traffic is most concentrated. Many of the fluctuations in the number of monitoring sites reflect a greater trend in requiring individual permittees to monitor in the vicinity of their facilities. This is frequently done to help calibrate dispersion models that are used to establish emission limitations in permits. There were no fine particulate matter monitoring sites in 1980 because the fine particulate standard was not promulgated at that time. Overall reductions in monitoring, such as for lead and nitrogen oxides, reflect the fact that those pollutants have been effectively reduced and that additional monitoring is not warranted.

PLAN TO ACHIEVE TARGETS:

The agency plans to continue to monitor air quality to satisfy EPA requirements, our need to know the quality of the air in Minnesota and specific needs of particular facilities. The monitoring activity for criteria pollutants currently meets these goals.

OTHER FACTORS AFFECTING PERFORMANCE:

Air quality monitoring is an expensive activity. The equipment is costly and must be maintained and replaced regularly. This activity is also resource intensive. To help stay within budget, the program has internalized nearly all monitoring analysis. In addition, the program has made increasing use of part-time and regional staff to help collect samples and maintain monitoring sites, which has cut down on certain travel expenses.

Objective 02-02: To study pollutants that have a toxic or cumulative impact on human health or the environment.

Measure (1): Number of monitoring sites for special air pollutants.

Calendar Year	<u>1980</u>	<u>1990</u>	<u>1991</u>	<u>1993</u>
Toxic Air Pollutants (19 substances)	0	2	6	7
Acid Deposition	0	5	6	9
Mercury	0	0	0	8

DEFINITION, RATIONALE, DATA SOURCE:

There are a number of air pollution issues that are not addressed by activities related to criteria pollutants. These include concerns about acid deposition (due to sulfur dioxide and nitrogen oxide emissions from power plants), mercury accumulation in lakes and fish, and toxic air pollutants.

The Air Pollution Control Program has monitored acid deposition for many years. Now that there is a federal program to reduce acid deposition, it is important for the agency to measure the effects that the federal program is having on acid

deposition in Minnesota.

The regulation of toxic air pollutants is a growing activity. Many citizens express concern about the risk associated with living near a facility that has significant emissions of toxic air pollutants. It is important for the Air Pollution Control Program to have the capability to monitor for toxic air pollutants.

Mercury pollution is an issue of particular concern. Mercury has been known for years to be present at unhealthy levels in fish from certain parts of the state. This has resulted in a number of actions, including legislation to reduce the use of mercury in the state. Only recently have agency studies confirmed that the mercury problem is largely an issue of air transport and deposition. Monitoring for mercury deposition is important to better understand this problem.

Measuring the amount of monitoring activity for these pollution issues is an appropriate way to track the growth and quality of our knowledge in studying these problems. These data represent the number of monitoring locations that are being used to measure these pollutants. Monitoring of toxic air pollutants is being conducted largely in the Twin Cities, where industry and traffic is concentrated. The acid deposition and mercury monitoring is being conducted largely in the northeastern portion of the state.

DISCUSSION OF PAST PERFORMANCE:

Monitoring of acid deposition has been ongoing since the mid 1980s. Recently, due to concerns about high levels of deposition (levels above the state acid deposition standard) along the north shore of Lake Superior, new monitoring sites have been established to better understand deposition patterns along the lake.

Monitoring of toxic air pollution, including mercury, is a relatively new activity. Monitoring locations will be changed and adjusted over the next few years as the agency gains more experience and knowledge.

PLAN TO ACHIEVE TARGETS:

Acid deposition monitoring will be scaled back once clear patterns of deposition along the north shore of Lake Superior are determined. Toxic pollutant monitoring, currently focusing in the Twin Cities, should be expanded to learn more about the levels of toxic pollutants in other parts of the state. In the near term, this will be accomplished by conducting short-term studies around particular facilities and in other urban areas. Data from the mercury monitoring will be evaluated each year to see if a change in that activity is warranted.

OTHER FACTORS AFFECTING PERFORMANCE:

State legislation requires the agency to establish a statewide monitoring program for toxic air pollutants. Given current funding and program demands, that will not be possible. Additional funding will be needed to go beyond the short-term studies mentioned earlier.

Objective 02-03: To provide direction to minimize or abate the impacts of air pollution through the development of rules and programs.

Measure (1): Reducing the number of areas where air pollution standards are not met.

Fiscal Year	<u>F.Y. 1980</u>	<u>F.Y. 1990</u>	<u>F.Y. 1994</u>
Number of Nonattainment Areas	15	10	8
Number of Orders to Reduce Emissions	0	0	20

DEFINITION, RATIONALE, DATA SOURCE:

EPA designates areas not meeting air quality standards as nonattainment areas. This designation is triggered by measured violations of standards for air quality. For some pollutants with large numbers of sources (like motor vehicles), the EPA will designate entire metropolitan areas as nonattainment areas. For pollutants more likely associated with an isolated source or a few sources, the size of the nonattainment area is established by computer modeling. Nonattainment designation includes additional regulatory requirements that are not required in attainment areas. The additional regulatory requirements results in more hurdles for businesses to locate or expand in nonattainment areas; thus hampering economic development. Nonattainment designation also means a greater potential for a public health risk.

To redesignate an area from nonattainment to attainment, EPA requires a demonstration that the area currently meets standards (demonstrated through monitoring and computer modeling) and that the area will continue to meet standards well into the future (demonstrated by computer modeling). To reduce pollution in a nonattainment area, the primary sources of the pollutant must be identified, new emission reduction limits must be developed and federally enforceable administrative orders must be issued to require the sources to meet the new emission limits.

The number of areas designated nonattainment has a direct impact on the need to develop new rules and programs. Nonattainment designation also impacts the activity levels of the permitting and compliance programs.

The data for this measure come from the agency and demonstrate the program's success in cleaning up polluted areas.

DISCUSSION OF PAST PERFORMANCE:

In 1980, Minnesota had multiple nonattainment areas for sulfur dioxide, particulate matter, carbon monoxide and a single nonattainment area for ozone. By 1990, EPA had changed the ozone standard, doing away with that nonattainment area, and had switched from a total particulate standard to a fine particulate standard. These changes account for the differences in the number of nonattainment areas between 1980 and 1990.

This past year, for the first time since the 1970s, the EPA has favorably acted on two redesignation requests, resulting in Duluth and St. Cloud being redesignated to attainment for carbon monoxide. The current nonattainment areas include: Twin Cities for sulfur dioxide and carbon monoxide; Pine Bend and St. Paul Park (Ashland) for sulfur dioxide; a portion of St. Paul for fine particulates; a portion of Eagan for lead; and Rochester for sulfur dioxide and fine particulates. We are working with industries in these remaining nonattainment areas to develop plans to reduce and maintain emissions below levels that violate federal clean air standards.

PLAN TO ACHIEVE TARGETS:

Once a redesignation request for a nonattainment area is submitted, the EPA has up to 18 months to review and act on that request. The Air Program's goal is to complete and submit redesignation requests to the EPA of all the remaining nonattainment areas in the next 2 years.

OTHER FACTORS AFFECTING PERFORMANCE:

Three factors have the potential of affecting the Air Program's goal. First, the analysis of the Twin Cities carbon monoxide situation is not complete, and it is not certain that a demonstration meeting EPA requirements can be prepared in the near term. Second, recent violations of the fine particulate matter standard were recorded in St. Paul, and further work is needed before it is possible to know when a redesignation request can be ready. Finally, EPA may change the ozone standard and create a new nonattainment area in Minnesota.

Measure (2): State Implementation Plan Development and Rulemaking.

Actual Performance	<u>F.Y. 1980</u>	<u>F.Y. 1990</u>	<u>F.Y. 1994</u>
Number of SIP*	1	1	6
Revisions Submitted			

to EPA			
Number of SIPs	1	1	6
Approved by EPA			
Percent of EPA SIP	50%	50%	100%
Deadlines Met			
Number of Rules	1	1	16
Initiated/Completed			
Number of Rules	9	14	25
Needing Revision			

* State implementation plan to meet air quality standards.

DEFINITION, RATIONALE, DATA SOURCE:

The Clean Air Act Amendments (CAAA) of 1990 require states to adopt many new rules in order to apply for and receive the authority to operate a federally approved permitting and compliance program. States are required to submit these rules and the plans to implement them called State Implementation Plans. Specific schedules for when these plans must be submitted are contained in the CAAA.

Over the past 3 sessions, the Legislature has authorized the expansion of the Air Pollution Control Program in order to meet the requirements of the CAAA.

The data is based on actions taken by the MPCA Citizen's Board, agency staff and the EPA.

DISCUSSION OF PAST PERFORMANCE:

All EPA deadlines for State Implementation Plan submittals have been met, and the EPA has been reasonably effective at speeding up its review and approval times. Major actions by the EPA include preliminary approval of our operating permit program, the new source offset program, which is needed for the location and growth of businesses in nonattainment areas, the Motor Vehicle Inspection Program and the quantification of carbon monoxide emissions from motor vehicles and businesses for the Twin Cities.

The level of activity required for submitting SIPs to the EPA and revising rules is not expected to decline. Many of the EPA's approvals of our programs have been conditioned on the need to make minor changes. Also, the EPA is constantly amending and revising its regulations, which requires revision to state air quality rules and SIPs. Finally, the agency is actively trying to streamline its programs to be more efficient, which often requires revisions to air quality rules.

PLAN TO ACHIEVE TARGETS:

The agency plans to continue to rank rulemaking and air quality planning as a high priority. Rule amendments for streamlining the permitting program will continue. A major new activity for the next biennium will be to incorporate the federal air toxics program into the state's current regulatory programs.

OTHER FACTORS AFFECTING PERFORMANCE:

The new air quality programs are still very much in the developmental stages at both the federal and state level. The EPA is still making changes to program requirements that should have been finalized months ago. It will be a challenge to implement these programs and keep up with the new regulations and the many changes that the EPA is expected to keep making into the future.

Objective 02-04: To operate an efficient air emission permit regulatory program that results in environmental benefits.

Measure (1): Environmental Benefits of Permitting.

Permits	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>
Emissions Regulated by Permit	NA*	**
Permits Resulting in Further Emission Reductions	NA	
Permits Resulting in Pollution Prevention	NA	

* Not Available (NA)

** Available at the end of F.Y. 1995

DEFINITION, RATIONALE, DATA SOURCE:

Air emission permits are issued to authorize construction (new facilities and changes to existing facilities) and operation of facilities that emit air pollution. They are legal documents that describe how facilities are meeting federal and state regulations for air quality. Air emission permits also are tools used by the Air Quality Division to apply source-specific air pollution limits and conditions to facilities. By assuring that regulations and source-specific conditions intended to protect and improve air quality are being properly followed, air emission permits help to improve and protect the environment.

Data on air emission permits are collected, stored, and retrieved via the Air Quality Permits Data System (Permits Tracker). Currently, the Permits Tracker is not capable of gathering data on emissions reductions and pollution prevention resulting from permitting activities. Once the Permits Tracker becomes a fully integrated component of the agency-wide computerized information system in F.Y. 1995, the Air Quality Division will be able to track and analyze these data in order to measure the environmental benefits associated with permitting.

DISCUSSION OF PAST PERFORMANCE:

Data and statistics for this activity currently are not collected by the Permits Tracker but will be available in F.Y. 1995.

PLAN TO ACHIEVE TARGET:

The agency plans to track data to measure the environmental benefits of the permitting program.

OTHER FACTORS AFFECTING PERFORMANCE:

The extent to which the agency will be able to measure the environmental benefits of the permitting program will depend on the capabilities of the new computerized information system currently being implemented.

Measure (2): Permitting efficiency.

Permits	<u>F.Y. 1990</u>	<u>F.Y. 1991</u>	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>
Applications Received	229	233	356	742	159
Number Issued	242	288	454	775	145
Hours per Permit	NA	93	55	35	34
Cost per Permit*	NA	NA	\$3,656	\$2,327	\$2,260
Average Processing Time (days/permit)	195	172	172	192	115

* Based on a 1992/1993 average permit staff cost (including overhead costs) of \$66.48 per hour.

DEFINITION, RATIONALE, DATA SOURCE:

The Air Quality Division issues many different kinds of air emission permits to many different kinds of facilities. Some permits are more complex than others. This diversity results in considerable differences in the time and effort required to issue permits. Some of the factors affecting the complexity of permits include: size of facility and the activities to be permitted, regulatory programs affecting the activity, level of public interest, environmental impact of the activity, and whether or not the permitting activity is part of the expedited permit program. The number of permits issued in any given year varies greatly depending on the regulatory cycles dictated at the state and federal level as well as the performance of the economy.

Increased permitting efficiency helps to protect and improve the environment by facilitating a quicker route to compliance with federal and state regulations that protect air quality. Greater efficiency also improves economic competitiveness by decreasing the time and effort required to obtain construction and operation approvals, thereby allowing facilities to more easily adapt to changing economic conditions.

Great strides have been made in accurately analyzing permit activities and efficiencies since late 1992. Previously, the Air Quality Division's permits database was less detailed and not fully utilized. For example, the numbers used to evaluate permitting activities prior to 1993 constituted only 55% of all permits issued. As a result, the full spectrum of permitting activities was not accurately represented. However, since January 1, 1993, the Air Quality Division has tracked detailed information for over 99% of the facilities permitted. Some of the information being tracked includes facility sizes and classification, milestone dates, and applicable rules and regulations.

DISCUSSION OF PAST PERFORMANCE:

Progress has been made in improving the efficiency with which permits are processed. These improvements have been made by implementing more clearly defined and streamlined administrative procedures and through outreach and education efforts that have benefited the regulated community. These improvements were made based on a significant amount of input from industry. A significant impediment to greater permitting efficiency is staff turnover, which greatly affected the program in 1991 when time and resources had to be expended to train the replacements of experienced staff who had left the program. Improvements to efficiency occurred between 1991 and 1992 when general permits were implemented. General permits are written for categories of sources as opposed to permits that are written for individual facilities. General permits can be issued more quickly than most other kinds of permits and, in combination with accelerated outreach efforts, they helped to achieve a peak in permit production at a relatively low cost. In F.Y. 1994, significant effort was expended on the implementation of the new permits rule. The new rule, mandated by federal law, has established a new pattern for the flow of permit applications as well as the entire permit process. Overall, the process shows signs of progress in efficiency.

PLAN TO ACHIEVE TARGET:

The agency plans to continue to emphasize improving the efficiency of the permitting program. Goals and commitments have been set to fulfill the requirements of the Clean Air Act through permitting activities. These goals and commitments are aligned with the agency goals and objectives.

OTHER FACTORS AFFECTING PERFORMANCE:

In addition to staff turnover, implementation of new complex regulatory programs may adversely affect the efficiency of the permitting program. Conversely, implementation of the Air Quality Division's new computer system should serve to increase efficiency.

Measure (3): Amount of air pollutants emitted from stationary sources.

Calendar Year	<u>1980</u>	<u>1990</u>	<u>1992</u>
Total Emissions of Regulated Pollutants Into the Air (thousands of tons)	682	519	446
Total Number of Sources Reporting Emissions	768	735	1,115

DEFINITION, RATIONALE, DATA SOURCES:

Permitted stationary sources that emit pollutants into the air are required to report the amount of their emissions annually to the agency. Stationary sources that must submit an emission inventory are industrial facilities required to have an air quality permit. Currently, the agency is in the process of implementing a new federal permitting program. Once it is fully implemented, the number of permitted stationary sources is estimated to grow to a total of 2,700. The purpose of this measurement is to document the amount of air pollution generated in Minnesota from stationary sources.

DISCUSSION OF PAST PERFORMANCE:

Although there appears to be a significant decrease in pollutant emissions since 1980 at the same time the number of sources reporting is increasing, this cannot be totally attributable to regulations to control air pollutants. The CAA required collection of air emission fees based on the amount of pollutants a stationary source emitted. The agency began collection of air emission fees in 1991. Since that time, stationary sources have become much more careful in tracking their annual air emission estimates so that they are not assessed fees for pollutants they do not emit.

PLAN TO ACHIEVE TARGETS:

The agency expects that 100 percent of the permitted stationary sources will be providing annual emissions data on all regulated pollutants by 2010. The reason for the long time frame is because federal regulations for permitted stationary sources are not expected to be complete until the year 2010. Once the development of regulations has stabilized and all permitted sources are reporting their emissions annually, this will be an effective measure of the agency's regulatory program for stationary sources.

Objective 02-05: To help small businesses limit and prevent pollution through technical assistance.

Measure (1): Small business assistance activity.

	<u>F.Y. 1990</u>	<u>F.Y. 1994</u>	<u>F.Y. 1996</u>
Number of Affected Facilities	0	300	2,100
Workshop Attendance	0	163	
Site Visits	0	NA	
Contact Hours	0	NA	

DEFINITION, RATIONALE, DATA SOURCE:

In 1990, no small businesses, referred to as area sources, were regulated under the Clean Air Act. In 1994, the dry cleaning industry became the first area source category to be subject to new regulations arising from the 1990 Clean Air Act Amendments. Information collected from agency databases and the dry cleaning industry's trade association, the Minnesota Fabricare Association, resulted in an estimate of approximately 300 affected dry cleaners in Minnesota. Over

the next 2 years, area source facilities that use halogenated solvents for cleaning, as well as those who do chromium plating, will have their air toxics emissions controlled under new Clean Air Act regulations. Information collected from agency databases, the EPA, the Minnesota Technical Assistance Program, and chemical suppliers resulted in the estimate of 2,100 affected facilities. The Small Business Assistance Program provides assistance in three ways: compliance assistance workshops, on-site visits, compliance assistance, and technical assistance through a toll-free hotline. Currently, the Small Business Assistance Program does not have the capability to track contact hours for assistance provided through the hotline, but it will have the capability to do so in the future with the implementation of a new, computerized client-tracking system.

