



Guide to MPCA Programs

January 2007



Minnesota Pollution Control Agency



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December 2006

The Minnesota Pollution Control Agency has been protecting our state's air, land, and water since 1967. The MPCA was created by the Legislature three years before the nation's first Earth Day and the creation of the U.S. Environmental Protection Agency. The MPCA's mission is "Working with Minnesotans to protect, conserve and improve our environment and enhance our quality of life."

During its first few decades, the MPCA focused on traditional "end of pipe" or point-source pollution. Working with many partners in the private sector and government, we largely succeeded in cleaning up pollution from factory air emissions, wastewater treatment plant discharges, and operations generating hazardous waste. While that work will always continue, today's primary challenges are more about reducing pollution from nonpoint sources.

Nonpoint sources are smaller and more widely dispersed. Examples include runoff from urban and agricultural land, poorly constructed or maintained septic systems, and air pollution from motor vehicles. In general, nonpoint pollution cannot be regulated like traditional point sources, and requires newer, more innovative approaches to reducing pollution. Partnerships across all levels of society and commerce are critical to protecting our environment from nonpoint sources.

The MPCA staff of more than 800 carry out a wide range of activities including:

- testing and research to identify problems
- air and water monitoring
- hazardous waste and emergency response actions
- cleaning up past contamination
- developing permits to control activities that affect the environment
- monitoring compliance by regulated parties and taking enforcement action when regulations are not followed
- developing environmental priorities and strategies, and setting standards and proposing rules
- developing and encouraging practices and programs aimed at sustainability and pollution prevention
- working with local governments on waste planning and reduction issues
- encouraging development of materials designed to help Minnesotans become more environmentally literate
- providing technical assistance and educational outreach.

Uniquely among state agencies, the MPCA is governed by a Citizens' Board, established in statute. The Citizens' Board sets agency policy and direction, and takes action on certain other significant or controversial issues. Under the authority of delegations from the Board, the MPCA commissioner directs the day-to-day work of the agency's staff, located in eight offices throughout Minnesota.

The Citizens' Board consists of the commissioner and eight members who are appointed by the governor and confirmed by the Senate to four-year staggered terms. One member must be knowledgeable in agriculture, and one must be a representative of organized labor. The MPCA commissioner serves as chair. Meetings are held monthly. Members must file with the state Ethical Practices Board.





A Guide to MPCA Programs

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Impaired Waters

Description and purpose

Impaired waters take their name from the “impaired waters list,” a federally required listing of lakes and rivers in the state that currently do not meet the water-quality standards set to protect their beneficial uses.

The federal Clean Water Act (CWA) requires states to:

1. Assess all waters of the state to identify and list impairments
2. Conduct TMDL studies (see below) in order to set pollutant reduction goals
3. Implement corrective measures to meet a TMDL’s pollutant reduction goals and restore waters to standards.

MPCA responsibilities include performing assessment activities, listing impaired waters, and conducting TMDLs in Minnesota. The agency also coordinates closely with other state and local agencies on restoration activities.

Identify and list impairments

First published in 1992, the state’s impaired waters list is updated every two years. The 2006 list shows 2,250 impairments on 284 rivers and 1,013 lakes (a water body may have multiple impairments). About 40 percent of those assessed against impairment criteria are impaired, a rate comparable with what other states are finding. Only a small percentage of Minnesota’s river miles and lakes have been assessed so far. The list of impaired waters will expand as assessments continue throughout the state. A state’s impaired waters list is used to prioritize funding and activities for restoring impaired waters.

Conduct TMDLs

For each impairment on the list, the Clean Water Act requires that a Total Maximum Daily Load be prepared. The term “TMDL” describes both a process and a number. The *process* typically involves two to four years of technical

study and intensive stakeholder and public input. The *number* is a calculation of the maximum amount of a pollutant the water body can receive and still meet water quality standards. A TMDL results in a pollution reduction plan that identifies all the sources of the pollutant in the watershed and allocates needed reductions among them. It must include a margin of safety for uncertainties in the calculation, account for seasonal variation in water quality, and may leave room for future expansion in discharges (reserve capacity).



TMDLs may be conducted by the MPCA, other state agencies, or local governments that have been determined by MPCA to be qualified to do this work. In addition, consultants often are contracted to assist with data collection, modeling, and development of draft reports. Work plans and draft TMDLs must be approved by the MPCA.

Throughout the process, the MPCA provides oversight, technical assistance, and training to ensure regulatory and scientific requirements are met. Following a formal public comment period, the MPCA submits the TMDL report to the U.S. Environmental Protection Agency for final approval.

MPCA Impaired Waters

Restore impaired waters

After a TMDL is written, a detailed implementation plan is developed to meet the TMDL's pollutant load allocation and achieve the needed reductions to restore water quality. Depending on the type, severity, and scale of the impairment, restoration may require years or even decades, and several million dollars.

Restoration activities typically include infrastructure improvements of wastewater treatment plants or urban stormwater systems, providing upgrades for failing septic systems, and implementing "best management practices" to minimize polluted runoff or soil erosion in urban and agricultural settings.

When a water body is restored to the point that it meets applicable water quality standards it can be removed from the impaired waters list, but monitoring will continue over the long term to ensure standards are maintained.

Clean Water Legacy Act

The Clean Water Legacy Act (CWLA) was signed into law on June 2, 2006.

The new law will:

- Accelerate assessment of Minnesota's waters
- Provide resources to develop TMDLs
- Target additional financial resources to existing state and local programs designed to improve water quality
- Leverage additional federal, local and private resources where possible.

The 2006 CWLA provides one-time funding of \$24.95 million for identified clean-water funding priorities and creates a citizen/state advisory group called the Clean Water Council. For additional information on the CWLA, see the Governor's Clean Water Cabinet Web page at <http://cwc.state.mn.us/index.html>

For more information

For more information on impaired waters contact Faye Sleeper, (651) 297-3365 or faye.sleeper@pca.state.mn.us, or Jeff Risberg, (651) 296-7231 or jeff.risberg@pca.state.mn.us.

Additional information is available on the MPCA Web site at www.pca.state.mn.us/water/tmdl/index.html.



Clean Water Partnership/Section 319 Grants

Program description and purpose

These two programs together address water pollution from nonpoint sources. They help local governments and/or nongovernmental organizations clean up, restore, and prevent pollution of local water resources.

Section 319 of the federal Clean Water Act requires states to identify impaired water resources along with the pollutants that cause the impairments. In the last few years, the U.S. Environmental Protection Agency also has encouraged states to implement activities aimed at measurably reducing pollution in the identified waters. Federal grants provided under Section 319 and matched by the states enable the states to accomplish these goals.

The Clean Water Partnership, created in 1987, is a primary tool in Minnesota's efforts to improve rivers, lakes and streams, and is complementary to Section 319. The program provides local governments with financial resources and technical assistance to protect and improve local water resources. CWP projects are funded by the Minnesota Legislature.

The end results of both programs often may be accomplished through similar methods, i.e. on-land and/or in-water measures to prevent and/or clean up water pollution.

Section 319

Specifically, Section 319 requires that state regulators:

- identify necessary nonpoint-source controls
- specify the programs that will apply the controls
- certify that the state has adequate authorities to implement these measures
- identify all sources of funding for these programs, and
- establish schedules for implementation.

The MPCA has a statewide, five-year Nonpoint Source Management Program Plan that details how the state will fulfill these responsibilities. The agency receives substantial federal funding under Section 319 to support overall research and coordinate nonpoint-source efforts, and to support local clean water projects.