DISCUSSION OF PAST PERFORMANCE:

In the past, area sources were not regulated by state and federal air pollution authorities. Data on assistance provided through site visits is beginning to be collected and will be available for future reports.

PLAN TO ACHIEVE TARGETS:

The Air Quality Division's strategy for encouraging compliance with new and upcoming state and federal regulations for area sources consists of providing education, outreach, pollution prevention assistance, and technical compliance assistance to these sources, many of whom are small businesses. Approximately 30% of these activities are in the area of pollution prevention, which is accomplished primarily through an interagency agreement with the Office of Environmental Assistance for services of the Minnesota Technical Assistance Program. Approximately 70% of the Air Quality Division's area source activities is in programs designed to encourage compliance with state and federal regulations for air quality. Additional resources are needed in both of these areas in order to continue providing pollution prevention assistance and encouraging compliance with new regulations.

OTHER FACTORS AFFECTING PERFORMANCE:

For some area source categories, like the dry cleaners, it will be relatively easy to identify the number of sources affected by new regulations. For other source categories, it will be very difficult. In such cases, the measurements may not accurately reflect the effectiveness of this activity.

Objective 02-06: To provide training, education and outreach to clients about new and existing regulatory requirements.

Measure (1): Number of training activities.

Fiscal Year	<u>F.Y. 1990</u>	<u>F.Y. 1994</u>	<u>F.Y. 1996</u>
Number of Training Events	NA	64	18
Number of Attendees	NA	2,965	900
Number of Training Contact Hours	NA	30,098	8,200

DEFINITION, RATIONALE, DATA SOURCE:

The measures selected are standard measures for evaluating training efforts. The number of training events is the first measure, but is more fully explained by tracking the number of people attending events (i.e. how effective were the outreach efforts at reaching clients) and by tracking the number of training contact hours. Training contact hours are based on the number of attendees multiplied by the hours of training. Training data includes educational forums sponsored by the Air Quality Division, which generally was a formal presentation based on technical information.

Training and educational outreach are designed to help build partnerships and encourage compliance. Training results in a better understanding of laws, rules, and regulation, which, along with agency policy and procedures, will do much to encourage a higher degree of compliance with Air Quality regulation and greater protection of public health and the environment. Also, training provides a forum for clients to speak out on division policy and procedure and for division staff and management to interact professionally with clients.

The sources used to gather this data include the Air Quality Monthly Management Report, registration from the Operating Permit Training Programs - Workshop I and II, and the Biannual Agency-wide Training Conducted Report. Estimates for the 1996 fiscal year are based on the 1995 training plan and expectations for additional training demand due to changing rules. All numbers are based on training provided to clients outside of the Air Quality Division. Staff training is not tracked as part of this objective.

DISCUSSION OF PAST PERFORMANCE:

A formal training and outreach program was not in place prior to F.Y. 1994.

PLAN TO ACHIEVE TARGETS:

The division training plan includes a variety of avenues for future information dissemination - including help sessions, conferences, industry- and topic-specific trainings, and miscellaneous presentations. The Air Pollution Control Program intends to institutionalize training as a means of establishing dialogue with clients, increasing their understanding of how business operations affect the environment, and reducing and preventing pollution. The program has dedicated one staff position to the coordination of training and intends to dedicate staff time to provide continued training.

OTHER FACTORS AFFECTING PERFORMANCE:

A continuation of training and outreach demands a lot of technical staff time. Implementation of other CAAA requirements also requires technical staff time. At the same time, the rate at which rules are changing is causing an increase in the need for training.

Objective 02-07: To conduct a comprehensive, effective and timely program for determining the compliance status of permitted sources and asbestos removal projects.

Measure (1): Annual number of routine compliance determinations.
--

	<u>F.Y. 1990</u>	<u>F.Y. 1991</u>	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>
Stationary Source	476	483	514	570	503
Inspections					
Asbestos Inspections	36	162	175	173	176
Stack Test Reviews	178	205	242	244	258
CEM* Quarterly Report	134	182	202	208	288
Reviews					
Permit-Required	0	0	336	926	1,512
Submittal Reviews					

* Continuous Emissions Monitoring.

DEFINITION, RATIONALE, DATA SOURCE:

The ability to determine the compliance status of regulated sources of pollution is the foundation of any environmental regulatory program. Applicable rules, regulations and source-specific permits require sources to submit various types of self-monitoring data. The Air Program's review of this data provides a determination of the compliance status of the sources as it relates to applicable rules, regulations and permit conditions.

The number of compliance determinations, when compared with the number of the regulated sources or the number of potential determinations which could be made, indicate the relative comprehensiveness of the regulatory program. The number of compliance determinations is tracked annually in program (stack testing, CEMS, etc.) databases.

Compliance determination provides both the permitted sources and the agency with direct measures of compliance related to emissions limitations. Emissions limitations are developed with the intention of limiting pollution. The resulting measures of compliance status, in conjunction with a viable and responsive enforcement program, should encourage compliance and lead to improved air quality.

DISCUSSION OF PAST PERFORMANCE:

The numbers of compliance determinations performed annually by the Air Program have grown significantly in the past few years as a result of several factors: 1) The air program created a specific functional unit (Compliance Determination Unit) in 1991 to focus resources and attention to this previously diffused activity; 2) Enactment of the CAAA resulted in new rules and regulations and, hence, a growth in the number of potential compliance determinations, the number of sources; and 3) Industrial growth has led to growth in the number of regulated sources in Minnesota. This growth is expected to continue with the continued promulgation of new regulations and continued economic growth.

PLAN TO ACHIEVE TARGETS:

The agency intends to continue to place emphasis and priority on compliance determination activities. Growth in the number of the regulated sources and in the width and breadth of applicable regulations is expected to continue. Of particular note, implementation of the CAAA air toxics program will result in expansion of compliance determination activities.

Measure (2): Average time for review and referral of compliance submittals.

	<u>Quarter 2</u>	<u>Quarter 3</u>
	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>
Review of CEM* Data	NA	21 days
CEM Certification	NA	21 days
Performance Test	NA	45 days
Review		

* Continuous Emissions Monitoring.

DEFINITION, RATIONALE, DATA SOURCE:

To enhance the effectiveness of a regulatory program, noncomplying sources must be identified in a timely manner so that the identified noncompliance does not continue. This measure tracks the timeliness of this program relative to several major activities in compliance determination.

The timeliness with which noncompliance is identified and resolved becomes more significant when the noncompliance results in real environmental damage. Therefore, the compliance activities tracked in this measure for timeliness are directly related to actual pollutant emissions from sources.

The timeliness of the compliance determination activity, in conjunction with the timeliness of appropriate enforcement follow up, will directly relate to the agency's ability to limit pollution from ongoing emissions noncompliance.

This measure is tracked quarterly in program databases.

DISCUSSION OF PAST PERFORMANCE:

This measure has only been tracked since the fourth quarter of F.Y. 1994. However, since the compliance determination unit was created in 1991, backlogs of emission test reports have been significantly reduced.

PLAN TO ACHIEVE TARGETS:

Performance under this measure will be evaluated annually to identify which activities need further improvement.

Objective 02-08: To conduct an effective and timely enforcement program for noncompliance with emissions limitations.

Measure (1): Percent compliance for stack testing and Continuous Emissions Monitoring Systems (CEMs).

Calendar Year	Quarter 1	
	<u>1993</u>	<u>1994</u>
Percent of Facilities in Compliance for Stack Tests	87%	92%
Percent of Facilities in Compliance as Determined by CEMs	88%	86%

DEFINITION, RATIONALE, DATA SOURCE:

This measure tracks those facilities conducting stack tests or reporting CEM data in any given quarter for any criteria pollutant, and provides the percentage of these facilities which demonstrate compliance with applicable emission limitations as measured by a stack test or CEM.

This measure provides one identification of the effectiveness of the regulatory/enforcement program as it relates to compliance with emission limitations. In addition, this measure assists the agency in identifying specific source categories which may require additional educational and assistance or regulatory compliance resources.

Measurement of this objective provides the agency with one indication of our ability to limit pollution as it relates to emissions noncompliance. As this data will be used to target those source categories requiring more regulatory compliance attention based on noncompliance, one agency strategy will be to develop partnerships with trade associations representing these source categories with the ultimate goal of encouraging compliance through education and assistance.

This measure is tracked quarterly in program databases.

DISCUSSION OF PAST PERFORMANCE:

This measure has only been tracked since the start of F.Y. 1993.

PLAN TO ACHIEVE TARGETS:

The agency intends to begin analyzing percent-of-compliance data in order to more effectively target those categories of sources with higher noncompliance. This strategy will allow the agency to allocate education and assistance and regulatory compliance resources to those categories requiring more compliance-oriented efforts. This strategy should result in improved compliance with emissions limitations and more efficient use of the agency's regulatory resources.

Measure (2): Average response time for Notices of Violation (NOV) and Administrative Penalty Orders (APO).
--

	<u>Quarter 2</u> <u>F.Y. 1994</u>	<u>Quarter 3</u> <u>F.Y. 1994</u>
Average Response Time for NOVs	NA	13 weeks
Average Response Time for APOs	NA	15 weeks

DEFINITION, RATIONALE, DATA SOURCE:

One measure of the effectiveness of any regulatory program is the time the program takes to respond to identified noncompliance. Ultimately, the timeliness of enforcement actions will affect the integrity of the program, the responsiveness of the regulated sources, and the amount of time before pollution is controlled.

As described previously, the timeliness of agency responses to ongoing emissions noncompliance directly affects the agency's ability to limit pollution. This measure is indicative of the agency's ability to limit pollution through timely enforcement action which requires the abatement or mitigation of ongoing excess pollution.

This data is currently extracted manually from the case development database.

DISCUSSION OF PAST PERFORMANCE:

This data only began to be tracked at the start of calendar year 1994. The agency believes, however, that the institution of enforcement consistency measures such as the "Forum" process has, in some cases, actually increased the average response time for some enforcement actions. The forum process precedes any enforcement action and involves a presentation of the alleged violations to a team of supervisors and experienced enforcement staff. Decision is by consensus. This increase in response time, however, is offset with increased consistency realized both within and across agency regulatory programs.

PLAN TO ACHIEVE TARGETS:

Performance under this measure will be evaluated annually to identify which activities need further improvement.

Objective 02-09: To regulate toxic air pollutants.

Measure (1): Number of federal NESHAPs* reviewed and implemented.

	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>
NESHAPs Proposed by EPA	0	12
NESHAPs Promulgated by EPA	0	4
NESHAPs Reviewed by EPA	0	0

* National Emission Standards for Hazardous Air Pollutants (NESHAPs).

DEFINITION, RATIONALE, DATA SOURCE:

The CAAA require the EPA to promulgate NESHAP standards for approximate 174 different categories of industrial facilities. These standards should result in a significant reduction in the emissions of toxic air pollutants.

The agency's plan for implementing the air toxics provisions of the CAA involves subjecting each source category standard (NESHAP) proposed by the EPA to a health and environmental review before adopting the standard as a state rule. This measure will gauge the effectiveness of the air program in implementing the federal toxics program and the agency's strategic plan for air toxics and for reducing the emissions of toxic air pollutants.

The source of data is EPA and agency records.

DISCUSSION OF PAST PERFORMANCE:

This is a new activity.

PLAN TO ACHIEVE TARGETS:

The air program is currently developing the procedures needed for the health and environmental review of the federal standards. The Health Department is developing health risk values for pollutants in ambient air that will be used as part of reviewing the standards. These procedures should provide a means to ensure reasonable review of the standards in a timely manner.

OTHER FACTORS AFFECTING PERFORMANCE:

The EPA has not met many of the deadlines outlined in the Clean Air Act for development of NESHAPS. If EPA reduces review and comment times in order to come closer to meeting deadlines, this may result in an inadequate review time for the agency.

Objective 02-10: To abate health and environmental impacts from motor vehicles.

Measure (1): Vehicle Inspection Program Statistics.

	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>
Number of Vehicles Inspected	1,300,000	1,400,000	1,450,000
Number of Gross Polluters Identified	123,000	95,700	79,300
Tons of Pollutants Removed	30,000	55,000	83,000

DEFINITION, RATIONALE, DATA SOURCE:

The emissions inspection of motor vehicles is a federally required program to help reduce emissions in metropolitan areas that have demonstrated difficulty meeting standards for air quality. The best measure of the effectiveness of this activity is by looking at the number of gross polluters (vehicles that fail the test) identified and the tons of pollutants that were prevented from being emitted as a result of the program. That statistic is taken directly from vehicle test data collected at the inspection stations. The test data is then used, along with information on the metro area vehicle fleet such as vehicle miles travelled and average speeds, to calculate the tons of air pollutants that were prevented from being emitted. This calculation is performed according to the EPA's specifications.

DISCUSSION OF PAST PERFORMANCE:

The decline in the number of gross polluting vehicles is the result of two factors. First, as intended by the presence of such a program, motor vehicle owners are more conscientious in maintaining their vehicles. Second, motor vehicle technology is improving, and vehicles are operating for longer periods of time without emission control failure. The increase in the tons of pollutant emissions reduced is the result of improvements made in the program and refinements in the data and tools used to calculate emissions.

PLAN TO ACHIEVE TARGETS:

The goal of this activity is to provide a vehicle emission inspection program that will satisfy the requirements of the Clean Air Act and the EPA, and to get the Twin Cities area redesignated as meeting air quality standards. The program has been submitted to the EPA, and the agency is waiting to hear whether or not it will be approved. The agency is in the process of developing the information needed to prepare a redesignation request.

OTHER FACTORS AFFECTING PERFORMANCE:

There are many other factors that affect the amount of pollution emitted from motor vehicles. These include the number of vehicles on the road, the number of miles a vehicle is driven, the number of trips in a day, the lengths of the trips, traffic congestion, and others. This program does not affect those factors.

GROUND WATER PROTECTION AND SOLID WASTE MANAGEMENT

Program Drivers:

- A need for information regarding ground water quality.
- Ground water is affected by numerous activities of different agencies.
- Widespread use of septic tanks for business wastes is polluting ground water.
- Toxics in products and packaging affect waste management decisions and ultimately impact public health and the environment.
- Solid waste management is a complex blend of technical, political, economic, and judicial factors.
- State and federal streamlining actions and economic development pressures are significantly changing cleanup programs.

OBJECTIVE 3-1: To know and understand the positive and negative changes to the state's ground water resulting from human activities and from efforts to regulate or remediate the effects of these activities.

Measure 1: Average or expected ground water quality

OBJECTIVE 3-2: To prevent and limit pollution of ground water from businesses that dispose of wastes into septic systems.

Measure 1: Number of improvements to business septic systems.

OBJECTIVE 3-3: (proposed) To prevent, limit or clean up contamination at closed landfills and recover resources where possible.

Measure 1: Contaminants limited and resources recovered at closed landfills.

OBJECTIVE 3-4: To encourage "land recycling" by working in partnership with voluntary parties that are conducting evaluations and, where necessary, cleanups.

Measure 1: Acres of land brought back into productive use.

OBJECTIVE 3-5: To discover, assess and cleanup sites where past activities have contaminated soil, surface water and ground water.

Measure 1: Discovering contaminated sites and reducing contamination of land and ground water.

OBJECTIVE 3-6: To reduce public health threats and prevent pollution from old tire dumps by promoting a sustainable system of managing waste tires. This system conserves resources by moving waste tires from the point of generation to processing facilities and developed end markets.

Measure 1: Shrinking waste tire piles and managing new generation of tires.

OBJECTIVE 3-7: To prevent future releases of contaminants into the environment by providing training and technical assistance to owners and operators of motor vehicle salvage yards, and to identify, investigate and clean up releases of hazardous substances.

Measure 1: Activities to prevent and clean up contamination at motor vehicle salvage yards.

OBJECTIVE 3-8: To minimize hazardous releases to soil and ground water from open solid waste disposal facilities.

Measure 1: Contaminants controlled and resources recovered at open municipal solid waste landfills.

SUMMARY

AGENCY: Pollution Control Agency
PROGRAM: 03-Ground Water Protection and Solid Waste Management

EXPENDITURES AND STAFFING (F.Y. 1994)

(\$ in Thousands)

Total Expenditures:	\$	22,941
From State Funds	\$	19,264
From Federal Funds	\$	3,677

Number of FTE Staff:	186.0
-----------------------------	-------

PROGRAM GOALS:

The goal of the program is to protect and preserve Minnesota's land and ground water resources by developing and implementing waste management activities, and by cleaning up areas that have been contaminated due to past waste disposal and other human activities.

- To mitigate the long-term environmental effects from waste facilities through the proper disposal or reuse of solid waste homes, businesses and organizations in the state (M.S. 115.03; 115.A97; 116.07).
- To manage the cleanup of contaminated sites (M.S. 115B; Laws of 1994, Ch. 639).
- To conduct monitoring and data assessment of solid waste generation and ground water for trend analysis, pollution problem identification and program evaluation (M.S. 115A; Minn. Stat. 103H.251).