Section 319 funds also provide an important part of the resources needed for the agency's Impaired Waters work, including assessing state waters for impairments and preparing Total Maximum Daily Loads.

Clean Water Partnership

The goals of the CWP include diagnosing problems and threats to water resources, developing solutions for reducing nonpoint-source pollution, and implementing the solutions.

CWP projects begin with a desire by a local government to improve a water resource that has been polluted by land-use-related activities. The program seeks out and rewards local initiative and efforts with technical and financial resources to help communities protect and restore water resources.

The agency has budgeted approximately \$9 million for this program in FY07 for both pass-through grants as well as for salaries and expenses.

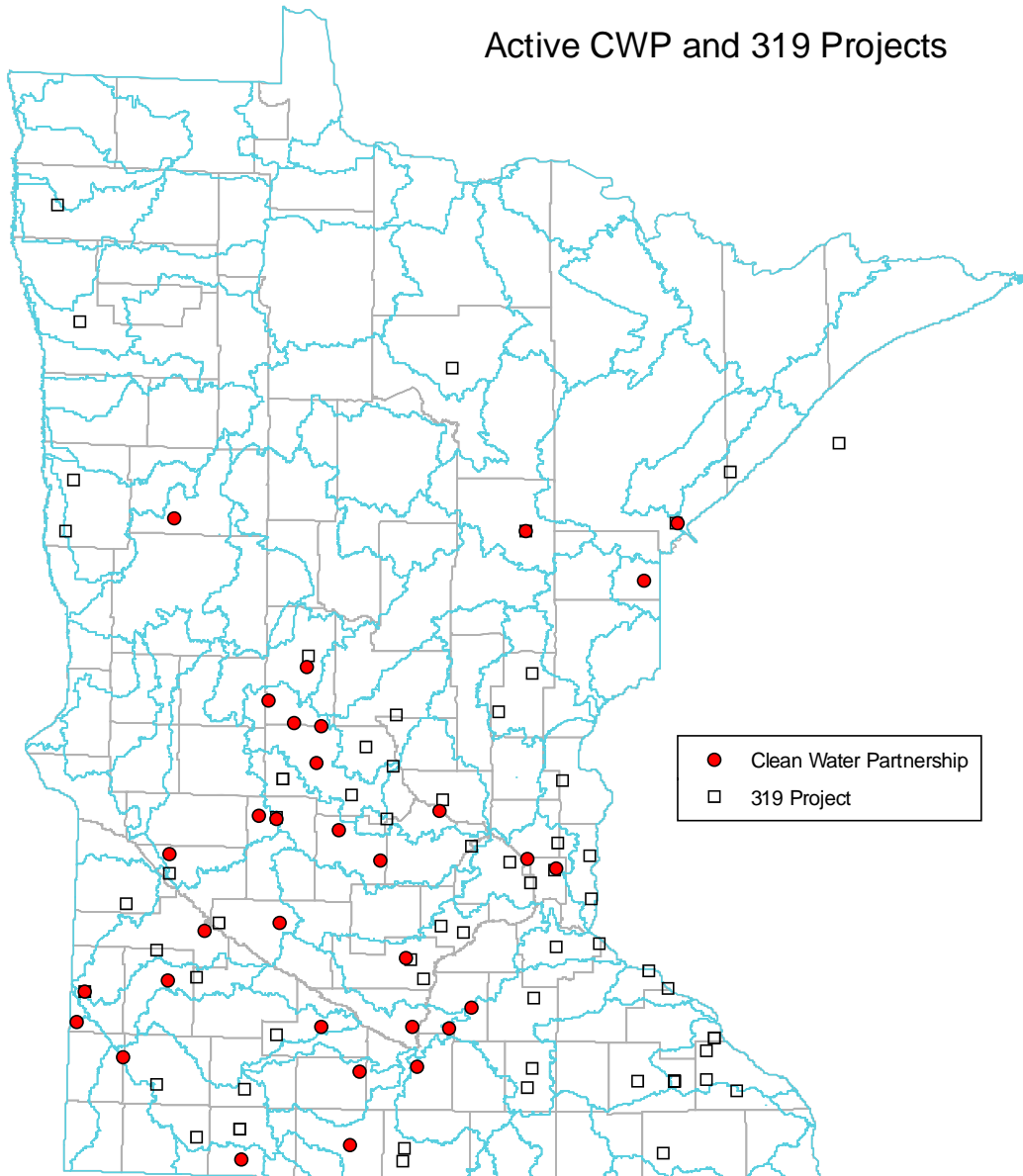
Since 1990 the MPCA has awarded more than \$35 million in Section 319 funds to projects. During the first 19 award cycles of the CWP, the MPCA supported over 190 projects with an estimated \$28 million in grants and \$33 million in loans from the State Revolving Fund. Financial and in-kind matches from local partners and jurisdictions have in most cases exceeded match requirements.

MPCA Clean Water Partnership/Section 319 Grants

For more information

For more information about Clean Water Partnerships and Section 319 grants, contact Glenn Skuta at (651) 296-7359 or by e-mail at glenn.skuta@pca.state.mn.us.

More information is on the MPCA Web site at www.pca.state.mn.us/water/cwp-319.html.



Wastewater Discharge Permitting Program

Purpose and program description

The primary goal of the Minnesota Pollution Control Agency's Point-Source Water-Quality Program is to protect Minnesota's surface and ground water from pollution generated at industrial facilities and wastewater treatment plants. These types of facilities, known as "point sources" of pollution, generate about 14 percent of the water pollution in the state.

Approximately 1,500 facilities are regulated through this program. Staff issue permits, provide technical assistance, monitor compliance through data review and inspections, and follow up with enforcement actions when appropriate. Other specialists such as engineers and hydrologists provide technical support for the permitting and compliance staff.

The MPCA is authorized to operate this program by state statutes and through delegation of the Federal Clean Water Act from the U.S. Environmental Protection Agency. The MPCA also conducts other activities such as setting

water quality standards, monitoring water bodies, conducting environmental reviews, and rule-making.

Water quality permitting

Water quality permits limit the amount of pollution a facility can discharge. These limits take into account the condition of the water body which receives the discharge. In some cases, wastewater is land-applied. In these instances, local soil and groundwater conditions must be studied before a permit can be issued.

Pollutants typically regulated by permits include ammonia, bacteria, phosphorus, solids and biological oxygen demand (a measure of the oxygen needed to break down organic material in the water) and, recently, mercury.

Determining if a facility requires a permit from the MPCA depends on the "design flow" or potential capacity of a wastewater treatment system. Permit fees are based on design flow as well, not on the actual amount of wastewater treated or discharged.



"Point sources" such as wastewater treatment plants and industrial facilities account for about 14 percent of the water pollution in Minnesota. The MPCA has issued water quality permits to about 1,500 point-source facilities.

Permits are issued for a period of five years. Permittees must submit an application for renewal prior to the permit expiration date. If a renewal application is received in a timely fashion, the permit remains in effect until reissuance is complete. The reissuance process and timeline may vary depending on the project, therefore a permit could remain in effect beyond the original five-year period.

Like many states across the nation, the MPCA struggled in recent years to keep up with the number of permit renewals requested annually. The number of expired permits on

MPCA Wastewater Discharge Permitting Program

backlog has been reduced significantly in the past five years. Maintaining a backlog of less than 10 percent is a priority for the agency.

Types of permits

Different types of facilities, activities and processes require different types of permits. In general, facilities that discharge to surface waters operate under permits jointly issued by the National Pollutant Discharge Elimination System and State Disposal System (NPDES/SDS). Non-surface-water dischargers operate under an SDS permit.

Compliance

To ensure that facilities comply with permit regulations, MPCA staff conduct on-site inspections and review monthly and annual reports generated by the facilities. More than 90 percent of facilities in Minnesota are in compliance with the terms of their permits.

Enforcement

When violations occur, the MPCA uses a wide range of tools to help return permittees to compliance. These tools range from informal phone calls, letters and assistance, to formal actions such as penalty orders, stipulation agreements, and court orders. The goal is to encourage compliance throughout the regulated community and to make sure that a permittee does not benefit from noncompliance.

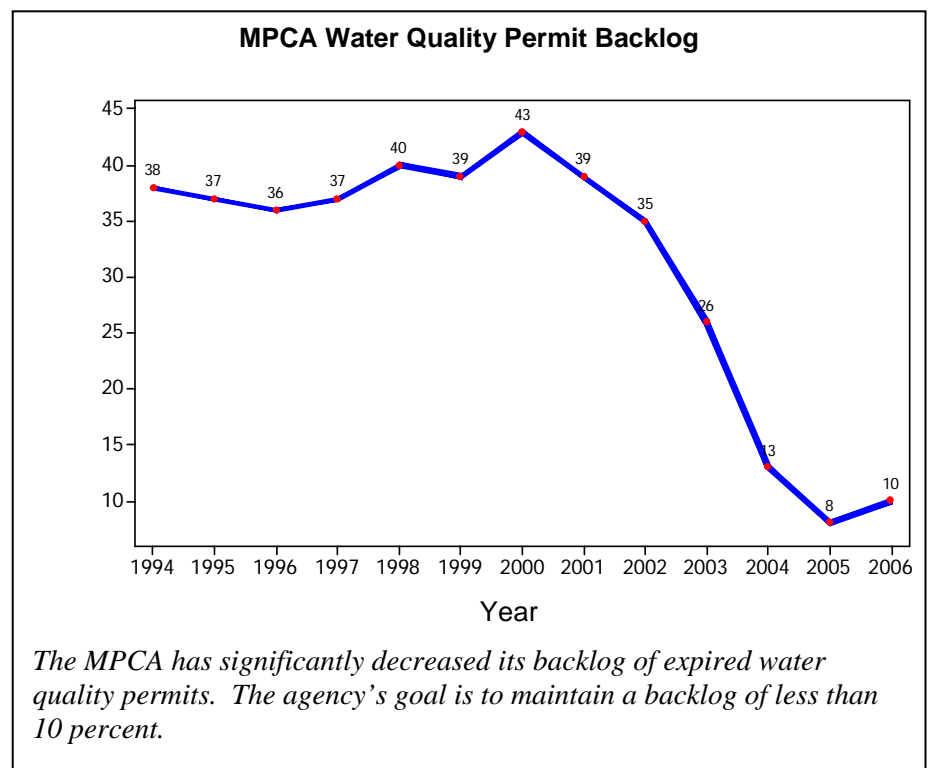
Operator certification and training

Certified operators are required at all wastewater treatment facilities. The MPCA administers certification and training programs that provide information needed to operate a wastewater treatment facility. Training opportunities include conferences, seminars, and on-site technical assistance visits.

For more information

For more information about the MPCA's point-source water-quality program, contact Wendy Turri, (507) 280-2990 or wendy.turri@pca.state.mn.us.

Additional information about is available on the MPCA Web site at www.pca.state.mn.us/water/index.html.





Stormwater Program

Program description and purpose

Stormwater is a leading source of water pollution in urban areas. Minnesota's lakes, rivers, forests and farms depend on the annual cycle of rain and snowfall, but urbanization is changing the natural stormwater drainage process and is adding a host of pollutants to surface water and groundwater. Stormwater transporting oil, grease, chemicals, nutrients, metals, litter and bacteria severely reduces water quality.

While unmanaged stormwater stresses streams, ages lakes, and degrades wetlands, studies indicate that appropriate management practices significantly reduce the levels of sediment and hazardous substances carried by stormwater.

The 1987 amendments to the federal Clean Water Act required implementation of a two-phase program for addressing stormwater runoff from construction sites, 10 categories of industrial facilities, and municipal separate storm sewer systems (MS4s). The final phase of the federal program went into effect on March 10, 2003. The U.S. EPA delegates permitting authority for Minnesota to the Minnesota Pollution Control Agency. Construction, industrial, and municipal facilities requiring regulation for their stormwater discharges are issued joint permits under the National Pollutant Discharge Elimination System (NPDES) and State Disposal System.

With its new and evolving stormwater program, the MPCA is monitoring the effectiveness of measures to control stormwater.

The agency is working with stakeholders through the Minnesota Stormwater Steering Committee to evaluate stormwater regulation for the state. The MPCA funded the development and revisions of the committee's *Minnesota Stormwater Manual*, ranked first among stormwater manuals nationwide by the EPA. The manual advances better site-design

techniques and advocates low-impact development, to assist developments and municipalities in protecting water resources from polluted stormwater.

Construction Activity

Stormwater from construction sites typically carries more sediment than runoff from agricultural or forested lands. Unmanaged construction runoff can quickly cause significant harm to water resources and wildlife. The goal of the construction stormwater program is to reduce the amount of sediment entering our waters before and after earth-moving construction activity.

The program also encourages post-construction practices to control the additional stormwater generated by impermeable surfaces created during development.

Under federal requirements, owners and operators must obtain a permit for any construction activity that disturbs an acre or more of soil. The agency extends coverage under a general stormwater permit to about



Rainwater and snow melt frequently pick up pollutants from streets and parking lots before running in to nearby lakes and streams.

MPCA Stormwater Program

3,000 projects each year. Projects must implement a stormwater-pollution prevention plan that includes a site description, a list of practices to minimize problematic runoff, and a self-evaluation and reporting plan.

Although the MPCA is not authorized to delegate a federal NPDES permitting program to the local level, the agency has a pilot project with 10 local governments to do construction-site inspections and enforcement under a joint powers agreement. This pilot will help streamline state and local construction-site regulations and oversight.

Industrial Activity

Stormwater from industrial activities can discharge pollutants into nearby storm sewer systems and surface waters. Industrial sites can introduce toxic metals, oil, grease, de-icing salts, and other chemicals from rooftops, roads and parking lots to stormwater.

Currently the MPCA extends coverage under a general industrial stormwater permit to about 1,600 Minnesota facilities with Standard Industrial Classification (SIC) codes. A small number of facilities have individual permits. Regulated facilities develop and implement a stormwater management plan that includes a site evaluation, a description of appropriate practices, and a plan for self-evaluation, monitoring and reporting.

Municipal Separate Storm Sewer Systems

Impermeable urban surfaces like streets, driveways, sidewalks and parking lots add pollutants to stormwater. Pesticides and fertilizers from lawns, motor oil, road salt, loose soil, and litter are discharged — largely

untreated — from storm sewer systems into Minnesota's lakes, streams, rivers, and wetlands.

Impermeable surfaces prevent water from replenishing groundwater stores, which in turn reduces the flow of urban streams in dry seasons. Cold-water fish habitat is endangered by stormwater that is warmed by impermeable surfaces.

Under federal Phase I requirements, Minneapolis and St. Paul obtained NPDES permit coverage for storm sewers. Phase II requires about 250 more entities with storm sewers to obtain permits. Regulated systems must develop and implement stormwater pollution prevention plans covering six areas:

- public education and outreach
- public participation & involvement
- illicit discharge, detection, and elimination
- construction-site runoff control
- post-construction-site runoff control, and
- pollution prevention and good housekeeping.