DESCRIPTION OF SERVICES:

Environmental Assessment and Direction. This activity provides overall direction to the program and supports activities through assessing and analyzing state policy, and by analyzing and interpreting ground water monitoring and solid waste data. Two services, the Ground Water Monitoring and Assessment Program (GWMAP) and the Integrated Ground Water Information System (IGWIS) provide automated, interpreted information on ambient and site-specific ground water quality needed by the agency program managers and local governments to assess the success of ground water management and activities to control sources of contamination. The Underground Disposal Control Program (UDCP) addresses on-site disposal of commercial and industrial wastewaters, as well as other underground injection of wastes. These waste disposal practices, at facilities estimated to number in the thousands statewide, pollute ground water with a variety of contaminants. Through a series of fact sheets on Best Management Practices (BMPs), outreach, assistance to local governments, and direct assistance to owners, the program works to eliminate new and existing sources of ground water contamination. The activity also has the lead responsibility to track and be involved in the emerging issues of the day regarding both ground water and

includes the development of position papers, special reports, policy, guidance, and when necessary, rules and draft legislation.

Superfund and Closed Landfill Cleanup The largest two components of this activity deal with traditional superfund sites and the cleanup, operation and maintenance of closed solid waste landfills. Smaller components of the activity include the nationally recognized waste tire cleanup program that is nearing completion, and an investigation of the potential problems associated with automobile salvage yards that was initiated by legislation passed during the 1994 session. The traditional program continues to show progress in implementing its strategy of cleaning up contaminated soil, surface and ground water, and eliminating public health threats. The majority of sites undergo voluntary investigation and cleanup, where this activity provides oversight of investigations and cleanup actions conducted by voluntary parties requesting assistance. In addition to receiving technical assistance, the voluntary party can also obtain certain assurances regarding present and future cleanup liability. The activity also includes file searches, which provide information about known locations of hazardous waste sites, old dumps, active landfills, hazardous waste generators, registered and leaking underground storage tanks, chemical spills and agency enforcement actions. During the 1994 session, closed solid waste landfills were removed from the traditional superfund realm and an entirely new approach to their closure and cleanup was instituted.

Solid Waste Management Facilities The activity is responsible for issuing permits, conducting technical evaluations and assistance, managing water quality monitoring programs, training and certifying facility operators, monitoring compliance and taking enforcement actions for all solid waste management facilities. This includes facilities used to recycle, process, compost, incinerate and dispose of nearly 20 million cubic yards of solid waste generated per year in Minnesota. This activity must ensure that ground water, which is Minnesota's primary supply of drinking water, is not contaminated by solid waste facilities and that corrective actions are taken whenever contamination in water, air or soils is detected above acceptable levels.

BACKGROUND INFORMATION:

MEASURES OF ACTIVITIES (A), WORKLOAD (W), UNIT COSTS (UC), OTHER DATA (O)

<u>Type</u>	<u>Measure</u>				
	<i>Environmental Assessment and Direction</i>			<u>FY 1995</u>	
W	Number of active water supply wells in Minnesota			500,000 e	
		<u>FY 1993</u>	<u>FY 1994</u>	<u>FY 1995</u>	<u>FY 1996</u>
A	Number of ground water and solid waste policy analysis reports submitted to State Legislature	3	2	5	10 e

1994 Annual Performance Report

W	Participants in facility operator training	548	529	520 e	520 e
	<i>Superfund Voluntary Investigation and Cleanup, Waste Tire Cleanup</i>	<u>FY 1993</u>	<u>FY 1994</u>	<u>FY 1995</u>	
A	Number of potentially contaminated sites evaluated	52	26	26 e	
A	Number of Superfund sites undergoing response actions	131	145	188 e	
W	Number of applicants for voluntary investigation and cleanup	90	121	190 e	
UC	Average quarterly staff cost of voluntary cleanup oversight	\$1,856	\$1,530	\$1,600 e	
W	Number of tires in dumps cleaned up per year	4,407,305	1,163,105	160,000 e	
W	Waste tire enforcement actions taken (cumulative)	47	178	244 e	
	<i>Closed Landfill Cleanup</i>	<u>FY 94</u>	<u>FY 1995</u>	<u>FY 1996</u>	<u>FY 1997</u>
A	Percentage of facilities receiving certificate of compliance (110 sites)	0	40% e	80% e	99% e
A	Number of facilities in design/construction	0	4 e	10 e	18 e
A	Percentage of facilities reimbursed for past cleanup actions (20 sites eligible)	0	0	25% e	40% e

	<i>Solid Waste Management</i>	<u>FY 1993</u>	<u>FY 1994</u>
W	Cubic yards of solid waste generated (millions)	18	19
W	Number of open solid waste facilities	220	204
A	Waste tire grants/loans awarded	4	8
UC	Cost of regulatory compliance per cubic yard of waste managed	\$.05	\$.06

e = Estimated

PROGRAM DRIVERS:

- **A need for information regarding ground water quality.** This has long been recognized as a basic need but has always been hampered by limited funding. A better understanding of the resource is essential both to plan for its future protection and use in a sustainable manner and to understand the impacts of past activities and current protection measures. This driver relates directly to the overall agency objectives of studying and cleaning up the environment. There is also a great opportunity here to develop partnerships with local units of government in the planning, executing and sharing of information from ground water monitoring.
- **Ground water is affected by numerous activities of many different departments and agencies.** The result is a need to monitor our ground water resource in a systematic fashion and to ensure that all the parties communicate and understand each others' programs and needs to the greatest extent possible. Facilitating the coordination and communication between all the parties is a major commitment of this program and corresponds closely with the Environmental Protection Agency's (EPA) Comprehensive State Ground Water Protection Program.
- **Widespread use of septic tanks for business wastes is polluting ground water.** In recent years pollution control efforts have shifted increasingly to smaller, more numerous dispersed sources. On-site waste and wastewater disposal from businesses is one such dispersed source. These facilities have not been accurately inventoried but are estimated to number in the thousands. Chemical wastes from floor drains and other on-site disposal cannot be treated by on-site treatment systems designed for human wastes. Because these installations are so numerous, especially (but not solely) in unsewered and growth areas, their cumulative impact could be equivalent to much larger sources. The program offers an opportunity to assist local governments and to reduce contamination of ground water through partnership with local governments, trade associations, and installers.
- **Toxics in products and packaging affect waste management decisions and ultimately impact public health and the environment.** To date, the costs of properly managing the disposal of these materials is borne by state and local governments and the consumers. The Legislature has targeted certain toxic metals by establishing limits of introduction and presence and Minnesota has joined with a group of northeastern states to facilitate the review and eventual reduction of heavy metals in products and packaging.

- Solid waste management is a complex blend of technical, political, economic and now, judicial factors. Waste management facilities of all types are difficult to site and expensive to build and operate. Permitting involves technical as well as political issues to be resolved. Recently, the U.S. Supreme Court has deeply affected this program, rendering decisions affecting waste designation and the disposal of ash from municipal solid waste incinerators.
- State and federal streamlining actions and economic development pressures are significantly changing cleanup programs. In the 1994 legislative session, closed municipal solid waste landfills were carved out of Superfund. The long term care and, where necessary, cleanup of such facilities can now be taken over by the state if certain conditions are met. At more traditional contaminated sites, many parties are coming forward voluntarily to conduct site investigations and cleanups, thereby avoiding the more rigid, process-oriented Superfund program. The Agency has over 10 years of experience with the Superfund program and has increased the number of cleanups by simplifying the state Superfund site cleanup process. In addition, the federal part of the program will be subject to major streamlining in the future with the reauthorization of CERCLA (federal Superfund law) moving through the U.S. Congress and program changes under consideration by the EPA.

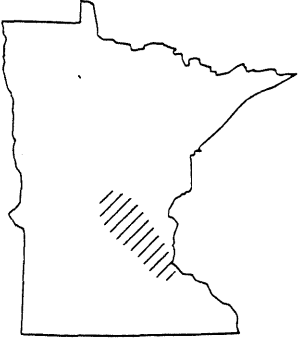
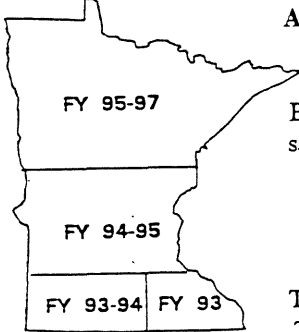
AGENCY: Minnesota Pollution Control Agency

PROGRAM: 03-Ground Water Protection and Solid Waste Management

OBJECTIVE, MEASURE

Objective 03-01: To know and understand the positive and negative changes to the state's ground water resulting from human activities and from efforts to regulate or remediate the effects of those facilities.

Measure (1): Average or expected ground water quality.

Actual Performance (Cumulative)		<u>FY 1993</u>	<u>FY 1994-95</u>	<u>FY 1996-97</u>	
	FY 95-97				
	Baseline wells sampled, one sample per well	200	570	1,190 e	
	FY 94-95	<u>FY 1993</u>	<u>FY 1994-95</u>	<u>FY 1996-97</u>	
	Trend wells sampled	0	0	100 e	
	Trend samples collected	0	0	800 e	
	Cooperative samples collected	158	0	558 e	

DEFINITION, RATIONALE, DATA SOURCE:

This objective could complete the baseline sampling and assessment of Minnesota's 14 principal aquifers by the end of calendar year 1998 to allow development of a system for reporting on ground water quality. A network to monitor ground water quality trends over time and develop indicators to characterize aquifers by the degree of impacts on designated beneficial uses of those aquifers could also be developed. A third aspect of the objective is to provide coordination and technical support to local efforts to monitor ground water. Additional funding will accelerate completion of the initial determination of baseline ground water quality statewide. The activity has been able to provide one-time baseline sampling on only a portion of the state.

The cumulative total of 1,190 baseline samples will complete the initial round of statewide ground water quality assessment and provide the most thorough record available of Minnesota ground water quality within a point in time. The proposed objective could also quantify, for the first time, whether and where ground water quality is improving over the long term as a result of the state's ground water protection efforts or degrading despite those efforts. This system could report, and display through graphics, the percent of samples or ground water that meet standards as "Fully Supporting the Beneficial Uses," "Impacted," "Threatened," or "Not Supporting". The new network could enable the agency to assess how ground water quality in a given region is changing over time as a result of pollution control and land-use practices and progress in ground water protection programs such as Superfund, closed landfill cleanup, leaking underground storage tanks and retrofits of residential septic tanks.

The data source is analytical results and other information obtained from sampling of existing private water supply wells by the Ground Water Monitoring and Assessment Program, including a new trends monitoring network in F.Y. 1996. We would measure the number of wells sampled one time in the baseline network and other wells will be sampled several times per year initially and on regular intervals thereafter for the time trends monitoring. Cooperating with local monitoring efforts adds value to all the ground water monitoring work by ensuring that appropriate wells are selected and that collection and analytical methods are standardized. The estimated cost of accelerating completion of the baseline network, to add time trends monitoring and assessment and cooperate with local efforts, is \$429,000 per year and an additional 3.0 FTE, including 1.0 FTE in a regional location.

DISCUSSION OF PAST PERFORMANCE:

The design of the GWMAP baseline network was completed under F.Y. 1990-91 funding from the Legislative Commission on Minnesota Resources. Funding was not available again until F.Y. 1993, when the initial round of baseline sampling began. In F.Y. 1993 and 1994, 449 samples were collected. A time trends network does not exist, and time trends monitoring has not been done, due to insufficient funds. Existing funding has supported baseline monitoring and limited development of regional monitoring cooperatives. During 1992, the program had a successful cooperative effort in the southeast corner of the state working with nine counties in the Zumbro River and Root River watersheds.

PLAN TO ACHIEVE TARGETS:

In 1993 and 1994, productivity has been boosted by increased automation of well selection, field procedures, and data management and partnerships with local governments in owner contacts and field work. Further improvements are anticipated in transfer of electronic data from the analytical laboratories and in bottle bar-coding and tracking of samples. We now have the capacity to provide much of the needed data analysis, interpretation, and reporting for the baseline component of GWMAP (Map 1, above). A monitoring network for time trends could be researched and developed in F.Y. 1996 with additional funding. The network would initially focus on areas where ground water is most vulnerable and/or most threatened by human activities, particularly the St. Cloud-Twin Cities growth corridor (Map 2). One hundred wells representing various geologic and demographic settings would be sampled several times per year initially and on regular intervals thereafter. A total of 600 samples would be collected during F.Y. 1996-97. Local governments would be enlisted to assist with identifying well owners and sampling wells in exchange for the data and agency assistance and training. Assessment of the results would begin in F.Y. 1997 and continue annually thereafter. An estimated 400 samples would be collected from one or more regional monitoring cooperatives, similar to the F.Y. 1992-93 effort in southeast Minnesota which includes 158 samples (Map 1).

OTHER FACTORS AFFECTING PERFORMANCE:

Success in attaining the performance goal and in adequately assessing and reporting on the findings will depend on: 1) continued progress in automating field procedures and data management; 2) cooperation from local governments in contacting well owners, securing owner participation, and assisting with sampling and dissemination of results; 3) establishment of sound network design, including criteria for selecting wells and cycling of wells and aquifers in the network, and 4) selecting a network of wells that is within reasonable distances from existing and new staff, and which is readily accessible and allows rapid purging and sampling.

Objective 03-02: To prevent or limit pollution of ground water from businesses that dispose of wastes into septic systems.

Measure (1): Number of improvements to business septic systems.

Actual Performance	F.Y. 1991	F.Y. 1992-93	F.Y. 1994-95	F.Y. 1996-97
Septic systems removed or upgraded	0	30 e	30 e	300 e

e = Estimated

DEFINITION, RATIONALE, DATA SOURCE:

The agency will measure future success by the number of known facilities that are retrofitted to minimize or eliminate underground disposal of commercial and industrial wastes in conformance with agency requirements and recommended BMPs. This is a direct measure of success in keeping nondomestic/non-sanitary wastes out of septic systems and ground water.

The agency has made great strides toward attaining one of the performance measures in the F.Y. 1994-95 budget, which is that 95% of new installations are in conformance with agency requirements and recommended BMPs. Additional staffing in the regional offices could assist local governments, owners, and installers in retrofitting thousands of existing installations which threaten ground water. Additional outreach, assistance, and inspections would maintain recent successes with new installations, and ensure full or virtually full compliance for these facilities. Most commercial/industrial facilities with septic tanks are owned by small businesses and local governments; direct monitoring and/or cleanup of soil and ground water may be prohibitively costly.

The data source would be running logs maintained by agency staff. The numbers would reflect those retrofits or closures that are made known to the agency by owners and local building and zoning officials. The actual number of retrofits and closures may be higher because no mandatory reporting is envisioned at this time. Acceleration of documented retrofits and closures beyond the current rate will require additional funding of \$240,000 per year and 3.5 FTE.

DISCUSSION OF PAST PERFORMANCE:

Program success depends on assistance by and to local government officials. These may be staff from building inspections, health, fire marshal, and/or planning and zoning. Good relationships currently exist with central office staff, but would be greatly enhanced by the addition of staff in the regional locations. Program success also has depended on development of user-friendly BMP fact sheets, presentations and other contacts with trade associations and installers and voluntary compliance, especially given severely limited staff. This is believed to have brought about a high level of compliance for new installations. Success with the estimated thousands of existing facilities that are not complying will depend on more contacts and assistance than a part-time staff person in St. Paul can provide.

PLAN TO ACHIEVE TARGETS:

To achieve this objective, staff are needed to provide assistance to owners and local governments, conduct extensive outreach, and conduct inspections. MPCA staff could continue development of additional BMPs with regional and stakeholder input, directly assist owners and local governments in the seven-county Twin Cities Metropolitan Area, and coordinate with the EPA's Underground Injection Control (UIC) regulatory program.

OTHER FACTORS AFFECTING PERFORMANCE:

The program relies and will continue to rely on coordination with other agency programs, including hazardous waste, industrial wastewater, septic tanks, and underground storage tanks, and other state programs, notably the Minnesota Department of Health (MDH) programs to inspect plumbing and facilities. The EPA UIC program regulates these same

facilities. An active and successful agency program reduces the EPA permitting and enforcement presence in Minnesota and helps Minnesota small businesses and local governments comply with EPA requirements. Federal UIC regulations currently being drafted will impose new requirements for closure and monitoring of many of these facilities; the agency will need to modify its requirements and recommended practices in various ways upon adoption of those regulations. Future success will depend on maintaining good relations with all the many players from both the Central and Regional Offices, so that compliance is both achieved and willingly made known to staff.

Objective 03-03: (Proposed) To prevent, limit, or clean up contamination at closed landfills and recover resources where possible.

Measure (1): Contaminants limited and resources recovered at closed landfills.
--

Actual Performance	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996-97</u>	<u>F.Y. 1997-98</u>
Leachate leaking to ground water (millions of gallons)	98	60	45	25
Methane gas controlled (million cubic feet/year)	3.5	4.0	5.5	5.5
Electricity generation (megawatts from gas recovery systems)	0.2	3.4	9.0	10.0
Acres of land recovered to allow beneficial use (cumulative)	13	20	40	60
Volatile organic compounds destroyed (in pounds)	908	40,000	55,000	55,000

DEFINITION, RATIONALE, DATA SOURCE:

The program was created in the 1994 Legislative Session to clean up sites as efficiently as possible and to eliminate costly legal transactions that occurred under Superfund. The program has a 10 year goal for completion of all construction activities at the 110 sites.