Regulated systems must also identify best management practices and measurable goals associated with each of these six areas and prepare an annual implementation report.

For more information

Contact Don Jakes (651) 296-7786 or at don.jakes@pca.state.mn.us, or Dale Thompson, (651) 296-5897 or at dale.thompson@pca.state.mn.us.

Additional information is on the MPCA Web site at www.pca.state.mn.us/water/stormwater.

Subsurface Sewage Treatment System Program

Program description and purpose

The goal of the MPCA’s Subsurface Sewage Treatment System (SSTS) Program is to protect public health and the environment by ensuring adequate treatment and disposal of sewage not serviced by publicly-owned treatment facilities.

Sewage is generated in homes, schools, businesses and other buildings across Minnesota. Most of it is transported through sewer pipes to municipal facilities where it is treated to meet appropriate standards and discharged to surface waters. But about a quarter of Minnesotans are served by SSTSs, commonly called septic systems. There are about 500,000 of these systems in our state. When installed and maintained correctly, septic systems provide long-term, reliable, high-quality treatment and disposal of sewage and wastewater.

Non-compliant systems create a widespread potential problem for human health and the environment. Of special concern is the fact that ground water supplies, from which two-thirds of Minnesotans get their drinking water, are vulnerable to pollution from septic systems.

Public health concerns include disease and illness from ingestion of, or bodily contact with, sewage or from drinking polluted ground water, and a growing population of those most at risk for illness (seniors, children, people with



A Becker County supervisor oversees the installation of an SSTS at a site a few miles south of Detroit Lakes.

immunodeficiencies, homebound sick and the elderly).

Environmental concerns include direct pollution of ground and surface waters, and increased levels of phosphorus in surface waters.

While 17,000 new systems were installed in 2005, 37 percent of the state’s SSTSs are in need of major repair or replacement. Annual reports submitted by local governments indicate that 11 percent of the state’s SSTSs pose an “imminent threat” to public health and 26 percent threaten groundwater quality (statutory criteria).

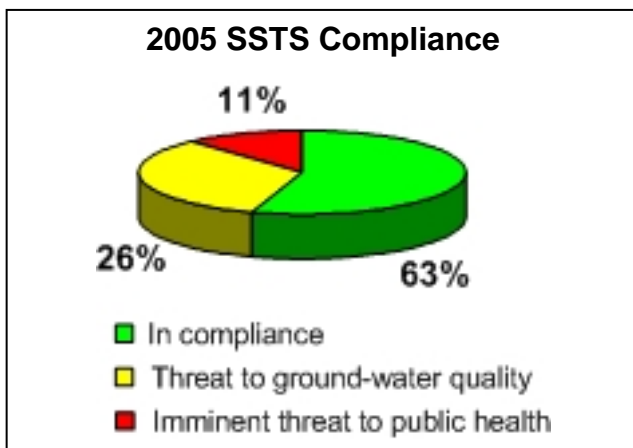
SSTS compliance statistics for 2005 include all systems in the state, including those built before statewide standards went into effect in 1995. Systems built after 1995 are expected to have a much higher compliance rate.

Roles and responsibilities

The MPCA does not directly regulate SSTS in Minnesota. Currently, several parties share a role in the implementation of Minnesota Rules Chapter 7080, the state SSTS code.

MPCA

- Maintains the rule (major rule amendments will be proposed in 2007).
- Issues licenses and registrations.
- Administers licensing exams.



MPCA Subsurface Sewage Treatment System Program

- Provides limited technical assistance to local governments.
- Enforces licensing requirements and provides enforcement assistance to local units of government.

University of Minnesota Extension Service

- Conducts SSTS training workshops.
- Assists individual homeowners.

Local governments

- Adopt county ordinances.
- Issue permits for individual systems.
- Verify compliance of systems when issuing building permits for bedroom additions.
- Require upgrading of non-complying systems
- Assist individual homeowners.

Property owners

- Hire registered businesses and licensed professionals to maintain, repair or install systems.
- Repair or replace failing systems when adding a bedroom.
- Provide accurate information about existing and abandoned systems to buyers.
- Assure systems on newly purchased property are in compliance if seller fails to provide accurate information.

Licensing and registration

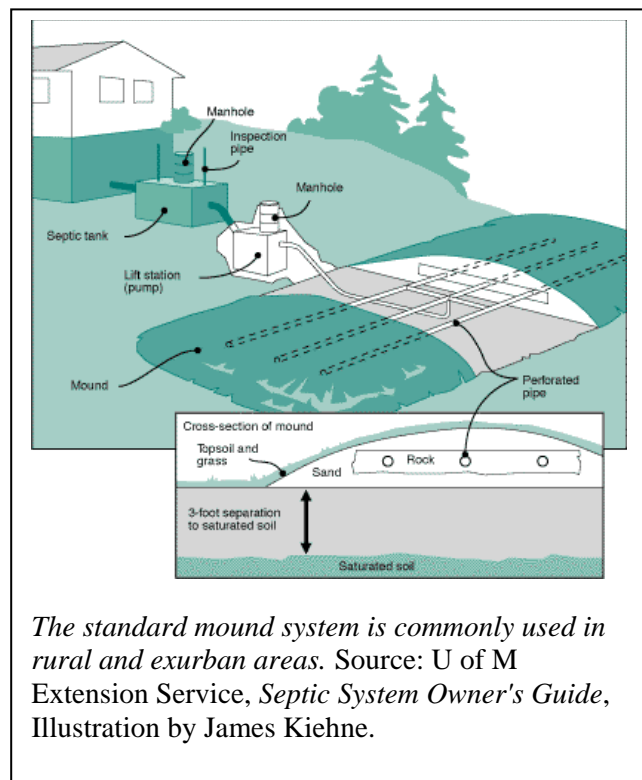
About 1,800 businesses are licensed in one or more of four categories: design, installation, inspection and pumping. Licensing requirements include application, providing evidence of \$10,000 corporate security bond and general liability insurance, \$100 annual fee, and registering names of designated professionals. Local governments cannot require additional local licenses for septic-system professionals.

There are about 5,600 registered professionals who install, evaluate, design, maintain, pump or inspect septic systems. Registration requirements include training, examination, experience with a registered professional, and completing an application. Registrations are valid for three years and continuing education is required to maintain registration.

For more information

For more information contact Gretchen Sabel, (651) 296-7773 or by e-mail at gretchen.sabel@pca.state.mn.us.

Additional information is on the MPCA Web site at www.pca.state.mn.us/programs/ists/index.html.



Air Permitting Program

Program description and purpose

Every year in the United States, industrial operations emit nearly 100 million tons of pollutants into the air. These include pollutants that form smog, make breathing difficult, affect our long-term health, impair visibility, and damage ecosystems.

To limit harmful air pollution, the 1990 amendments to the Clean Air Act established a nationwide air-quality permit program to help facilities understand and comply with air quality regulations. In general, facilities are required to apply for air quality permits if they emit more than a certain amount of regulated pollutants.

Regulated pollutants include carbon monoxide, particles, sulfur dioxide, nitrogen oxides, and chemicals called volatile organic compounds or VOCs. These pollutants can cause harm to humans separately or when combined with other chemicals in the air.

About a third of the air pollution in Minnesota comes from large industrial operations that require federal air quality permits, including factories, power plants and refineries. Federal or state air quality permits may also be required for small stationary sources and specific industries because of the characteristics of the pollutants they emit.