Application of covers is a critical step in limiting and preventing pollution. Installation of gas systems will also limit pollution by removing and destroying toxic substances at their source. In those cases where gas can be utilized in conversion to electricity, it will also have a secondary benefit of recovering energy and reducing the need for additional coal or nuclear energy production. This will be accomplished by developing partnerships with companies that are in the business of methane recovery from landfills.

DISCUSSION OF PAST PERFORMANCE:

This program replaces Superfund as the tool previously used to address permitted landfills. Under Superfund, response actions were developed at approximately 13 landfills over a 10 year period. Some of these actions were discontinued as municipal owners and operators reached their liability limit. Much of the work was investigation and determining the actions that would be necessary to respond to a release and did not clean up soil or ground water. The time that it took to go from discovery of a problem to implementation of a cleanup remedy was in excess of six years at most sites.

PLAN TO ACHIEVE TARGETS:

To meet the targets identified, the division is reorganizing to focus work groups so that outcomes will be maximized. The agency has, for the past two years, been investigating and making a preliminary determination on actions that will be needed at each of the 110 sites. In addition, the sites are being prioritized and future work will follow the priority list. The agency has also developed a decision flow chart that will be used to determine the scope of work necessary at each site based on the environmental setting and site conditions. This will streamline the program so that all 110 sites can be addressed in the time frames identified. The agency is also currently involved in extensive outreach activities to make sure that all facility owners and operators have the necessary information to obtain a certificate of compliance for their sites. We have strived to develop and maintain a very good and close working relationship with facility owners and operators to make a smooth transition from Superfund to this program. This work has been very well received.

OTHER FACTORS AFFECTING PERFORMANCE:

There are several steps that must occur before a facility is given a certificate of compliance, which is needed before the state assumes responsibility for cleaning up a closed landfill. There may be owners and operators who do not complete the steps necessary and who will need to be moved into the program. The law provides the tools necessary to get sites into the program, but the process will consume staff resources that could be used to meet the targets. It is premature to tell how many resources will be needed with these potentially recalcitrant owners. There are several other issues with the law that will consume staff time to resolve including reimbursement plans, land-use plans, liens, property acceptance, and discussions with the EPA on actions at federal sites. We anticipate there will be additional, as yet unidentified, issues. We will work with interested parties to resolve these. This, too, will consume staff resources and may have an impact on meeting the targets.

Objective 03-04: To encourage "land recycling" by working in partnership with voluntary parties that are conducting evaluations and, where necessary, cleanups.

Measure (1): Acres of land brought back into productive use.
--

Actual Performance	<u>Thru 1990</u>	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1996</u>	<u>F.Y. 1998</u>
Cumulative number of sites	93	199	296	417	900 e	1,200 e
Number of acres "recycled"	500	1,000	1,200	2,000 e	4,000 e	7,000 e

DEFINITION, RATIONALE, DATA SOURCE:

This approach effectively promotes the voluntary investigation and cleanup (VIC) of contaminated property to minimize environmental impacts, reduce human health risk and encourage economic development as expeditiously as possible. The data represent the number of sites in the activity and the number of acres of land "recycled" or put back into economic use. This land may or may not required cleanup, depending on investigation results and planned use.

This data are collected from voluntary party applications and reported in the Annual Superfund Report to the Legislative Commission on Waste Management.

DISCUSSION OF PAST PERFORMANCE:

Parties seeking assistance under the VIC activity are expected to cooperate and adhere to certain standards in the investigation, regarding the extent and nature of the contamination, the evaluation, the recommendation of response actions, and the level of cleanup attained. The activity has developed guidance documents for technical assistance. Parties must also fully reimburse the cost of the assistance provided by the Agency. The VIC activity has been awarded the 1994 Innovation in Government Award by the John F. Kennedy School of Government and the Ford Foundation.

PLAN TO ACHIEVE TARGETS:

In order to meet the VIC activity targets, the agency needs to actively conduct education and outreach activities about the voluntary approach, encourage and promote the use of the guidance documents for the VIC activity to help ensure a streamlined and consistent investigation and cleanup process, and provide the written assurances authorized by the Land Recycling Act, which are seen as incentives by many program participants.

OTHER FACTORS AFFECTING PERFORMANCE:

A positive economic climate will provide motivation for voluntary parties to investigate and clean up property. The number of voluntary parties will also be affected by the state and federal Superfund laws and programs, the type and number of sites being discovered/assessed by the agency's Site Assessment activity and the level of education and outreach activities undertaken by the VIC activity.

Objective 03-05: To discover, assess and clean up sites where past activities have contaminated soil, surface water and ground water.

Measure (1): Discovering contaminated sites and reducing contamination of land and ground water.

Actual Performance

Measures:	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1996</u>
Potentially contaminated sites needing investigation (cumulative)	100	135 e	175 e	225 e
Gallons of ground water treated (billions)		4.9	NA	
Cubic yards of soil treated (millions)		1.6	NA	
Pounds of contaminants removed (millions)		0.66	NA	
State sites delisted due to cleanup		10	5	

NA = Not Available

DEFINITION, RATIONALE, DATA SOURCE:

This approach proactively identifies business and manufacturing processes that have historically caused contamination. The treatment of soil and ground water and removal of contaminants from sites minimize environmental impacts and reduce or eliminate health risk.

This activity implemented a special effort of data tracking and collection for strategic indicators in late F.Y. 1994. This information will be calculated annually. The data does not include sites cleaned up under the voluntary investigation and cleanup activity discussed in Objective 03-04.

DISCUSSION OF PAST PERFORMANCE:

After 10 years of participation in the federal site assessment program, the agency will have completed evaluations of all 475 sites on the federal list of known or potential hazardous waste sites. Also during this time, the activity listed nearly 200 sites on the state Superfund list and 42 sites on the federal Superfund list. At the end of 1993, there were almost 150 sites in the Superfund cleanup pipeline. However, the complexity of the Superfund program can drive up costs and prolong cleanup. Of the state administered sites, 85% have undergone cleanup, at about half the cost of federal completion. Time frames and costs have now been reduced with increased state experience in the Superfund process. In addition, the threat of active enforcement action under a strong state Superfund law has motivated many parties to pursue a voluntary, more streamlined, approach to cleanup offered by the agency.

PLAN TO ACHIEVE TARGETS:

Proposed amendments to federal law would replace the federal list of potential hazardous waste sites with a state registry of sites. Once in place, the EPA will only accept sites listed through the state registry for federal-level activities. In effect, the state will control the entry of sites on the registry, thereby reducing the degree of federal involvement at sites. On the other hand, this shift in site referral will place a heavier burden on state resources. Minnesota's state registry will be composed of selected sites from current federal and state lists of sites, and site assessment's potential list of sites. The agency will improve efficiency in screening potential sites by implementing a state-funded discovery program and reduce the amount of time in the beginning stages of the Superfund process spent evaluating potential sites by implementing an integrated assessment process. In order to achieve our goals, the Agency must have the flexibility of directing staff resources to critical site activities without regard to funding sources. Critical paths of cleanup activities will be developed for all remaining sites on the state priority list and we will make every effort to meet them by using all appropriate technologies and methods to facilitate and expedite the process. Long, expensive studies will be shortened. Remedy selection, design, and implementation must be kept timely and meet all appropriate standards.

In addition, the agency will be obtaining authorization from the EPA to conduct all remedial action steps at 12 enforcement sites on the national priority list where responsible parties have been identified, and achieve cleanup without federal review or concurrence. This action will enable the agency to implement decisions on site cleanup more quickly thereby eliminating the delays that have characterized the federal program, reducing administrative costs for both the state and the responsible parties, and move quickly to response actions which address the site contamination.

OTHER FACTORS AFFECTING PERFORMANCE:

Federal funding is no longer available for evaluation and screening of potential sites for the Superfund Program. In addition, during 1994, funding for staff working on sites on the federal priority sites was terminated or reduced significantly depending on the site. By F.Y. 1996, the activity expects federal funding loss to equal eight positions. Without applying state funds for the lost federal administrative dollars, work cannot begin on the seven current backlogged sites, and the loss of staff is expected to increase the backlog to 19 sites. The increased state administration funds will be for oversight of responsible party cleanup actions that will result in increased cleanup actions occurring in the state.

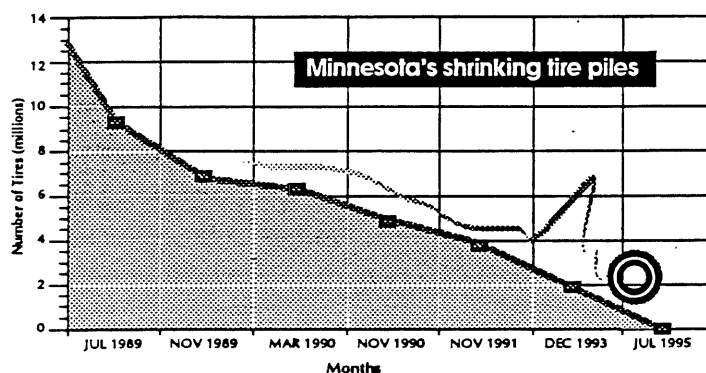
The strategic use where possible of removal and interim response actions at sites have, and will continue to expedite

progress toward remediation. The removal of permitted sanitary landfills from the Superfund Program in 1994 with the creation of an effective landfill cleanup program allows for all of the state Superfund resources to be focused on traditional Superfund sites. Finally, a strong enforcement policy against responsible parties for reimbursement of state costs and the continued use of strict joint and several liability will minimize state costs and encourage responsible parties to complete the cleanup activities as soon as possible.

Objective 03-06: To reduce public health threats and prevent pollution by cleanup of old tire dumps and by promotion of a sustainable system of managing waste tires. This system conserves resources by moving waste tires from the point of generation to processing facilities and developed end markets.

Measure (1): Shrinking waste tire piles and managing new generation of tires.

Actual Performance



	<u>F.Y. 1990</u>	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1996</u>
Grants and feasibility studies (cumulative)	6	13	14	18	25 e
Number of new waste tire industries or uses of waste tires developed (cumulative)	1	6	10	13	19 e
Current generation of waste tires processed (cumulative) (millions)	7.6	22.3	27.8	38.9	48.5 e

DEFINITION, RATIONALE, DATA SOURCE:

The Waste Tire activity was created in 1985 to clean up tire dumps and to develop a relatively simple management system to handle future generation of tires through voluntary compliance and minimal enforcement oversight compared to the large number of individuals and companies involved. The program reports annually to the Legislative Commission on Waste Management.

DISCUSSION OF PAST PERFORMANCE:

Minnesota's waste tire program has been recognized as a national success and has been used as a model for the development of other states' programs. The agency received a national Innovations Award in 1992 from the Council of State Governments for the Agency's successful approach in addressing the problem of waste tires in Minnesota. Successful cleanup of 13.6 million waste tires has occurred in the state since the implementation of the program. Waste tire transport, handled by authorized waste tire haulers, delivers tires to permitted processing facilities. A relatively low level of enforcement work has maintained compliance considering over 600 parties have been involved to date. In addition, many fledgling businesses in the state have developed products and processes through the use of the grant program, which provided capital to these businesses and individuals for product development and testing.

PLAN TO ACHIEVE TARGETS:

The program will have cleaned up all known tire dumps by the end of F.Y. 1995. The agency must continue to provide oversight for 109 transporters to prevent dumping and ensure proper handling and disposal of tires, maintain compliance at 11 processing and storage facilities, and where needed, take enforcement actions to achieve the goals of proper management of waste tires. Funds for grants and feasibility studies ensure that the best viable options for recycling of tires are developed.

OTHER FACTORS AFFECTING PERFORMANCE:

A well established and stable industry has been developed to handle tires properly. However, as long as money can be made by noncompliance there will be a need for continued oversight. Tire dumps have been listed as a result of complaints and owner self-reporting. The funding for ongoing waste tire management is the Motor Vehicle Transfer Fee, which sunsets December 31, 1996.

Objective 03-07: To prevent future releases of contaminants into the environment by providing training and technical assistance to owners and operators of motor vehicle salvage yards and to identify, investigate and clean up past releases of hazardous substances.

Measure (1): Activities to prevent and clean up contamination at motor vehicle salvage yards.

Actual Performance*	<u>F.Y. 1995</u>
Salvage yard owners and operators trained	500 e
Technical assistance provided	30 e
Sites cleaned up	0
*Not Available, Program Not Established	

DEFINITION, RATIONALE, DATA SOURCE:

Salvage yards play an important role in society by reselling usable parts from worn out or damaged vehicles. However, in the process of salvaging vehicles waste fluids and parts are generated, containing toxic metals and other contaminants of concern. Releases may result from improper handling, storage or disposal and can contaminate soil, air, surface and ground water. This measure proposes to provide training and technical assistance whenever possible to prevent pollution and obtain compliance with existing pollution requirements. The agency will continue to develop partnerships with industry groups by seeking input and providing joint training and educational materials.

In the 1994 session, the Legislature funded an agency project to evaluate the impact of the estimated 600 motor vehicle salvage yards on human health and the environment. Ongoing goals and needs for this effort will be based on the information gathered and recommendations compiled in the report to the Legislature in January 1995.

DISCUSSION OF PAST PERFORMANCE:

Prior to the approval of the Salvage Yard Initiative in 1994 the agency had only limited activity with salvage yards. Records indicate that only about 25 sites had been involved in enforcement actions or cleanup activity. There are no records on the amount of technical assistance. Since July of 1994, the agency has developed a training manual for owner/operators, established training workshops to be implemented in late F.Y. 95, developed sampling plans for contaminants, and, using county solid waste staff under contract, conducted environmental evaluations at a large portion of the estimated 600 salvage yards in Minnesota.

PLAN TO ACHIEVE TARGETS:

To provide technical assistance the agency will hold 6-8 regional workshops and conduct 30 technical assistance site visits in F.Y. 1995. Follow-up enforcement action will be referred to the Hazardous Waste Division when the owner or operator will not agree to changes necessary to control the release of hazardous substances. Sites where soil or ground water is contaminated and represents a hazard to human health or the environment, or where waste tire dumps are discovered should be directed to a cleanup program. We expect that it will be very difficult to obtain voluntary cleanup with salvage yard owners: the ones with the biggest problems typically have limited financial resources. Therefore, we expect that a large number of cleanups will have to be accomplished through some funding mechanism, possibly the Motor Vehicle Transfer Fee.

OTHER FACTORS AFFECTING PERFORMANCE:

Based on the information available, a large number of facilities are going to need technical assistance. The effectiveness of this approach is largely unknown. Discussions with industry leaders indicate that training workshops will play an important role in the transfer of information and improvement of management practices. It is only possible to estimate the number of cleanups which will be needed at salvage yard facilities. The Motor Vehicle Transfer Fee sunsets on December 31, 1996.

Objective 03-08: To minimize hazardous releases to soil and ground water from open, municipal solid waste disposal facilities.

Measure (1): Contaminants controlled and resources recovered at open municipal solid waste landfills.

Actual Performance	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1997</u>
Leachate leaking to ground water (millions of gallons)	-	34	18 e	15 e
Number of open landfills requiring ground water remediation	-	8	15 e	10 e
Methane gas recovered by active systems (millions of cubic ft/yr)		6.76	12	26
Lined landfills constructed	24	26	27	27

DEFINITION, RATIONALE, DATA SOURCE:

A landfill liner in combination with a landfill cover ensures that there is minimal release of leachate and that ground water is protected. This indicator will show how many gallons of leachate leak from the 27 open mixed municipal solid waste landfills each year. There are currently 650 acres of closed fill areas and 250 acres of open fill areas at these landfills. If liners and covers were not constructed, a maximum of 56 million gallons/year of leachate would reach the ground water from these 900 acres. Placing covers over old unlined acres and using covers and liners for new fill areas could reduce leachate reaching ground water to 15 million gallons/year. Gas recovered by active systems installed at open landfills is calculated from the annual volume of waste disposed in landfills and the amount of gas extracted by the systems.

The objective of the solid waste program has been to reduce the amount of solid waste that is landfilled, cover old unlined fill areas, manage and recover explosive methane gas, and build liner/leachate collection systems for solid waste that is landfilled. This will reduce the amount of leachate leaking to the ground water and, therefore, the level of ground water contamination. Historically, all solid waste was placed in unlined landfills and over the past six years significant progress has been made to close old unlined areas and build lined areas. The indicators in the table above show the historic progress made and projects future progress.

The data source for this information is the annual reports received on February 1 of each year from landfill permittees.

DISCUSSION OF PAST PERFORMANCE:

The agency began requiring a more extensive analysis of alternatives to land disposal and the development of county solid waste management plans in the 1980s. The agency adopted new rules in 1985 to require new and horizontally expanded landfills to have liners and leachate collection systems. The rules also required more extensive monitoring of ground water, more effective designs, and operating procedures. In 1990, the agency made an administrative decision not to approve any vertical expansions that would have extended past November 1993. This deadline was extended by four months for four facilities which would have to meet federal requirements in April 1994.

PLAN TO ACHIEVE TARGETS:

State law requires that all landfilled mixed municipal solid waste must be placed on liners by July 1, 1995, and has established priorities for solid waste management and banned certain toxic or problem materials or products. These laws encourage a reduction in the amount of solid waste landfilled which will also reduce the amount and eventually the toxicity of leachate leaking from solid waste to ground water. These laws in combination with state rules for solid waste management should enable the targets identified to be achieved.