Air quality permit features

An air quality permit is a document issued to a specific facility that contains legally enforceable requirements. The permit spells out the equipment to be used in day-to-day operations, what air pollution control equipment is to be used, and rules or regulations that apply to the facility.

The permit may also include air monitoring requirements, based either on rules that apply to that industry or on the MPCA's

judgment that monitoring is necessary to ensure the company is meeting air pollution limits set out in the permit.

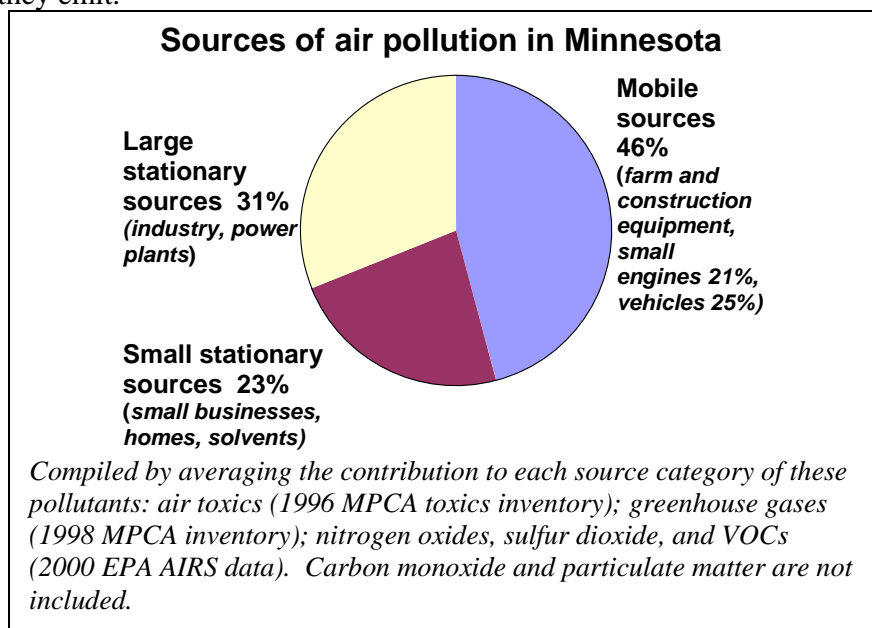
Types of air quality permits

Generally, there are two types of permits, construction and operating. Construction permits are necessary in order to build or modify a facility. Operating permits are required for facilities to operate so that the source does not contribute to violations of air quality standards.

Before deciding which operating permit to apply for, facility management must calculate "potential to emit," or emissions that would result from operating at full capacity 24 hours a day, 365 days a year. The facility may also need to take into account requirements unique to specific industries.

Types of air quality operating permits include:

- **Facility-specific permits** are tailored to a facility and take into account many different emissions points at the facility. A facility-specific permit may be either a federal Title V (also known as a Part 70) permit, or a state permit, depending upon the facility's potential to emit. Title V permits must be renewed every five years. Federal permits require a 30-day public notice period and a 45-day review



MPCA Air Permitting Program

by the U.S. EPA. State permits require a 30-day public notice period. There are approximately 345 facilities in Minnesota with Title V permits.

- **Capped permits** are rule-based permits in which all emission requirements are contained in state rule rather than in tailored permit documents. The rule creating the capped permit was effective on December 6, 2004. It is designed for simple facilities that do not require site-specific permit conditions. The goal is to issue capped permits within 60 to 90 days after receipt of the application.
- **General permits** are for specific industries that use similar equipment and processes (e.g., the sand and gravel industry). Using input from these industries, the MPCA develops an industry-wide general permit to allow operational flexibility for typical processes. Individual facility general permits are not normally placed on public notice, because the general permit is put on public notice as part of its development. About 130 operations in Minnesota hold general permits.
- Registration permits are the most basic. These streamlined state permits are designed for businesses that have low actual emissions when compared with potential emissions. Many small facilities fall into this category (e.g., auto body shops, school and hospital heating boilers). No public notice is required when an individual registration permit is issued. At present, there are more than 2,050 facilities with registration permits in Minnesota.

Benefits of air permits

Public: The public benefits from improved air quality as a result of facilities' compliance with emissions limits.

Industry: The permitting process helps companies resolve questions about what local, state and federal requirements apply to each facility. It also may help companies find the most efficient and cost-effective methods of controlling emissions.

State and local governments: The air permitting program allows government to consolidate air pollution issues in one permit, rather than a series of separate permits. Improved compliance with emissions standards also put Minnesota in a better position to meet national air quality standards.

For more information

For more information about air permitting in Minnesota, contact Rich Sandberg (651) 296-7769 or rich.sandberg@pca.state.mn.us.

Additional information about air quality and the MPCA's permitting program is available at www.pca.state.mn.us/air/index.html.



To limit air pollution, facilities such as refineries are required to obtain air quality permits that spell out rules and restrictions.

Solid Waste Program

Program description and purpose

Minnesotans produce about 2.8 million tons of solid waste each year—despite a high recycling rate of 39 percent or better. The volume of solid waste is increasing one to two percent per year in Minnesota. This waste is collected, brought to processing facilities (incinerators, recovery facilities, compost sites), sorted, or buried in landfills.

The MPCA is involved in many steps in solid waste disposal. The MPCA works with resource-recovery facilities that sort out metals for recycling while sending combustible material to incinerators, where it is burned to generate electricity. The MPCA also works with composting facilities.

The MPCA helps protect the public from leaking landfills that can affect public water supplies, damage natural resources, and threaten public health and the environment. Private firms and local governments involved in collection and disposal of solid waste must comply with state and federal requirements on waste transportation, storage, treatment and disposal, as well as restrictions on types of wastes allowed in facilities, and other requirements to protect ground water and land.

City, county, state and private interests are partners in solid waste management and compliance.

Program activities

MPCA's solid waste staff:

- issue new and renewed permits for landfills, transfer stations, and processing facilities

- evaluate and assure the quality of ground water at and near landfills
- review engineering and monitoring plans
- respond to, or refer to local government, complaints of illegal dumping or other solid waste mismanagement
- conduct inspections and enforcement, and other key regulatory tasks
- provide immediate response to any solid waste site emergencies that arise
- evaluate financial resources of landfills for remedial and long-term care.

The MPCA has updated some solid waste rules related to transfer stations (where waste is transferred from collection trucks to large trailers to take to combustors or landfills), by streamlining the regulatory process for small- and medium-sized stations. Transfer stations must follow state rules as to location and operations, but do not need a state-issued, individualized permit document. All local requirements remain in place.

The MPCA has also developed guidance for when more stringent environmental safeguards are needed at demolition landfills. Most do not



A landfill operator works at a facility in Lyon County near Marshall, Minn.

MPCA Solid Waste Program

have impermeable liners beneath the waste to capture contaminated liquids caused by rain and snow falling on waste at an active landfill.

Program examples

From Jan. 1, 2001 to Nov. 1, 2002 the MPCA issued 41 solid waste management facility permits for a variety of facilities. The list below shows the number and various types of waste facilities in Minnesota. Currently, solid waste facilities are inspected one to two times per year.