OTHER FACTORS AFFECTING PERFORMANCE:

Recent U.S. Supreme Court decisions related to management of incinerator ash and waste designation ordinances could interfere with the waste management system established in Minnesota and efforts to achieve the targets.

HAZARDOUS WASTE MANAGEMENT

Program Drivers:

- * Lack of knowledge by small businesses.
- * Federal requirements.
- * Consistency among state and county programs.
- * Collection of fees.
- * Maintenance of a strong inspection and enforcement program
- * Problems with solid waste management caused by household hazardous wastes.
- * Problems with solid waste management caused by special hazardous wastes.
- * Expanding the universe of facilities needing permits.
- * Federal requirements (tanks program).
- * Problems with 90% reimbursement.
- * Diverse ownership of tanks.
- * Shift from full service to convenience store operations.
- * Limited funding for cleanup responses.
- * Sunsetting of a cleanup program.

OBJECTIVE 4-1: To increase the compliance rate for proper hazardous waste management and proper storage using an appropriate balance of technical assistance and enforcement.

Measure 1: Permitted facilities.

Measure 2: Education and technical assistance provided to regulated community.

Measure 3: Complaints received and inspections conducted in response.

Measure 4: Efforts conducted as part of the Lake Superior Initiative.

OBJECTIVE 4-2: To ensure that, through FY 1997, cleanup activities are initiated at all significant sites of releases due to improper management of hazardous waste.

Measure 1: Hazardous waste cleanup sites identified and in progress.

OBJECTIVE 4-3: To increase the number of licensed special waste consolidation sites and the number of licensed very small quantity generator collection programs, so that these waste are not placed in solid waste landfills or in the environment.

Measure 1: Consolidation of special wastes, by type.

Measure 2: Collection of wastes from VSQGs.

OBJECTIVE 4-4: To reduce the amount of mercury and other toxics that could enter the environment through improper disposal by working with manufacturers and industry to reduce the amount of mercury and other toxics in their products.

Measure 1: Amount of mercury or other toxics prevented from entering solid waste as a result of reductions.

OBJECTIVE 4-5: To raise and stabilize service levels for the household hazardous waste program (HHW).

Measure 1: Household hazardous waste program services provided.

OBJECTIVE 4-6: To investigate contamination and undertake cleanups, as appropriate, including "major" tank facilities (with more than one million gallon capacity).

Measure 1: Progress cleaning up tank release sites.

Measure 2: Number of "major" facility cleanups in progress.

OBJECTIVE 4-7: To reduce the number of yearly release from leaking tanks, and the consequences of those releases, by conducting outreach to owners and operators of petroleum storage tanks and negotiating environmental safeguard upgrade agreements with major aboveground storage tank (AST) facilities.

Measure 1: Newly reported leaking tank sites.

Measure 2: Education opportunities provided to tank owners/operators.

Measure 3: Underground storage tank compliance.

Measure 4: Major aboveground tank compliance.

OBJECTIVE 4-8: To determine eligibility for Petro Board reimbursement, efficiently process claims for reimbursement, and coordinate cost containment efforts in partnership with the Department of Commerce.

Measure 1: Reimbursement claims received by Petro Board.

OBJECTIVE 4-9: To review spill prevention and preparedness plans of major facilities so that facilities are prepared to handle spills or emergencies which may occur.

Measure 1: Facility prevention and preparedness plans reviewed.

OBJECTIVE 4-10: To effectively screen 100% of reported incidents, to have active involvement in all significant spills and environmental emergencies, to clean up all significant "orphan" spills, and to refer smaller orphan incidents to local government.

Measure 1: Responses to significant spills and other environmental emergencies.

SUMMARY

AGENCY: Pollution Control
PROGRAM: 04-Hazardous Waste Management

EXPENDITURES AND STAFFING (F.Y. 1994)

(\$ in Thousands)

Total Expenditures:	\$ 11,980
From State Funds	\$ 8,407
From Federal Funds	\$ 3,501

Number of FTE Staff:	158.5
-----------------------------	-------

PROGRAM GOALS:

The overall goal of the hazardous waste program is to protect Minnesota's land, air, and water resources by ensuring the proper management of hazardous wastes, preventing uncontrolled releases to the environment, and cleaning up releases that do occur. The specific goals of the three primary elements of the hazardous waste program are:

- To prevent adverse impacts on human health and the environment caused by the generation, transportation, storage, or treatment of hazardous wastes, including household hazardous wastes and "special" hazardous wastes (M.S. 115A, 116, and 325E.)
- To prevent and mitigate the environmental and public-health impacts of leaks from petroleum storage tanks (M.S. 115C).
- To reduce the impact of spills and environmental emergencies on human health and the environment (M.S. 115.061 and 115E).

DESCRIPTION OF SERVICES:**■ Hazardous Waste Program**

To achieve the first goal of this program, the division provides the following services:

Collection of Data. To assist in assessment of potential environmental impact, the program maintains a data tracking system that includes the types and quantities of hazardous waste generated; the current methods used by generators for managing their hazardous wastes; the operating parameters of treatment, storage and disposal facilities; and data on inspections, violations and enforcement actions. Information is obtained from annual reports submitted by generators, from inspection logs, and from facility permit applications.

Determination and Revision of Regulation. The program regulates the following:

- Facilities that treat, store or dispose of hazardous waste;
- Recyclers of hazardous waste;
- Hazardous wastes from large-quantity generators (LQGs) - more than 220 gallons per month;
- Hazardous wastes from small-quantity generators (SQGs) - 22 to 220 gallons per month;
- Hazardous wastes from very-small-quantity generators (VSQGs) - under 22 gallons per month (4.5 drums a year);
- Special hazardous wastes from a wide variety of businesses; and
- Facilities and programs that manage collected household hazardous waste.

The Environmental Protection Agency (EPA) authorizes states to administer the federal hazardous waste program in lieu of the federal government. The agency must adopt federal regulations into state rules, must follow specific federal guidelines when carrying out its activities, and must obtain matching state dollars in order to receive a yearly grant from the EPA. At the direction of the Legislature, the agency collects fees from generators and facilities.

Federal law subjects all hazardous wastes to an extensive cradle to grave tracking process and strict treatment, storage and disposal requirements. For some wastes and sectors of the regulated population, the federal system works well. For others it does not. Therefore, the program assesses and revises state rules based on new information on the risks of various hazardous wastes, the successes and failures of the program, the practices in place among the regulated community, and input from surveys, focus group, and workshop evaluations.

Facilities that treat, store or dispose of hazardous waste are the most stringently regulated because of the potential for releases, and because they are such an important link in the cradle to grave regulatory system. Large quantity generators are also strictly regulated, although less so than facilities.

The sectors of the regulated community that do not fit well under the federal regulatory structure and are less strictly regulated are very small quantity generators, those who generate special wastes (used oil, fluorescent lightbulbs, batteries, etc.), and recyclers of hazardous waste. Federal regulations are being revised to better accommodate these sectors; meanwhile, the program strives to balance environmental protection with practical waste management options.

Education and Technical Assistance. To assist generators in understanding their responsibilities under the law and how to properly manage their wastes, the program provides technical assistance and education through: fact sheets, workshops, seminars, a quarterly newsletter, a yearly conference, facility roundtable, telephone consultations (an 800 number provides instant access to staff when questions arise), and on-site consultations.

The program provides financial and technical assistance to local government in operating regional and local facilities for the collection and management of household hazardous wastes, for the purpose of removing household wastes from the solid waste stream and preventing environmental damage. In conjunction, the program coordinates a statewide education program to reduce household hazardous waste generation by encouraging homeowners to make wise decisions about the use and purchase of chemicals that may become household hazardous wastes.

Compliance Assessment and Assurance. The hazardous waste program requires businesses that generate hazardous wastes to report annually on their storage, transportation and disposal activities, and issues licenses to those who comply. To further assess and ensure compliance, the program inspects approximately 400 generators and facilities per year.

To assess the risks posed by facilities that treat, store or dispose of hazardous wastes (TSDs), the agency issues permits according to requirements in federal law and state rules.

Cleanup Oversight. When releases to the environment are identified at inspections of generator sites or TSDs or through complaints, the agency's engineers, inspectors and hydrologists oversee cleanup efforts. Low-interest loans are available to generators to assess the extent of the problem and conduct remediation activities so that these cases do not become Superfund sites.

■ Petroleum Tanks Program

The program prevents and mitigates the environmental and public health impacts of leaks from petroleum storage tanks in two ways. The program prevents releases and reduces health and environmental risks whenever releases do occur. Prevention of releases is accomplished through 1) regulating the use of petroleum storage tanks, 2) providing technical assistance and training to tank owners and operators, 3) training and certifying tank contractors, 4) inspecting tank facilities and tank installation and removal projects, and 5) publishing a newsletter for tank owners and an information bulletin for tank contractors. The program also reduces the risks associated with tank releases through 1) the oversight of responsible parties (RP), volunteers, or buyers and sellers of properties with needed cleanup of releases, 2) determining eligibility of RPs and volunteers for reimbursement, and 3) cleaning up sites where the RP is unwilling or unable to do so.

In 1986, the Legislature established the Petroleum Tank Release Cleanup Act to ensure that all releases from petroleum tanks would be investigated and cleaned up so that the environment and human health were not compromised, and to ensure that those responsible for the releases would have adequate financial resources to undertake the investigation and cleanup efforts when the releases did occur. These two responsibilities rest with the agency and the Department of Commerce, respectively. The agency deals with the environmental issues surrounding the releases and the Department of Commerce provides reimbursement.

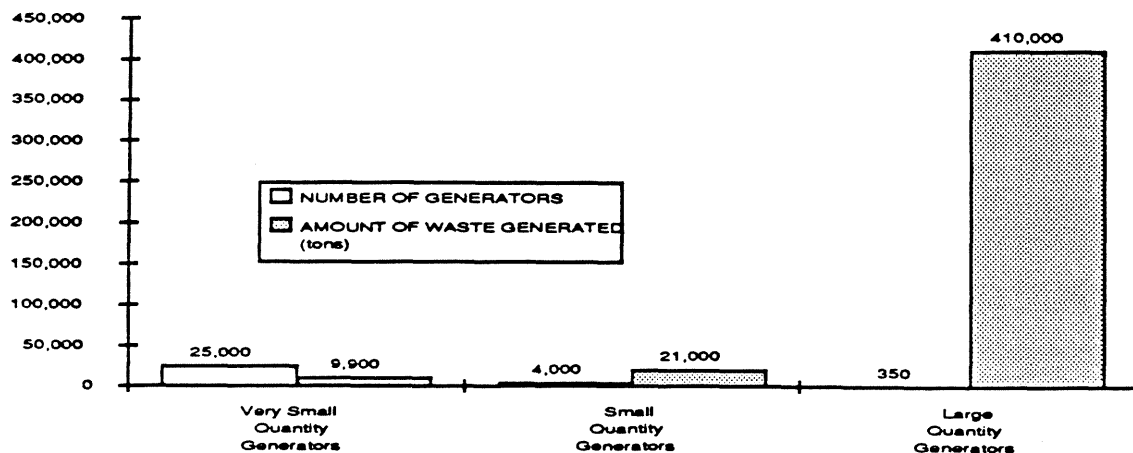
■ Emergency Response

To reduce the impact of spills and environmental emergencies on human health and the environment, the program provides the following services: oversight of immediate response to environmental emergencies (spills) and oversight of longer term cleanup of spills. Petroleum or chemical spills, chemical fires, illicit dumping of hazardous waste, solid waste facility fires, upsets in wastewater plants and other conditions can create environmental emergencies, and the need for long-term cleanup. The agency staff oversees and guides the response of the majority of spillers who are willing and able to respond to their own emergencies. Some spillers abandon their waste or are unable or unwilling to clean up, so state contractors are mobilized and overseen by agency staff. The program's first priority must be responding to emergencies. However, within staffing limitations, staff inspect the prevention and preparedness measures in place at facilities to reduce the probability of emergencies.

BACKGROUND INFORMATION

■ Hazardous Waste Program

COMPARISON BETWEEN NUMBER OF GENERATORS AND AMOUNT OF HAZARDOUS WASTE GENERATED



Generators fall into three regulatory categories based on size: large quantity (more than 220 gallons per month), small quantity (between 22 and 220 gallons per month), and very small quantity (less than 22 gallons per month). The vast majority of the hazardous waste in the state - 410,000 tons - is generated by only 350 large-quantity generators (Figure 1). The estimated 4,000 small-quantity generators account for 21,000 tons, and an estimated 25,000 very-small-quantity generators account for only 9,900 tons.

The program has maintained information on large-quantity and small-quantity generators and the amount of waste generated by them since 1984. Data on the very-small-quantity generators (VSQGs) are sketchy. In 1991 the program initiated an effort to compile more extensive data on these VSQGs and a large number has been identified through the licensing program. However, in a survey of generators in the Lake Superior basin, the agency found that as many as 50% of the VSQGs were not identified. Resource limitations prevent the program from actively pursuing the remaining 50%. As a result, the program is examining strategies for regulating VSQGs and in F.Y. 1995 will be refocusing its efforts regarding these generators.

DISTRIBUTION OF REGULATORY EFFORT IN COMPARISON TO ASSISTANCE EFFORT

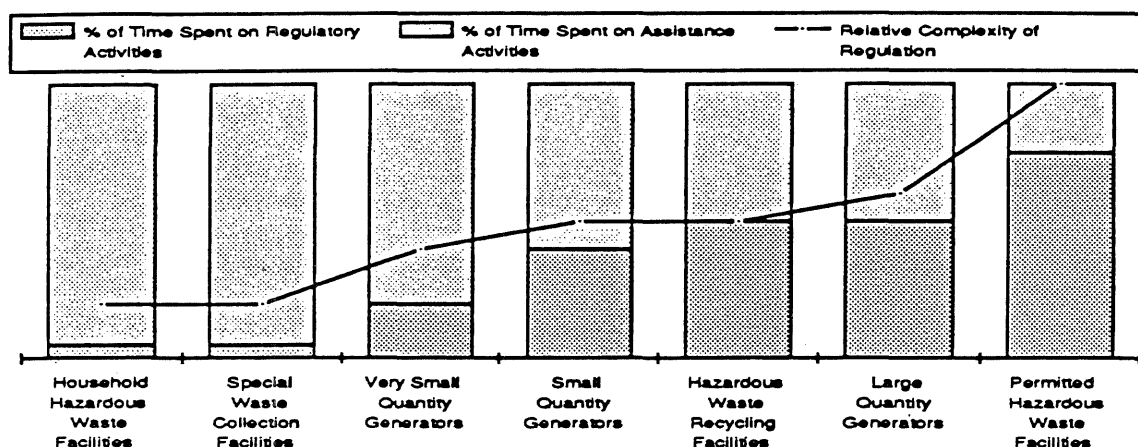


Figure 2 shows the proportion of education/assistance time versus regulatory time spent on the various sectors of the regulated community and the strictness of the regulations applying to each. The most strictly regulated entities, the treatment, storage and disposal facilities and the large quantity generators, have the resources to acquire expertise in the regulations and to comply with the law. However, the program has found assistance to be critical for compliance by the less strictly regulated entities (the very-small-quantity generators) due to their lack of resources. The program's role in the household hazardous waste collection facilities is primarily that of financial and technical assistance. The program's role in special waste collection facilities is that of promoting and assisting in establishment of collection systems and informing generators of their availability.

	F.Y. 1991	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995
Treatment, storage and disposal facilities	38	38	38	36	36
Release cleanups waiting		15	20	20	20

Initially in 1981, there were over 100 facilities in the state that needed treatment, storage or disposal (TSD) permits. Through closures and changes in operating practices, only 36 TSD need permits today. All facilities, both closed and

operating, are responsible for investigating and remediating releases from waste management activities no matter when it occurred. Therefore, these facilities do not become part of the Superfund process.

■ Petroleum Tanks Program

1994

Underground Storage Tanks (Active)	25,550
Underground Tanks (Removed or closed in place)	21,150
Aboveground Storage Tanks (Active)	17,835
Aboveground Storage Tanks (Removed or closed in place)	1,675
Releases reported	7,600
Reimbursement claims paid to date (millions)	136.6
Contracting companies certified to install and/or remove underground storage tanks	286

■ Emergency Response

F.Y. 1991 F.Y. 1992 F.Y. 1993 F.Y. 1994

Emergency response incidents
reported to agency

1,263 1,544 1,600 1,700

Facilities and transporters in control of petroleum or chemicals are required to report spills and clean them up. Major sources of spills are petroleum refineries and terminals, petroleum pipelines, trucks, trains and barges. Preventing a spill is far less costly than is cleaning it up. Being prepared for a spill likewise lowers overall cleanup cost and environmental damage. M.S. 115E now requires major facilities to prevent incidents and to be prepared to respond to what might happen at their sites. Major spills or other events (toxic clouds, chemical fires, unstable abandoned waste, etc.) can create environmental emergency conditions. A Governor's Executive Order and an internal agency effort of contingency planning has greatly improved the agency's leadership and capability to provide a comprehensive response to environmental emergencies.

PROGRAM DRIVERS:

Hazardous Waste Program

- **Lack of Knowledge by Small Businesses.** The program regulates large numbers of small businesses that have little knowledge of environmental impacts and requirements. The program's goal is to reach these businesses with low-cost education and assistance opportunities to enable them to fulfill their responsibilities under the law. However, when the economy fluctuates downward, small businesses tend to focus their resources on basic needs and cannot take advantage of the opportunities offered. Therefore, the program continually tries new ways of reaching this segment of the regulated community.
- **Federal Requirements.** The EPA's grant requirements limit the state's ability to rearrange priorities and start new initiatives. However, the EPA has recently begun offering greater flexibility which may allow refinements for Minnesota's needs.
- **Consistency Among State and County Programs.** The program runs the hazardous waste program in the 80 counties of Greater Minnesota and has oversight authority in the Twin Cities seven metro counties. The seven metropolitan area counties have the authority to run hazardous waste program of their own that are consistent with state rules. For the most part, the levels of government function well together. The program works closely with the counties in developing, interpreting and enforcing hazardous waste rules. However, the

program has received feedback from some in the regulated community who do business throughout the metropolitan area expressing frustration and confusion in dealing with eight different governments, each with subtly different rules. Therefore, the program will be exploring ways to gain greater consistency, including the possibility of clarifying statutes.

- **Collection of Fees.** The program has had a mix of goals related to fees. One is to provide a stable, predictable funding source to allow effective planning. The other is to use fees as a tool to encourage reduction in the amount and toxicity of hazardous waste generated. Because the real incentive for waste reduction lies in the cost of disposal, and not the size of the fees, the program is moving toward a simplified, predictable fee system that will save considerable staff time and reduce generator confusion.
- **Maintenance of a Strong Inspection and Enforcement Program.** A portion of the 15,000 to 20,000 generators and the facilities are inspected each year. If the generator or facility is not in compliance, a variety of enforcement tools can be used as appropriate to the situation to return the generator or facility to compliance. The program continues to examine methods of making enforcement more effective by targeting its resources to the most significant problems and by conducting multimedia inspections. The program maintains a strong inspection effort because: 1) the on-site visit provides the most accurate information about a company's hazardous waste operation, and requirements can be effectively explained and clarified; 2) a strong inspection program helps establish the credibility of the overall enforcement program; 3) the on-site visit gives industry the chance to meet and work directly with agency staff and emphasizes the importance of proper on-site handling and storage of wastes; 4) an on-site inspection is essential to properly document violations and ensure appropriate enforcement action.
- **Problems with Solid Waste Management Caused by Household Hazardous Wastes.** Management problems for household hazardous waste seem very expensive, but the cost of cleaning up contamination or capturing toxic emissions from solid waste facilities suggests that preventing household hazardous waste from entering solid waste is an appropriate strategy. Although household hazardous waste makes up a very small percentage of the total municipal solid waste, it represents a large share of the potential for pollution. The largest share of the materials brought to collections for household hazardous waste collections comes from old, stored materials. It will take some years to define and manage the inventory of accumulated products that exist in households. This will result in a high and somewhat unpredictable demand for household hazardous waste collection programs over at least the next several budget cycles.
- **Problems with Solid Waste Management Caused by Special Hazardous Wastes.** Special wastes are those that are not traditionally recognized as hazardous by the many businesses that generate them (fluorescent bulbs, batteries, antifreeze, etc.). Informing businesses that they should not be placing these wastes in the solid waste stream and providing viable, economical disposal options for such a large number of sources present a significant challenge to the program. A system of reduced regulation for special wastes is being piloted to encourage public and private entities to establish consolidation sites where generators can conveniently bring their special wastes for recycling or proper disposal.
- **Expanding the Universe of Facilities Needing Permits.** The universe of treatment, storage or disposal (TSD) facilities that need permits is largely determined by state and federal rules. As rules change in the future, very likely increasing the size of the universe, it will become increasingly difficult to issue permits with the same level of program resources unless the permitting program is modified by such means as establishing tiered permits that vary in complexity.

Petroleum Tanks Program

- **Federal Requirements.** Federal Law 40 CFR Part 280, M.S. 115C, and Minn. Rules Chs. 7105 and 7150 provide the impetus for the program by requiring owners/operators of underground storage tanks upgrade tanks, to install devices to detect releases, and to and report releases of petroleum immediately.

- **Problems with 90% Reimbursement.** The 90% reimbursement can be problematic in that owners/operators will allow their consultant free rein in investigating and cleaning up release sites without being actively involved in their consultant's decisions or taking the time to become informed on the MPCA requirements.
- **Diverse Ownership of Tanks.** Service stations and bulk-petroleum dealers own only 42% of the tanks in the state; nonprofit organizations, governments, schools, etc., own about 20%; and other manufacturing and service industries own the rest. The diverse demographics make it more difficult to inform the regulated tank community of the tank requirements and achieve the agency's goal of voluntary compliance.
- **Shift from Full Service to Convenience Store Operations.** Economic factors outside of the tank regulations are impacting the small, independent business operator. Changing economic times have resulted in a consolidation of operations with a shift away from "mom and pop" full-service stations to convenience store operations thus resulting in many small, independent business operators electing to close shop in favor of competing with the major-chain-store operations. This will continue to result in a reduction in the number of regulated tanks in the long run.
- **Limited Funding for Cleanup Responses.** The federal government is shifting responsibility for the program to the states and is reducing funding support. The program must now meet the challenge of finding new means of assuring cleanups in a timely manner.
- **Sunsetting of a Cleanup Program.** Society and the environment will benefit from an expedited shift in focus from cleanup to prevention. The federal government provides some basic funding to states to begin prevention programs. The challenge facing the program is to provide long term resources to assure significant reductions in future cleanups.

Emergency Response

Most companies are unprepared for spills. The agency Emergency Response Program has focused on responding to incidents as they occur. It is now changing to a balanced program of emergency prevention, emergency preparedness (both for potential spillers and state staff) and emergency response. The challenge is to provide a corresponding balance of adequate resources to address ongoing emergencies as well as prevention and preparedness.

AGENCY: Pollution Control
PROGRAM: 04-Hazardous Waste Management

OBJECTIVE, MEASURE

Objective 04-01: To increase the compliance rate for proper hazardous waste management and proper storage using an appropriate balance of technical assistance and enforcement.

Measure (1): Permitted Facilities

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
TSDs	38	38	36	36	36	36
Permit Issuances	all	all	all	all	all	all
Permit Reissuances	7	8	7	7	7	8
Time Required to Initiate Review of Applications for New TSDs (in weeks)	2	2	2	2	2	2

DEFINITION, RATIONALE, DATA SOURCE:

TSD is a facility that treats, stores or disposes of hazardous waste. "Issuance" denotes the first permit that a facility receives. "Reissuance" means subsequent permits issued. All permits have a 5-year term. This measure relates to the service of assessing and assuring compliance. The hazardous waste program is operated to ensure that hazardous waste is properly managed so that impacts to human health and the environment are minimized. New and reissued permits ensure that facilities are constructed and operated in a manner that addresses the most current safeguards and regulations. Permits also ensure that past releases of hazardous waste or constituents are identified and properly remediated. Permit issuance data is tracked through a computerized database that is updated monthly and is used to report progress to the EPA.

DISCUSSION OF PAST PERFORMANCE:

Minnesota was recognized by the EPA for being one of the first states in the nation to permit all the treatment, storage and disposal facilities.

PLAN TO ACHIEVE TARGETS:

Continued effort using the present level of resources will ensure that the targets are met. If existing resources are diverted to other activities or if the universe of facilities needing permits changes, targets could be met by restructuring the permitting system (for example, tiered permits that vary in complexity).

Measure (2): Education and Technical Assistance Provided to Regulated Community

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Workshops	9	10	10	10	10	10
Number of People Trained	805	1,046	800	800	800	800
Attendance at Hazardous Waste	600	600	634	600	600	600

1994 Annual Performance Report

Conference						
Topics of Fact Sheets	90	100	100	110	110	110
Number of Fact Sheets Provided to Regulated Community	4,000	4,000	4,000	4,000	4,000	4000
Assistance Calls	6,000	5,494	5,748	6,000	6,000	6000
On-Site Assistance Visits	100	235	210	150	150	100

DEFINITION, RATIONALE, DATA SOURCE:

These measures relate to the service of education and technical assistance. These are largely output, not outcome, measures; but they can be compared to the inspection data below to determine effectiveness and where the division should be putting its limited resources to provide the best assistance to the generators. The source of this information is Hazardous Waste Division files.

DISCUSSION OF PAST PERFORMANCE:

The Program has directed its education and assistance efforts to small businesses on the assumption that they want to comply with the law if they know what to do, and that larger businesses can acquire the necessary expertise. The Program is now making a concerted effort to gather objective data by using focus groups and customer surveys to assess which efforts are most productive.

PLAN TO ACHIEVE TARGETS:

The targets are based on current information. The Program is commencing a total-quality-management project to assess very-small-quantity generators, the environmental risks they pose, and the appropriate level of regulation, assistance and enforcement they warrant. The targets and resources will be adjusted accordingly at the end of F.Y.1995.

Measure (3): Complaints Received and Inspections Conducted
--

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Complaints Received	225*	225*	225*	225*	225*	225*
Inspections	486	400	400	400	400	400
% of Inspections Showing Proper Management	78%	80%	82%	84%	86%	88%
% of Inspections Showing Proper Storage	63%	67%	68%	69%	71%	73%
% with Releases						
% with Environmental Damage						
% Received Newsletter						
% Received Fact Sheets						
% Received Phone Assistance						

% Attended Workshop
or Conference
% Received On-Site
Assistance

*Approximate (range is 200 - 250)

DEFINITION, RATIONALE, DATA SOURCE:

Inspections are a method of delivering the service of assessing and assuring compliance with environmental law, by gathering objective data, by providing education, and by acting as a deterrence to violation. Comparing inspection results with the educational efforts allows the Program to determine the appropriate balance of educational and enforcement efforts for maximum effectiveness. The hazardous waste program is designed to assure that hazardous waste is managed in a cradle to grave system. Compliance determinations through the use of on-site inspections are one key component within the program to identify if the cradle to grave concept is being implemented properly by the regulated community. Inspection activities are entered into and tracked by a computerized database. Inspections do not currently include data on the use of assistance by the generators and facilities being inspected, so the Program must begin asking those questions at the inspections.

DISCUSSION OF PAST PERFORMANCE:

The data shows that 79% to 89% of the generators and facilities inspected over the past year and three months were properly managing their wastes. Between 69% and 76% were properly storing their hazardous waste. While these are good results, they can improve. By gathering the data indicated above, the Program will better be able to target its assistance and enforcement resources.

PLAN TO ACHIEVE TARGETS:

The goal in the next 5 years is to increase the compliance rate for proper management each year by 1-2 percent. The long-term goal is to achieve and maintain a 90% compliance rate. The goal for proper storage in the next 5 years is an increase of 1-2 percent per year. The long-term goal is to achieve and maintain an 80% compliance rate. Some of the factors that may affect these targets are the economy, rule changes and budgetary restraints.

Measure (4): Efforts Conducted as Part of the Lake Superior Initiative					
---	--	--	--	--	--

Actual Performance	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
On-Site Visits/ Assessments	877			See Below	See Below
Operating Partnerships		7	7		
Workshops	3	3			
Conference			1		
Technical Assistance		21	25		
Newsletter	4,000	4,000	4,000		
Pollution Prevention Demonstration Projects			4		

Technical Assistance	1	2
Video		
Focus Groups	1	
Surveys	1	2

Expected outcomes: for the next 5-year period, depending on funding sources, the following outcomes are expected:

- Significant reduction (25-50%) in hazardous waste produced in the basin;
- 90% of hazardous waste generators aware of responsibilities;
- 90% of generators strive toward compliance with rules;
- Reasonable disposal options available for all generators;
- MPCA viewed as a partner and a resource; and
- Contribute to the goals of the lakewide management plan for Lake Superior

DEFINITION, RATIONALE, DATA SOURCE:

The hazardous waste program is entering its third year of focusing extra resources in the Lake Superior Basin, which is possible because of targeted federal funds. Measures are primarily output based at this time; detailed analysis of results and effectiveness is an element of the F.Y. 1994-95 initiative. Most measures center on the themes of maximum outreach/education, establishing effective partnerships and in getting all generators licensed. Records were compiled by the state as required under federal grant.

DISCUSSION OF PAST PERFORMANCE:

Many innovative outreach techniques have been tried and are currently being evaluated for use throughout the state.

PLAN TO ACHIEVE TARGETS:

The project is possible due to federal funding. If these funds cease, some of the specific goals listed will not be met. However, the various innovative techniques tried to date will be evaluated and the most effective will be used state-wide in future outreach/education efforts.

Objective 04-02: To ensure that, through F.Y. 1997, cleanup activities are initiated at all significant sites of releases due to improper management of hazardous waste.

Measure (1): Hazardous Waste Cleanup Sites Identified and In Progress						
---	--	--	--	--	--	--

Actual Performance	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Number of Hazardous Waste Release Sites Where Cleanup Activities have been Initiated	35	40	50	60	70	75

Number of New Release Sites Identified	15	20	20	20	20	15
--	----	----	----	----	----	----

DEFINITION, RATIONALE, DATA SOURCE:

A release site is an area where hazardous waste has been improperly managed and potentially threatens human health or the environment. Initiation of cleanup activity means engineering methods have been used to treat or remove hazardous waste at the release site. As hazardous waste release sites are identified it is a direct benefit to the environment and a service of the hazardous waste program to clean up the released hazardous waste. If release sites are not cleaned up a risk exists for human health and the environment. New release site information is available from a manually maintained list of active hazardous waste cleanup projects. For minimal cost, the program will begin tracking the number of remediations implemented over time.

DISCUSSION OF PAST PERFORMANCE:

The list of active cleanups from 1991 to 1994 has grown from about 25 to 45. The number of sites is more related to the effort to locate the release sites through inspections than it is to the number of releases occurring.

PLAN TO ACHIEVE TARGETS:

Current staffing levels are adequate to achieve targets; however, if more release sites are identified additional effort will be needed to conduct the proper oversight of clean up activities.

Objective 04-03: To increase the number of licensed special wastes consolidation sites and the number of licensed very small quantity generator collection programs, so that these wastes are not placed in solid waste or in the environment.

Measure (1): Consolidation of Special Wastes, by Type

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993*</u>	<u>F.Y. 1994*</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Number of Licensed Special Waste Consolidation Sites:	NA	108	225	304	418	482
dry-cell batteries	NA	3	72	85	100	120
lamps	NA	NA	NA	NA	NA	NA
thermostats	NA	105	111	150	200	200
thermometers	NA	0	6	10	20	30
switches	NA	0	6	10	20	30
other mercury items	NA	0	7	11	21	31
antifreeze	NA	0	8	12	20	30
circuit boards	NA	0	4	6	10	10
PCB light ballasts/capacitors	NA	0	11	20	25	25

NA = Not Applicable

* Reflects actual # of licenses issued in 1993 and 1994.

DEFINITION, RATIONALE, DATA SOURCE:

Consolidation points are locations where generators can bring or send their special wastes. The service to which these measures are related is providing an appropriate level of regulation to allow for the establishment of easily accessible collection systems for the generator of the waste. Special wastes have been historically disposed of in the solid waste stream or sewer system where they pose environmental concerns. Unlike most hazardous wastes, these wastes are widely generated, often in very small amounts on a sporadic basis. Most of the generators of these wastes are offices, small businesses, or household consumers that are not otherwise connected to the hazardous waste program.

These indicators measure the program's success in promoting the establishment of easily accessible collection systems for the generator. A higher number of consolidation sites would indicate greater public access. High volumes of wastes and toxics removed from solid waste and wastewater should result in reduced environmental risk.

Data is collected through special-waste license applications and renewals submitted to the agency by operators of collection sites and consolidation programs.

DISCUSSION OF PAST PERFORMANCE:

The pilot project for special hazardous waste was implemented in September 1993 and is considered a fledgling program. Prior to that time, extremely limited collection systems existed for special wastes and, therefore, these wastes had been historically disposed of in the solid waste stream or sewer system.

PLAN TO ACHIEVE TARGETS:

The agency will form additional partnerships with public and private entities (retailers, contractors, existing household hazardous waste collection programs, recycling programs); work with the private sector to develop or expand end-market recycling capacity; work with additional product manufacturers to provide for collection and recycling of their products through product stewardship; and provide public education and information regarding the proper management of special wastes and the availability of collection systems.

In the case of special hazardous waste, the existing EPA regulatory framework provides significant impediments to the establishment of collection systems. The EPA's progress in rule changes will somewhat dictate the pace of establishing these systems.

Measure (2): Collection of Wastes from VSQG's						
---	--	--	--	--	--	--

Actual Performance	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1996	F.Y. 1997
Number of Licensed VSQG Collection Programs	NA		8	13	18	20
Companies or Agencies Collecting Their Own Wastes Only	NA		6	9	11	11
Quantities in	NA					

Thousands of Pounds						
Collections Open to Generators	NA	2	2	4	7	9
Generators Served	NA	100	184	220	500	1000
Quantity in Thousands of Pounds	NA					

NA = Not Applicable

In addition, the Minnesota Department of Agriculture's Pesticide Collection Program is a licensed collection program for VSQGs and has collected 360,000 pounds since 1990 from 3,200 participants.