- Transfer stations — 120
- Permitted demolition landfills — 111
- Lined landfills taking mixed MSW (municipal solid waste) — 21
- Resource recovery facilities (processing waste for energy, and doing source-separated composting) — 26
- MSW combustor ash landfills — 8
- Industrial landfills — 21

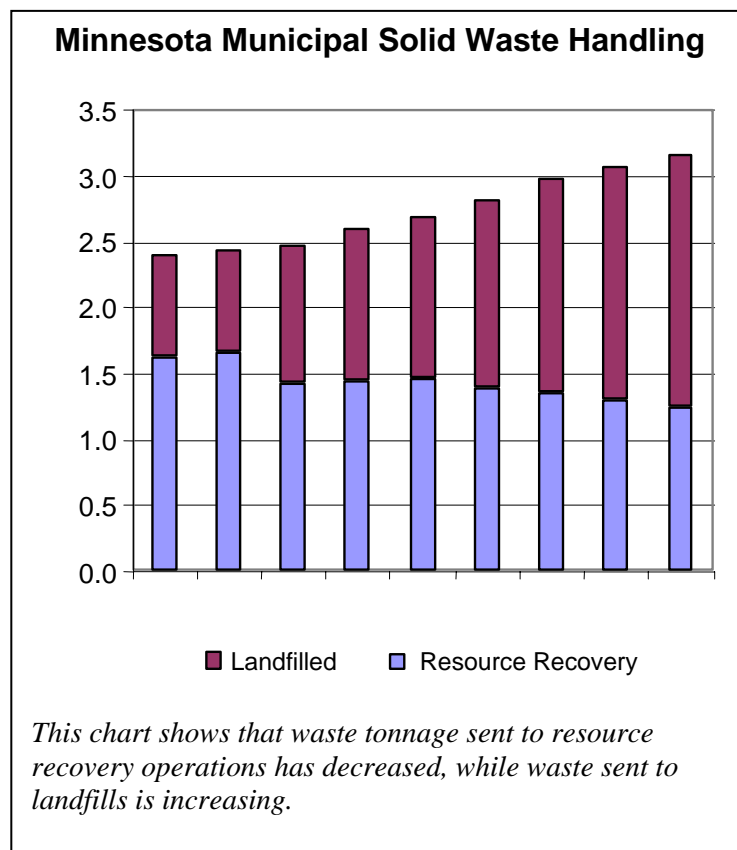
Beneficial reuse of waste

The MPCA has promulgated rules for the beneficial re-use of solid waste. The rule includes a list of standing beneficial-use determinations that do not require additional MPCA review. The MPCA may require the completion of a demonstration research project or issue a case-specific beneficial-use determination.

For more information

For more information contact Gary Pulford at (651) 296-7340 or by e-mail at gary.pulford@pca.state.mn.us.

Additional information is available on the MPCA Web site at www.pca.state.mn.us/waste/index.html.



Hazardous Waste Program

Program description and purpose

Hazardous wastes require special handling and disposal to ensure protection of human health and the environment. The Minnesota Pollution Control Agency's Hazardous Waste Program is based on the federal Resource Conservation and Recovery Act (RCRA) and Minn. Statutes Chap. 115 and 116.

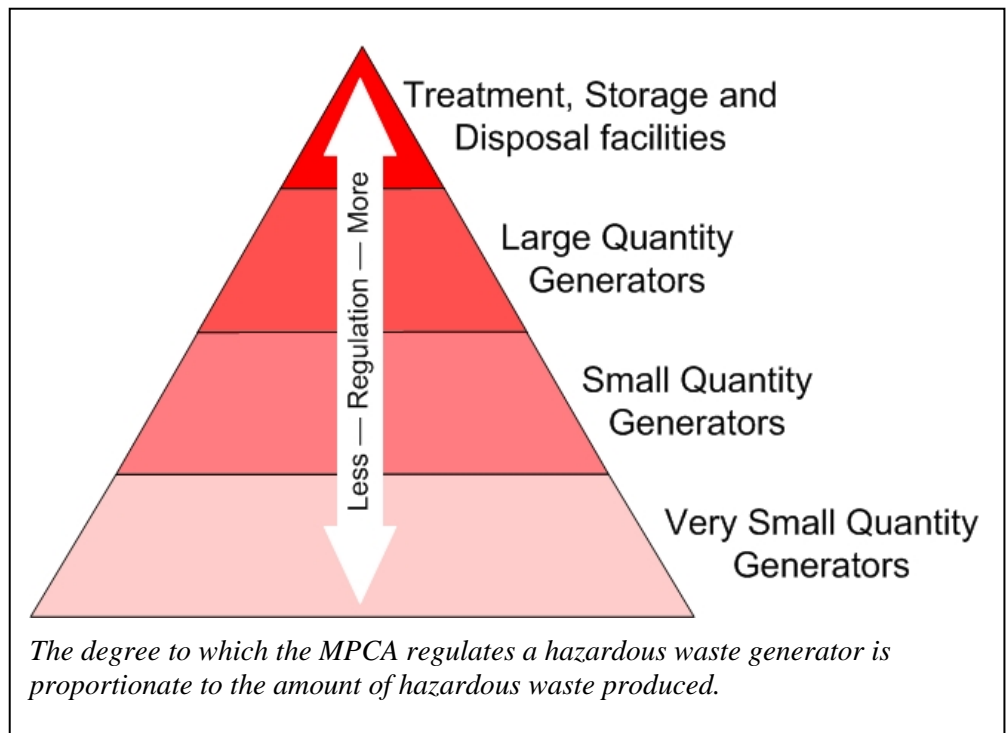
The program's goal is to ensure that people who manage hazardous waste do not endanger public health or the environment as they accumulate, transport and dispose of their hazardous wastes. Establishment of the MPCA's Hazardous Waste Program helped produce a dramatic change in the environmental ethic of businesses, driven in part by the need to keep their costs down.

Staff who work in the Hazardous Waste Program license hazardous waste generators; issue permits to facilities that store, treat or dispose of hazardous waste; and collect fees from these entities. They also conduct inspections to ensure facilities are in compliance, provide technical assistance during inspections, determine whether the facilities' hazardous waste management and disposal plans are up to date, and, when necessary, initiate enforcement actions to return facilities to compliance.

In Minnesota, hazardous wastes are managed through a "cradle to grave" system, including strict liability for hazardous waste management. The Hazardous Waste Program requires any person or company that produces or manages a waste in

Minnesota to:

- Evaluate its waste to determine whether it is hazardous (Minn. Rules, Chapter 7045) and determine its generator size. (These rules do not apply to households that produce normal household waste.)
- Obtain an identification number from the U.S. Environmental Protection Agency
- Annually apply for and pay a license fee
- Place hazardous waste in marked, leakproof containers
- Store hazardous waste correctly
- Store only up to specified quantities of waste for specified time periods
- Properly transport and dispose of hazardous waste
- Manifest shipments of hazardous waste
- Plan for emergencies
- Train personnel, and
- Keep records.



MPCA Hazardous Waste Program

Generator size

Hazardous waste generators are classified by the amount of hazardous waste they produce. The degree to which the MPCA regulates a hazardous waste generator is proportionate to the amount of hazardous waste produced within a given month.

The MPCA's Hazardous Waste Program issues permits specific to each of the state's 25 Treatment, Storage and Disposal (TSD) facilities. Each year, program staff ensure these facilities' permits are up to date.

The Hazardous Waste Program also licenses approximately:

- 250 Large Quantity Generators (LQGs) that produce 2,200 pounds (about four drums of liquid) or more of hazardous waste per month
- 400 Small Quantity Generators (SQGs) that produce more than 220 but less than 2,200 pounds (about one-half to four drums of liquid) of hazardous waste per month
- 15,000 Very Small Quantity Generators (VSQGs) that produce 220 pounds or less of hazardous waste per month. Minimal Generators are VSQGs that generate 100 pounds (about 10 gallons liquid) or less of hazardous waste in a year. The Hazardous Waste Program has established special requirements for Minimal Generators which reduce record-keeping, reporting and fee requirements.