DEFINITION, RATIONALE, DATA SOURCE:

Very-small-quantity generators (VSQGs) are those companies or businesses that generate less than 100 kilograms (220 pounds) per month of hazardous waste. Many VSQGs are small businesses. As part of the service of appropriate regulation, the program has implemented a special collection program for hazardous wastes from VSQGs whereby regulatory barriers are removed to provide reasonable access. Documenting the number of VSQG collection programs, locations established, and the amount of wastes collected allows for the identification of successes and failures of the program. This information will be used to identify where additional emphasis needs to occur in order to establish accessible and economical collection systems, or expand existing systems.

Data is collected through VSQG license applications and renewals submitted to the MPCA by operators of VSQG collection programs in the Greater Minnesota area. Data for the Twin Cities metropolitan area will be collected from the Metropolitan Counties in the future.

DISCUSSION OF PAST PERFORMANCE:

The VSQG collection program became operational in 1993 and is still essentially in a start-up phase. Data is limited.

PLAN TO ACHIEVE TARGETS:

The program will provide public education and information regarding the availability of the VSQG collection program, proper management of VSQG wastes and the availability of collection systems and will investigate innovative ways to expand the system and provide more disposal options for VSQGs, including the use of household hazardous waste collection programs and facilities. Making specific numerical projections is difficult, given the short history of the program. Staffing reductions will almost certainly reduce the numbers of systems established and delay maximum usage of the systems due to a lack of publicity and technical assistance. Also, counties may be reluctant to open their

household facilities to generators without additional funding. The lack of data makes projections for the future highly subjective. No attempt was made to project quantity.

Objective 04-04: To reduce the amount of mercury and other toxics that could enter the environment through improper disposal by working with manufacturers and industry to reduce the amount of these toxics in their products.

Measure (1): Amount of mercury or other toxics prevented from entering solid waste as a result of reductions.

Actual Performance	<u>1970</u>	<u>1980</u>	<u>1989</u>	<u>2000</u>
Mercury from Batteries	5.5	7.5	10.9	0.0
in Municipal Solid				
Waste (tons)				

DEFINITION, RATIONALE, DATA SOURCE:

These indicators may be difficult to obtain, due to confidentiality of information on product formulation. The program must rely on the companies to be forthcoming. If specific numbers cannot be obtained, an outline of efforts will be provided.

DISCUSSION OF PAST PERFORMANCE:

Limited to indirect activities associated with statutory mandates on batteries and mercury-bearing apparel.

PLAN TO ACHIEVE TARGETS:

The only data available is on mercury in batteries. No other projections were attempted. A study will be conducted to provide policy-makers with detailed analysis of the pollution prevention and source reduction opportunities available for mercury-bearing products. A significant part of the development of this study would involve a substantial dialogue with product manufacturers and other interested parties. Source reduction attitudes differ greatly from manufacturer to manufacturer. Technical difficulties in achieving reductions also vary from product to product and manufacturer to manufacturer. Therefore, reductions of mercury in products and the speed for achieving reductions will vary. The study is dependent on expected federal funding. If funding is unavailable, this effort will be seriously jeopardized.

Objective 04-05: To raise and stabilize service levels for the Household Hazardous Waste (HHW) Program.

Measure (1): Household Hazardous Waste Program Services Provided
--

1994 Annual Performance Report

Calendar Years	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>
Counties with Household Hazardous Waste Programs	47	77	87	87	87	87
HHW Facilities	17	28	37	45	50	50
HHW Collection Events	35	78	120*	150	150	150
HHW Event Service Days	76	189	271*	325	325	325
Households with Access to HHW Service (in thousands)	1,556	1,639	1,686	1,686	1,686	1,686
% of Households with Access to HHW Service	92	97	100	100	100	100
Households Using HHW Collection Service (in thousands)	49	71	85	85	85	85
% of HH using HHW Collection Service	2.9	4.2	5.0	5.0	5.0	5.0
# of County HHW Program Staff Given Classroom Training	270	180	210*	300	300	300

*Scheduled as of August 1994.

DEFINITION, RATIONALE, DATA SOURCE:

A county that has committed to conducting both education and periodic collections is considered to have a program. A person is considered to have access if he or she resides in a county with a program. A facility is a building that is open on a regular basis to accept waste from households. An event collection is a scheduled single or multi-day event where HHW is collected at a nonpermanent location.

The service being provided is education and technical assistance. Many different program and service structures are operating in the state, tailored to the communities they serve. Measuring and comparing access and utilization of these programs will permit determination of an effective means of service delivery. The data collected will be used to make sound, informed decisions about the future needs and direction of the program. Statewide data is aggregated for calendar years from data collected from 13 Greater Minnesota regional HHW programs, seven metropolitan county HHW programs and the state demographer.

DISCUSSION OF PAST PERFORMANCE:

The HHW program has grown tremendously from virtual nonexistence to statewide availability. This is expected to stabilize. Training of county staff has been basic in scope and in great demand.

PLAN TO ACHIEVE TARGETS:

Staff will work with programs to develop guidelines for assessing waste management options, will select appropriate options, and will assist operators in understanding and integrating them and streamlining operations. Staff will work to further develop tools and data collection that accurately assess program utilization and needs. Training will be provided formally and through coaching. Staff will continue to develop and refine written and computerized references and guidance manuals. The HHW program is primarily funded by counties through SCORE funds or other county revenues. Funding fluctuations will heavily affect program direction and changes.

Many of the objectively measurable outcomes in HHW programs are subjected to forces that work in opposition to one another. For example, at the same time that residents are being encouraged to bring waste to a collection, other waste reduction education efforts are decreasing the demand for collection. In addition, HHW programs do not yield environmental or economic benefits that can be measured in the same time frame as the collection activity. Hence, it is difficult to measure and demonstrate the value and success of the programs.

When collection programs first become available, there is a tremendous, initial response based on need. Programs throughout the state are in a variety of phases from start-up to maturity. It is difficult to set targets because participation data on evolving HHW programs operations is limited.

Petroleum Tanks Program

Objective 04-06: To investigate contamination and undertake cleanups, as appropriate, including major tank facilities (with more than one million gallon capacity).

Measure (1): Progress Cleaning Up Underground Tank Release Sites						
--	--	--	--	--	--	--

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Cumulative Number of Release Sites at Which Site Investigations are Completed (calendar year)	3,948	4,888	5,795	6,695	7,595	8,495
Number of Release Sites at or Beyond Operation and Maintenance Stage of Cleanup (calendar year)	2,398	3,207	4,160	5,060	5,960	6,860

DEFINITION, RATIONALE, DATA SOURCE:

Number of release sites at which site investigations are completed is a measure of the number of sites at which the risk to human health and the environment has been assessed. The number of release sites at or beyond operation and maintenance stage of cleanup is the number of leaking tank sites in which the site is cleaned up or where all cleanup actions have been completed and all that remains to be done at the site is to monitor the ground water.

After releases are reported, owners/operators are required to investigate the sites to assess health risks and environmental

damage. Not all sites that complete site investigations are actively cleaned up because the risk to human health and the environment is low and because, given the right conditions, petroleum products naturally biodegrade. Therefore, the number of releases cleaned up is a subset of the number of sites investigated.

Information on the number of release sites at which site investigations are completed and the number of release sites at or beyond the operation and maintenance stage of cleanup will be maintained by the program by tracking various stages of cleanup of the release sites in the program. This database is updated on a daily basis. An additional database will be required by the Department of Commerce to track costs associated with investigations and cleanups

DISCUSSION OF PAST PERFORMANCE:

Currently, 74.6% of all known release sites have completed site investigations and 52% of all release sites are at or beyond the operation and maintenance stage.

PLAN TO ACHIEVE TARGETS:

Progress in cleaning up sites is continually tracked and sites that do not rapidly achieve this stage of cleanup are candidates for enforcement action. Natural biodegradation, in lieu of cleanup, is also encouraged where appropriate.

Measure (2): Number of "Major" Aboveground Tank Facilities Cleanups in Progress						
--	--	--	--	--	--	--

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Number of Major Aboveground Tank Facilities Under Formal Cleanup Oversight	10	15	23	29	35	41

DEFINITION, RATIONALE, DATA SOURCE:

This measure includes facilities of more than one million gallons storage capacity that are cleaning up contamination from past spills and leaks. The service to which this measure is related is the petroleum tanks program. There are about 80 such facilities in Minnesota. Most have contaminated soil and/or ground water from historic and/or ongoing leaks in tank floors, overfills, tank ruptures, truck and train loading, or leaks in piping between tanks. Staff will keep a log of site status to obtain this performance measure.

DISCUSSION OF PAST PERFORMANCE:

Prior to 1992, the agency required operators to clean up spills as they were reported. No systematic investigation of the

site was done to determine contamination. In 1993, selected facilities were asked to conduct overall assessments of their sites to determine whether and where soil and ground water were contaminated. Thus far, 23 of the 80 facilities have conducted investigations and 23 found contamination. Staff are overseeing cleanup of that contamination by site owners.

PLAN TO ACHIEVE TARGETS:

If all sites asked to conduct investigations continue to find contamination, it will be approximately 10 years before all investigations commence, unless additional resources become available.

Objective 04-07: To reduce the number of yearly releases from leaking tanks, and the consequences of those releases, by conducting outreach to owners and operators of petroleum storage tanks and negotiating environmental safeguard upgrade agreements with major aboveground storage tank (AST) facilities.

Measure (1): Newly Reported Leaking Tank Sites

Actual Performance	<u>C.Y. 1992</u>	<u>C.Y. 1993</u>	<u>C.Y. 1994</u>	<u>C.Y. 1995</u>	<u>C.Y. 1996</u>	<u>C.Y. 1997</u>
Number of Newly Reported Leaking Tank Sites	1,096	1,001	1,000	1,000	1,000	1,000

DEFINITION, RATIONALE, DATA SOURCE:

The number of releases reported provides a measure of the success and progress of the program. As the number of releases reported decreases, it is assumed that the preventive part of the program has become effective. Information on the number of releases will be maintained by the program and be derived by adding the release site to the currently existing database when reports of releases are received.

DISCUSSION OF PAST PERFORMANCE:

The number of newly reported releases rose until 1990, when the number peaked at 1,456. In the period of 1990 through 1993, the number of newly reported releases decreased steadily. It is expected that the number of reported releases will remain constant in the interim period between 1993 and 1998 as a result of the leak detection rules which will identify additional releases. Thus, while the program is succeeding in reducing the number of future releases by implementing leak detection, the number of actual releases reported is anticipated to remain constant because new releases will be discovered as older tanks begin to fail and the leak detection monitoring efforts identify these old new releases.

PLAN TO ACHIEVE TARGETS:

The petroleum tank program is encouraging all owner and operators to use methods to detect early releases to lessen the impact of any releases and initiate cleanups as soon as possible. Streamlining the investigative review process and encouraging natural biodegradation of release sites, when appropriate, in lieu of active cleanup is also occurring.

Measure (2): Education Opportunities Provided to Tank Owners/Operators
--

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Number of Educational Activities	NA	NA	61	70	55	50
Attendance	NA	NA	3,524	4,000	2,500	2,000

NA = Not Available

DEFINITION, RATIONALE, DATA SOURCE:

Examples of these activities include: Owner/Operator Workshops, Leak Detection/Flood Prevention Seminars, Consultant Days, Responsible Party Days, Community Awareness and Emergency Response Groups, Special Informational Packets, *The Tank Monitor* newsletter, and *The Dispenser* bulletin.

The program relies heavily on voluntary compliance. There are over 10,000 tank owners (both underground and aboveground tanks), owning more than 40,000 storage tanks, who will benefit from compliance assistance training. Therefore, the program expends significant effort on technical assistance. This measure does not include the numerous one-on-one contact hours provided through telephone calls, meetings and individual informational mailings. Most of this information is gathered for EPA reporting and other activities. This information will be in the tanks database and will be collected quarterly.

DISCUSSION OF PAST PERFORMANCE:

The number of outreach activities that can be provided is directly related to resources. Approximately 4 staff are dedicated now to developing outreach materials. The bulk of the remaining program staff are dealing with cleaning up leak sites.

PLAN TO ACHIEVE TARGETS:

There will be an increase in educational activities in F.Y. 1994-F.Y. 95. This increase is due to special funding received from the EPA to develop and present flood prevention and leak detection seminars for tank owners. As depicted in the measures chart, there will be a reduction in the outreach activities offered by the tanks program when these EPA funds are depleted. At least 40 other states already fund their tank-compliance and prevention programs through a registration fee.

Measure (3): Compliance for Underground Storage Tanks

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
% of Underground Storage Tank Complying with 1998 Standards	45.3	45.8	46.3	47	48	49.5

DEFINITION, RATIONALE, DATA SOURCE:

This measure compares the percentage of newly installed (after December 22, 1988) and upgraded USTs that meet 1998 standards and closed USTs compared to the total number of registered USTs. This information is determined using tank registration forms. New underground tanks must be installed with state-of-the-art, pollution prevention equipment. By 1998,

all tanks must be upgraded to new tank standards or closed. Currently, there are about 14,000 active tanks that need to be upgraded by 1998. This measure will provide a picture of the number of facilities getting into compliance prior to the 1998 deadline for final upgrading compared with the number that may put this major work off until the last minute. If most owners wait until the last minute, this will put a great strain on available resources such as tank manufacturers and certified tank contractors. In states with earlier deadlines, this strain has caused the price of getting into compliance to increase. As tanks are upgraded or closed, new releases from tanks will be discovered. This measure will also help indicate the number of potential releases that have yet to be discovered. The number of releases in turn will indicate the potential dollars and effort the state will need to continue to provide through the LUST and Petrofund programs.

Tank registration information is gathered by the petroleum tank program whenever a tank is installed, closed or sold, or there is some other change in its status. The program maintains a computer database to track and sort the information which is updated daily.

DISCUSSION OF PAST PERFORMANCE:

Tank owners are not required to upgrade existing USTs until 1998. However, if they choose to replace tanks before then, any new tanks installed must meet the 1998 standards. Fourteen thousand tanks need to be upgraded or removed by December 1998. This would require an average of 290 tanks per month to be upgraded or removed during this time frame. At the current rate of upgrading, the deadline will not be met.

PLAN TO ACHIEVE TARGETS:

The program must rely on voluntary compliance by tank owners. The petroleum tanks program is striving to encourage early compliance thereby reducing the strain on resources as 1998 draws near. The program is trying to incorporate 1998 upgrading information into all of our outreach activities, including discussing it at workshops and seminars and developing an upgrading factsheet. We are including "Don't Wait 'till 1998" articles in our program newsletter and bulletin expounding on the negative aspects of waiting until the last minute (i.e. lack of contractor, increased costs, sunseting of the Petrofund, etc.). In addition, the petroleum tanks program is developing partnerships with states, the EPA, industry and others to help work on this issue. For example, the program is actively participating on a national work group with EPA and other states to develop an overall 1998 compliance strategy. The program is also soliciting help from the petroleum industry to assist in getting the word out.

Measure (4): Major Aboveground-Tank Compliance						
---	--	--	--	--	--	--

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Percent of More Than	0	0	0	6	12	18
One million gallon						
Capacity, Above-						
Ground Tank						
Facilities in						
Compliance						

DEFINITION, RATIONALE, DATA SOURCE:

This measure includes ASTs containing more than one million gallons storage capacity (refineries, pipeline terminals,

barge terminals, etc.) which have committed to upgrading spill and leak safeguards such as upgraded tank floors, making dikes impermeable, overfill protection, etc. ASTs can develop leaks in their floors through which tens or hundreds of thousands of gallons can escape into the ground. Tanks can also be overfilled or may rupture. Most tanks are surrounded by dikes to contain spills. However, most diked areas are highly permeable and allow spills from the tank to soak into the ground.

DISCUSSION OF PAST PERFORMANCE:

Prior to 1994, staff worked with AST facilities of all sizes. In 1994, staff began to concentrate on bringing major facilities into compliance. Owners of 80 facilities have been contacted and instructed to assess their safeguards and upgrade them as necessary.

PLAN TO ACHIEVE TARGETS:

Formal negotiations are underway with a refinery on a document committing the company to a 10-year upgrade. This document will be the model for agreements with the other facilities. Approximately 5 facilities per year will enter into agreements. Half of the 80 facilities can be handled by the existing 2 staff. The other half could be handled in a second group after 10 or more years.

Objective 04-08: To determine eligibility for Petro Board reimbursement, efficiently process claims for reimbursement, and coordinate cost containment efforts in partnership with the Department of Commerce.

Measure (1): Reimbursement Claims Received by Petro Board						
--	--	--	--	--	--	--

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Number of Claims	1,584	1,344	1,734	2,400	2,400	2,400
Processed to Determine Eligibility for Petro Board Reimbursement						

DEFINITION, RATIONALE, DATA SOURCE:

This measure includes the number of applications for sites in which the agency has determined that the owner or operator is eligible for reimbursement. Owners and operators are eligible for reimbursement at various stages of cleanup. Therefore, the number of applications reflects the number of times the owners or operators have applied for reimbursement, not the number of release sites.

The agency must determine if owners and operators are eligible for Petro Board reimbursement and provide this information to the Department of Commerce. As part of the review process, the agency determines if the owners or operators are in compliance with the tank rules and are cooperating in the investigation, a cleanup proposal has been approved by the agency and that the work for which reimbursement is being requested has been done. The source of this data will be the database operated by the Department of Commerce. It is updated approximately every 6 weeks.

DISCUSSION OF PAST PERFORMANCE:

Since 1992, the number of claims that are being processed has risen dramatically. In addition, the cost associated with investigation and cleanup has also risen. In response to the rise in claims and costs associated with cleanup, the Department of Commerce has drafted cost-containment rules and the agency has provided extensive assistance in this endeavor.