An example of a TSD facility — the most-regulated category of hazardous waste generator — is the 3M's Company's Cottage Grove Incinerator. An electroplating company is an example of an LQG, and a print shop may fall in the SQG category.

Inspections

In accordance with national inspection goals established by the EPA, all of Minnesota's 25 TSD facilities are inspected every other year by the EPA or the MPCA. This is because these facilities have the greatest potential to harm human health or the environment. In the seven-county Twin Cities metropolitan area, county hazardous waste staff may inspect the TSD facilities more frequently.

The EPA and MPCA also inspect at least 20 percent of the state's LQGs each year. SQGs comprise the other category of hazardous waste generators that draws the attention of MPCA inspectors; the number of SQGs inspected each year varies.

Inspections of VSQGs — the type of hazardous waste generator that has the least potential to harm human health or the environment — are based on complaints that the agency receives about mismanagement of hazardous wastes.

In the Twin Cities metropolitan area, inspections by county inspectors supplement those conducted by EPA and MPCA staff.

For more information

For more information about the MPCA's Hazardous Waste Program, contact Mike Tibbetts, (651) 297-8381 or mike.tibbetts@pca.state.mn.us.

Additional information about hazardous waste regulation is available on the MPCA Web site at www.pca.state.mn.us/waste/index.html.

Tanks Programs

Program description and purpose

The MPCA's petroleum storage tank programs protect human health and the environment by preventing tank leaks and spills and cleaning up sites with petroleum contamination. Leak prevention is the aim of programs for above- and below-ground storage tanks that offer technical assistance and training for tank owners and operators, contractor training and certification, and inspection of tank facilities. When spills or leaks occur, they are addressed through remediation and brownfields programs specifically for petroleum. The Emergency Response Program also responds to spills, but that program is discussed in a separate fact sheet.

Underground storage tanks

The UST Program provides information to tank owners and operators on best management practices and current regulations. By 1998, tanks regulated by the U.S. EPA and the MPCA had to be upgraded, replaced, or removed if they lacked proper spill, overfill, or corrosion protection. Of the 57,117 USTs registered in Minnesota, 39,658 have been removed or permanently closed.

New federal legislation will place additional requirements on the nearly 18,000 active USTs remaining. New and replacement USTs, along with piping and dispensers, will need to have secondary containment after February 2007. In addition, UST operators will need tank-related training by February 2009. Finally, UST systems will need to be inspected every three years, beginning in August 2007.

Above-ground storage tanks

Like the UST Program, the AST Program focuses on leak prevention. Tools include technical assistance, inspections, permitting, and implementation of new requirements for tanks that incorporate best management practices.

In 1998, tank facilities with a storage capacity of less than a million gallons started implementing requirements to prevent contamination, including proper containment of product, prevention of spills and overfills, and monitoring of active and inactive tanks. Approximately 8,000 active ASTs are regulated at smaller sites.

For the 89 facilities with a storage capacity of more than a million gallons, permits are issued to prevent and minimize contamination from the 4,000 active large tanks located at these sites.

Petroleum remediation

The agency's petroleum remediation program specifically targets petroleum (as opposed to the agency's other remediation programs). The aim is to evaluate, minimize, or clean up petroleum contamination affecting soil and water. The program deals with both USTs and ASTs. Program objectives are to ensure clean drinking water, clean air, and to provide safety from explosive vapors.

Program priorities include:

- Timely completion of investigations, cleanups, and closures of sites using methods protective of human health and the environment, and
- Coordination with responsible parties and the Department of Commerce to ensure prompt and proper reimbursement for eligible expenses.

Funding for the program and conducting comes primarily from the state Petrofund. This fund is generated from a two-cent-per-gallon fee on petroleum wholesalers. This fee is only activated if the account drops below \$4 million dollars. It is typically activated for four months per year. Since the mid-1980s, the Petrofund has provided approximately \$360 million to 12,000 different applicants for cleanups. Commercial and residential sites are eligible for

MPCA Tanks Programs

up to 90 percent reimbursement for petroleum investigation and cleanup with a cap of \$1 million per site.

Remediation example

The Phalen Corridor Redevelopment in St. Paul, Minnesota's largest inner-city development, continues with cooperation and coordination from the Petroleum Remediation Fund to expand and redevelop of land that was previously underutilized due to soil and ground-water contamination.

Several industrial and small retail sites continue to be investigated and redeveloped, creating new businesses, jobs, housing, roads and green space. The Phalen project was recognized with the Phoenix Award from the EPA in 2005. This award honors groups developing brownfield sites across the country for innovative and practical projects that return blighted sites to productive use.

Petroleum brownfields

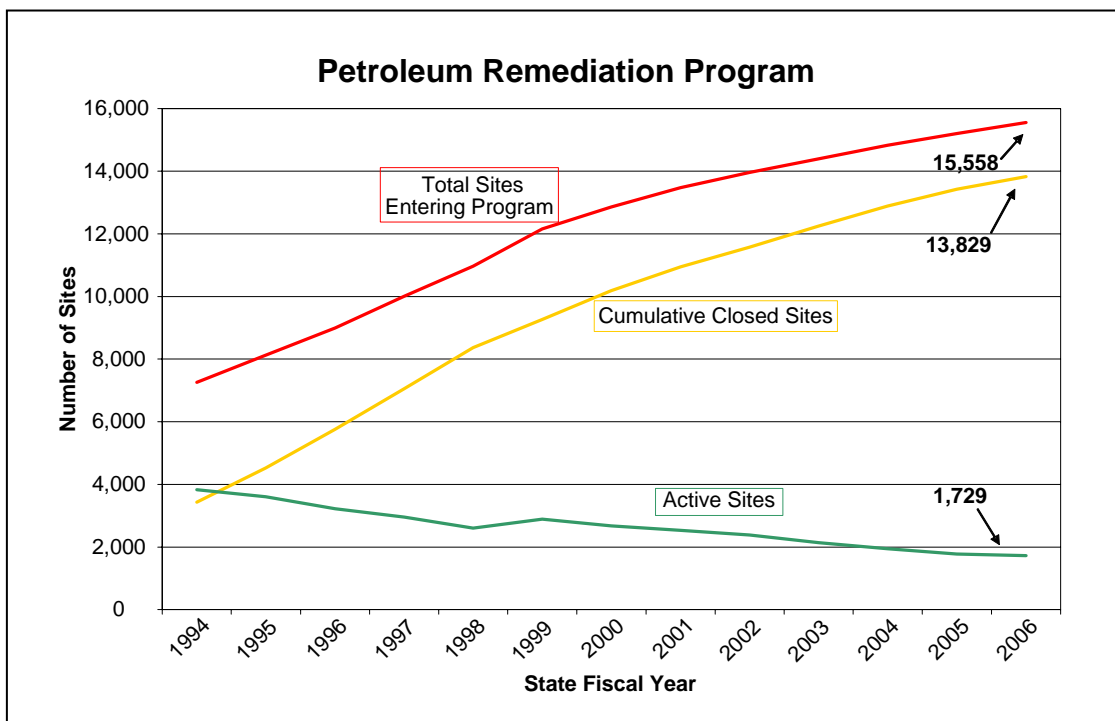
Purchasing, selling, or developing property can present a special set of obstacles if the property

is contaminated with chemicals. The petroleum brownfields program is a fee-for-service technical review and oversight program started in 1992 to help address these obstacles. The program provides technical assistance and liability assurances needed to expedite and facilitate the development, transfer, investigation and/or cleanup of property contaminated with petroleum. About 200 sites per year enter the brownfields program and receive liability assurance letters or site closure letters.