PLAN TO ACHIEVE TARGETS:

The program will continue to review cleanup plans within 120 days of receipt and make recommendations to the Department of Commerce on the eligibility of claims within 14 days of receipt of the application. The program will accomplish this by further streamlining its review process.

Emergency Response

Objective 04-09: To review spill prevention and preparedness plans of major facilities so that facilities are prepared to handle spills or emergencies which may occur.

Measure (1): Facility Prevention and Preparedness Plans

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Number of Reviews of Facility Prevention and Preparedness Plans	0	0	5	20	20	20

DEFINITION, RATIONALE, DATA SOURCE:

M.S. 115E requires facilities that handle more than 10,000 gallons of petroleum per month to prepare specific spill prevention and response plans. The agency has authority to review these plans and require changes. Prevention and preparedness is preferred to simple response. The law requires facilities to have plans and spot checking plans will give the requirement credibility. Shortcomings identified will be fixed, thus spills will be prevented or cleanup will be more effective. The spills database will be modified to track the number and type of plans reviewed. Costs of collecting and tracking these data will be several weeks of computer development time, and minimal, additional data input time. This data will be entered on a daily basis.

DISCUSSION OF PAST PERFORMANCE:

As discussed above, prevention and preparedness for emergencies were required of facilities in 1994 by the Legislature. Response to emergencies has required most of the agency's resources; therefore, there has been only limited review of emergency prevention and preparedness to date.

PLAN TO ACHIEVE TARGETS:

More spills and emergencies are reported to the agency each year than staff are available to oversee cleanup, let alone

1994 Annual Performance Report

work on prevention. In order to free staff time for conducting emergency prevention and preparedness activities, spills efforts will be focused on only major events. As a consequence, most smaller reported incidents will get little or no attention or oversight.

Objective 04-10: To effectively screen 100% of reported incidents, to have active involvement in all significant spills and environmental emergencies, to clean up all significant orphan spills, and to refer smaller orphan incidents to local government.

Measure (1): Responses to Significant Spills and Other Environmental Emergencies

Actual Performance	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1996</u>	<u>F.Y. 1997</u>
Number of Incidents Screened to Identify Environmental Emergencies or Significant Spills Requiring Followup	1,544	1,600	1,700	1,800	1,900	200
Number of Environmental Emergencies or Significant Spills with Active Staff Involvement			850	900	950	1,000
Number of Contracted Cleanups Where Responsible Party Fails to Conduct or Follow Through on Cleanup	185	133	139	150	160	170

DEFINITION, RATIONALE, DATA SOURCE:

More than 1,600 incidents are reported each year, and each is examined to determine if it is an emergency or significant spill. If so, extensive staff involvement is begun. As discussed above, more spills and emergencies are reported to the agency than can be adequately responded to by staff. A screening process separates major or significant events from lesser events. This allows staff to concentrate their time on significant response, and frees up time for prevention and preparedness activities. State-funded and contracted cleanups require significant expenditure of money and staff time.

The spills database currently tracks the new incidents received on a daily basis. This database will be modified to track both the beginning of an incident (as it does now) and also the closure of an incident. This will allow for cataloging the number of active incidents. The spills and work order databases track the number of sites the agency has taken over, the cleanup contractor work orders issued for those sites, and the dollars expended.

DISCUSSION OF PAST PERFORMANCE:

In the past, a formulated, deliberate decision screen on incident responses was not done. As a consequence some insignificant incidents received much attention and some major incidents were unattended.

The numbers of hazardous waste abandonments reported to the agency has risen steadily. In 1994, the MPCA, Minnesota Department of Transportation, Minnesota Department of Natural Resources, and the Office of Attorney General developed a program for improved criminal investigation and prosecution in abandonment cases.

PLAN TO ACHIEVE TARGETS:

Staff will review each new incident with respect to significance in accordance with the strategic plan guidance of the spills staff. All orphaned or abandoned incidents posing immediate and significant dangers will be responded to with state contractors, as is the current practice. Incidents of smaller significance will be referred to local or county officials for possible follow-up.

POLICY AND OPERATION SUPPORT

Program Drivers:

- Need for sustainable development.
- Cost of controlling nonpoint sources of pollution.
- Emphasis on service to customers.
- Providing assistance for voluntary compliance.
- Land use decisions.

OBJECTIVE 6-1: MPCA Citizens Board decisions reflect Minnesotans' values regarding environmental protection and improvement.

Measure 1: Public involvement

OBJECTIVE 6-2: To increase the public's awareness of environmental issues and their involvement in environmental protection so that they have confidence in the environmental decisions of the agency.

Measure 1: Public awareness

OBJECTIVE 6-3: To involve the affected public in environmental decisions through the timely preparation and distribution of environmental review documents for public comment, as governed by the Minnesota Environmental Policy Act, MS 116D, so that economic development can proceed in an environmentally sustainable manner.

Measure 1: Environmental assessments prepared for public review

SUMMARY

AGENCY: Pollution Control
PROGRAM: 06 - Policy and Operations Support

EXPENDITURES AND STAFFING (F.Y. 1994)

(\$ in Thousands)

Total Expenditures: \$ 8,166

From State Funds \$ 8,146

From Federal Funds \$ 20

Number of FTE Staff: 90.9

PROGRAM GOALS:

- To develop and direct implementation of environmental policies with public input and discussion. (M.S. 116)
- To review and assess environmental effects of projects so that these effects may be prevented or mitigated. (M.S.116D)

DESCRIPTION OF SERVICES:

The mission of this program, which includes the 9-member Citizens' Board, the Commissioner's Office and general and regional support, is to provide policy direction, management and support services to the various programs of the agency. The overall objective of this program is to improve the state's environmental quality by determining reasonable and usable policies for environmental protection and to provide the leadership and management necessary to accomplish environmental goals.

The 9-member Citizens' Board's mission is to make major environmental decisions for the state in a forum that encourages participation by interested and affected parties. The Board's decision-making process is a combination of delegations to the Commissioner, a review of technical analysis and recommendations on specific issues, the Board's application of environmental rules and statutes and input from interested parties.

The Public Information Office ensures that state residents, environmental groups, regulated community, news media and others have access to environmental information generated by the agency. This office assists these individuals in understanding the actions and decisions of the agency through a variety of formats including publications, news releases, displays and exhibits, public meetings and daily contact by telephone, mail or visits.

The Environmental Planning and Review Office conducts environmental review of major proposed projects through a standardized public process that is designed to disclose information about environmental impacts and methods to avoid or mitigate adverse impacts. This analysis includes the preparation of environmental impact statements and the review and

analysis of environmental issues that affect the water, air and land. This office also coordinates the agency's activities in strategic planning, pollution prevention, low-level radioactive waste, mining and other natural resource assessments and requirements for toxic release inventory disclosures.

BACKGROUND INFORMATION:

MEASURES OF ACTIVITIES (A), WORKLOAD (W), UNIT COSTS (UC), OTHER DATA (O)

<u>Type</u>	<u>Measure</u>	<u>F.Y. 1991</u>	<u>F.Y. 1994</u>	<u>F.Y. 1997</u>
W	Major permitted facilities	2,360	2,930	3,500
W	Total MPCA Staff	656	769	780
O	Staff located in Regional Offices	42	87	109e
O	Major state environmental legislation enacted (number of bills each year)	6	7	

PROGRAM DRIVERS:

■ **Need for Sustainable Development.** There is a growing interest in planning economic growth so that it does not jeopardize the environment. The agency is being encouraged to play a crucial part in this worthy goal by ensuring that new development and other projects may proceed only after environmental impacts are mitigated or eliminated. The agency anticipates significant environmental review work in the following areas: 1) feedlots; 2) industrial, including wood and paper products and agriculture, including ethanol; 3) wastewater treatment; 4) landfills; and 5) evaluating solutions for nonpoint sources of pollution.

■ **Costs of Controlling Nonpoint Sources of Pollution.** As the agency shifts from regulating mostly industrial sources to nonpoint sources of pollution, the solutions to these environmental problems become increasingly expensive for those who can least afford them. This driver will encourage more innovation from the agency regarding environmental solutions and funding sources for small businesses, rural cities and homeowners and farmers.

■ **Emphasis on Service to Customers.** The agency needs to place a greater emphasis on service and in particular, to make more staff available locally. This does not mean a reduction of regulatory and enforcement actions, but rather a blending of problem solving and pollution prevention with the regulatory mandates. The citizens of Minnesota have a strong desire to do their share in dealing with pollution they personally generate. This has been noted through such successful program as household waste collection, recycling and other examples of support for the actions of the agency. The regulated community, in particular, interested in knowing how to comply and responds eagerly to the training and technical assistance opportunity the agency provides. In order to maintain the momentum, the agency must continue to focus its attention on the service aspect.

■ **Providing Assistance for Voluntary Compliance.** The public and the regulatory community place ever increasing demands on all agency programs for easily understandable information. Because pollution control and environmental issues are so scientific, technical and complex, the skill of communicating what is required and when and how to comply is essential to removing barriers to voluntary compliance.

■ **Land-Use Decisions.** How well communities and local units of government determine acceptable use of the land has become a driver for the agency. Disputes over development and large-scale farming operations are increasingly seeking resolution by the agency.

AGENCY: Pollution Control Agency
PROGRAM: 06 - Policy and Operations Support

OBJECTIVE, MEASURE

Objective 06-01: MPCA Citizens' Board decisions reflect Minnesotans' values regarding environmental protection and improvement.

Measure (1): Public involvement and approval ratings.

Actual Performance	<u>F.Y. 1991</u>	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1997</u>
Citizen Board meetings held	19	26	24	17	21e	21e
Public comments received at Board meetings	166	264	111	122	110e	110e
Issues presented at Board meetings	164	161	119	84	80e	80e
% of residents rating Agency's overall environmental performance as excellent or good	52	-	-	-	60	65
% of residents rating Agency's staff as very or somewhat credible	-	75	-	-	75	75

DEFINITION, RATIONALE, DATA SOURCE:

Information comes from agency records. The number of meetings held by the MPCA Citizens' Board is a good measure of the opportunities for public involvement in agency decision-making. The number of public comments received at Board meetings is a good measure of public participation, an important objective of the agency's decision-making process. The number of issues discussed at the Board meetings reflects the shift from making specific operational decisions to broader environmental decisions with public participation.

Public opinion data are based on a statewide sample of telephone interviews conducted by the University of Minnesota's Center for Survey Research by request of the agency. There is a 95 percent chance that the results do not differ from the opinions of all state residents by more than 3.5 percentage points.

DISCUSSION OF PAST PERFORMANCE:

The composition of the Board, the level of commitment from the administration, and the public's concerns of the moment can greatly influence the outcomes of the Board. Public opinion measures may be somewhat influenced by events or publicity that occur during the data collection.

PLAN TO ACHIEVE TARGETS:

In the past few years, there has been a procedural shift in how the Board makes decisions. Issues brought to the Board are discussed at length among all interested and affected parties at the committee meetings. Decisions on these issues are brought to the full Board the following day. This process allows the Board members time to adequately understand the issue and make good decisions.

OTHER FACTORS AFFECTING PERFORMANCE:

Many of the policies and decisions of the agency are controversial. Obtaining mutual support from environmental groups and industry representatives before an issue is brought to the Board can considerably streamline the decision-making process. To this end, the agency frequently uses advisory groups and taskforces to discuss and resolve outstanding issues. Representatives of environmental groups, industries, businesses, citizens, researchers, consultants and others comprise the groups. In 1993, the agency was working with about 69 active task forces and advisory groups with approximately 1300 members.

OBJECTIVE, MEASURE

Objective 06-02: To increase the public's awareness of environmental issues and their involvement in environmental protection so that they have confidence in the environmental decisions of the agency.

Measure (1): Public awareness and participation.
--

Actual Performance	<u>F.Y. 1991</u>	<u>F.Y. 1992</u>	<u>F.Y. 1993</u>	<u>F.Y. 1994</u>	<u>F.Y. 1995</u>	<u>F.Y. 1997</u>
Subscriptions to agency newsletters	44,650	-	-	56,300	-	63,300e
Public requests for environmental education materials	2,008	2,486	3,472	3,260	3,800e	4,500e
Requests for presentations to organizations and community groups	93	91	147	118	120e	133e
News features about the MPCA or its programs	4,913	5,862	5,921	7,420	7,500e	7500e
Public attendance at agency training events	-	-	-	23,461	45,000e	47,000e

DEFINITION, RATIONALE, DATA SOURCE:

The Public Information Office is responsible for production of various newsletters that are used to communicate both program specific and general information about the agency to key audiences. The Office also operates a clearing house of environmental educational materials for schools and other groups and offers a speakers bureau for general audiences. (Note: The data for 1991 and 1992 was collected for two-thirds of the year.) In addition to these measures, the progress achieved on environmental goals throughout this report may also be a good indicator of success in the public education arena. The information on attendance at public meetings and training events is collected by agency staff. Note that the information on training attendance in 1994 is for just 6 months.

DISCUSSION OF PAST PERFORMANCE:

Although some national studies show that public interest in the environment appears to have leveled off or even fallen slightly since 1990, this trend has yet to appear in Minnesota. Public requests for information from the agency continue to climb. Stories in local news media have provided information to state residents in a timely and convenient fashion. As the agency focuses on changing the public's behavior to prevent nonpoint sources of pollution (e.g., emissions from motor vehicles, over-fertilization of urban lawns or improper disposal of hazardous wastes), the importance of providing accurate, clear and useful information will grow.

PLAN TO ACHIEVE TARGETS:

The agency plans to continue its support of communications by maintaining adequate staffing in the Public Information Office. In addition, it is likely that additional emphasis will be placed on public education in Greater Minnesota. Training opportunities and the number of public meetings is expected to continue.

OTHER FACTORS AFFECTING PERFORMANCE:

Limits on resources will continue to be a challenge to improving the agency's outreach and education efforts.

OBJECTIVE, MEASURE

Objective 06-03: Involve the affected public in environmental decisions through the timely preparation and distribution of environmental review documents for public comment, as governed by the Minnesota Environmental Policy Act, M.S.116D, so that economic development can proceed in an environmentally sustainable manner.

Measure (1): Environmental assessments prepared for public review.
--

Actual Performance	F.Y. 1991	F.Y. 1992	F.Y. 1993	F.Y. 1994	F.Y. 1995	F.Y. 1997
Environmental review documents prepared and distributed for public comment	24	34	34	38	40	40e

Source: Agency records

DEFINITION, RATIONALE, DATA SOURCE:

Environmental review documents include Environmental Assessment Worksheets (EAWs), petitions for (EAWs) and Environmental Impact Statements (EISs). Each is governed by the rules of the Environmental Quality Board (EQB) and the Minnesota Environmental Policy Act. The purpose of these documents is two-fold: 1) to provide an environmental analysis of a proposed project prior to issuance of permits, so that significant environmental impacts can be foreseen and prevented if possible before a project is built; and 2) to involve the affected public and other government units by submitting the analysis for their review and comment, responding to their comments and using the results of comments in the process of deciding whether further study is needed and what sorts of mitigative measures can be employed in permits to prevent significant environmental impacts.

Most environmental review documents prepared are EAWs. EISs, the more comprehensive analysis of potentially significant environmental impacts, alternatives and socioeconomic impacts, are infrequent (1 or 2 per year), and are usually reserved for large-scale project with multiple impacts, such as paper mills, major industrial expansions, etc. Petitions for EAWs, which are submitted by citizens, result in a screening analysis involving the public, and frequently the Citizens' Board, in determining whether to do an EAW. The agency receives about six such petitions per year and historically has granted about half after reviewing the merits. Each type of environmental review document serves the dual functions of environmental analysis and public participation, adding value by changing projects to make them more acceptable to neighbors and better for the environment than when they were first proposed.

DISCUSSION OF PAST PERFORMANCE:

The number of environmental review documents prepared has some correlation to the overall level of economic activity in the state--if the economy is growing and if interest rates are low, more projects that require environmental review are proposed. Changes in federal or state environmental rules and marketplace changes in specific industrial sectors also affect the number of environmental reviews conducted. The 1991-93 figures reflect some of those variables. The significant increase in 1992-94 is attributed to the economic recovery, mandates in solid waste policy at the federal and state levels, and the trend in animal agriculture toward large-scale confinement feedlots.

PLAN TO ACHIEVE TARGETS:

The agency will ensure that sufficient staff resources are available to conduct the environmental review process in a timely manner. Further, we will maintain flexibility and foresight to adapt to the changing economic and regulatory factors that drive the number and types of projects requiring review.

OTHER FACTORS AFFECTING PERFORMANCE:

The environmental review process is not open-ended in that documents must be prepared, distributed for public comment, findings prepared and decisions made under the guidelines in the EQB rules. Given Minnesota's construction season, there is increased demand by project proposers for completion of environmental review in advance of the spring thaw and again prior to fall freeze-up. Not all projects are directly affected by these seasonal trends, but proposers understandably wish to take advantage of good weather and contractor availability in planning their projects. On the average, environmental assessment worksheets take 90-120 days from start to completion of the process. Highly controversial or technically complex projects may take longer.

Thus, it is important to conduct the environmental review and decision-making process that accommodates these factors whenever possible, understanding the need for sound environmental analysis, public participation and timely decisions for all interested parties.