For more information

For more information about the MPCA tank programs, contact Jeff Lewis at (651) 297-8505 or by e-mail at jeff.lewis@pca.state.mn.us.

Additional information about tanks programs can also be found on the MPCA Web site at: www.pca.state.mn.us/programs/tanks.html, www.pca.state.mn.us/programs/lust_p.html www.pca.state.mn.us/programs/vpic_p.html



Superfund and Voluntary Investigation and Cleanup Programs

Program descriptions and purpose

The Superfund and Voluntary Investigation and Cleanup (VIC) programs identify and oversee the investigation and cleanup of abandoned or uncontrolled releases of hazardous substances that threaten or potentially threaten public health or the environment. Superfund is a mandatory program, VIC is voluntary.

Minnesota's Superfund Program, modeled after the 1980 federal Superfund program, was created in 1983 with passage of the Minnesota Environmental Response and Liability Act. This law gave Minnesota the same authority given to the U.S. EPA to fund cleanups. The program's "polluter pays" concept requires those who create public health or environmental risks to take cleanup responsibility and mitigate the damage done.

The VIC Program offers voluntary parties (whether responsible for the contamination or not) the opportunity to redevelop sites contaminated with hazardous substances. Also called "brownfields," these sites must be cleaned up to the same level of protection as required by the Superfund program. Since its 1988 inception, the program has been a national model in cleaning up contaminated land and returning it to productive use.

Superfund

Due to the success of the Superfund Program's assessment activities, most potential Superfund sites in Minnesota have been discovered. Most of the state's worst sites have already been listed on the state Superfund list and many have been cleaned up or are currently undergoing response actions. The chart on the next page shows the yearly and cumulative progression of active and delisted sites since 1983.

As of July 2006, only 77 sites remained on the state Superfund list (of 229 since the program's

creation) and 24 (of 45) on the federal list. The MPCA anticipates adding two sites per year to the state list over the next five years.

Voluntary Investigation and Cleanup Program

VIC Program goals include:

- Facilitating the cleanup and reuse of contaminated property
- Providing review of voluntary site investigations, and
- Offering liability or administrative assurances to those conducting voluntary investigations and/or cleanups.

Before the VIC program was created, property buyers and sellers, lenders, municipalities, developers and other business interests were reluctant to redevelop old industrial sites. The VIC program solved concerns about potential Superfund liability with liability assurances for responsible and non-responsible parties.

In addition to providing fee-for-service technical review and project oversight, the VIC



MPCA contractors excavated and disposed of more than 9,500 barrels (filled mostly with leaded gear lube) at the former Reserve Mining Superfund site on what is now North Shore Mining property in Silver Bay.

MPCA Superfund and VIC Programs

program partners with municipalities, the state Department of Employment and Economic Development, and the Metropolitan Council to facilitate brownfield redevelopment.

Program examples

Superfund: Warden Oil, Minneapolis

Warden Oil recycled waste oil from 1927 to 1992. By 1994, the site was forfeited for back taxes. The responsible companies, Hennepin County, and state Superfund and Petrofund monies cleaned up the site to residential standards. The cleanup will result in potential residential development at the site, which was taken off the state Superfund list in 2005.

VIC Program: Phalen Corridor, St. Paul

This 2.5-mile corridor along I-35E once contained four commercial sites which left a legacy of contamination from scrap-yard, railroad, brewery and manufacturing facilities. The sites began entering the VIC program in phases, starting in 2001. Using federal funding, a coalition of business, local government, and the MPCA transformed the corridor into a nationally recognized redevelopment project that spurred 2,000 jobs and 1,000 new housing units, and the expectation of a once-again rejuvenated local economy.

Superfund and VIC: Perfluorochemicals (PFCs)

Although few studies exist on PFC-related health effects in people, high concentrations of certain PFCs in animal studies have shown adverse affects to the liver and other organs. The 3M Chemolite facility in Cottage Grove produced a family of proprietary chemicals containing PFCs that were used to make

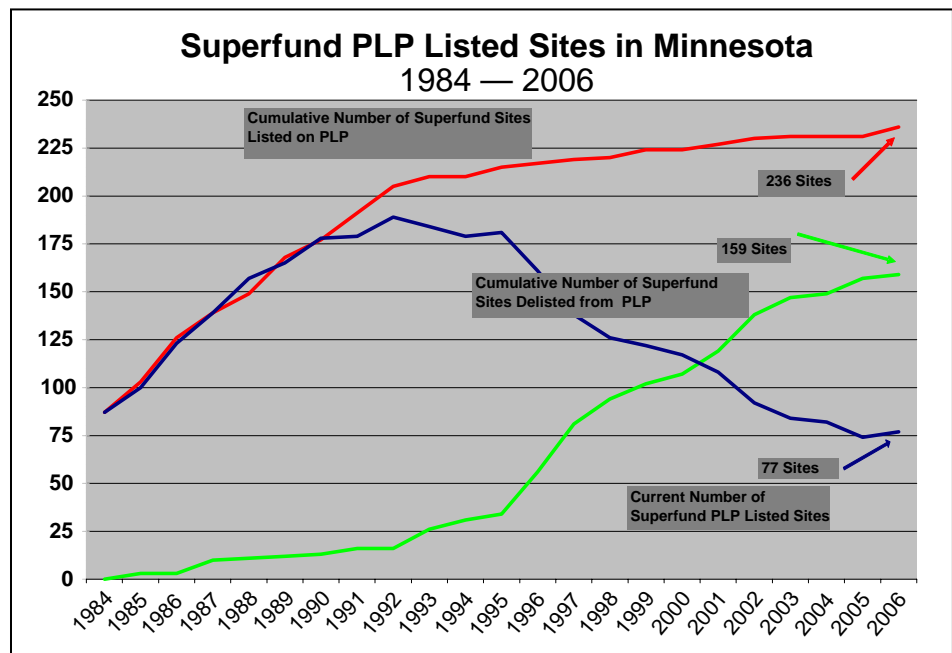
products that resist heat, oil, stains, grease, and water.

Historically, PFC production waste was disposed of at 3M's Cottage Grove, Oakdale (Superfund) and Woodbury (VIC) sites, and at the Washington County Landfill (Closed Landfill Program site). The MPCA is providing oversight of current and future cleanups related to PFCs contamination at these 3M sites; it will also require the company to determine the extent of possible PFC-related contamination in the Mississippi River.

For more information

For more information about Superfund and the VIC Programs contact Michael Kanner at the MPCA, (651) 297-8564 or by e-mail at michael.kanner@pca.state.mn.us.

Additional information about these programs is also available on the MPCA Web site at www.pca.state.mn.us/cleanup/index.html.



Closed Landfill Program

Program description and purpose

In 1994, the Minnesota Legislature passed the Landfill Cleanup Act, which created the Closed Landfill Program (CLP). The CLP is an alternative to Superfund for cleanup of closed landfills and was the first of its kind.

The program provides proper closure and cleanup, conducts long-term monitoring and maintenance, and reimburses eligible parties for past cleanup costs at 109 closed, state-permitted landfills, which the state maintains in perpetuity.

The MPCA develops management plans for each qualified landfill and requires local governments to conform local land-use plans to them. The agency reports annually to the Legislature on expenses of the past year and anticipated future work. The program is more than halfway toward the goal of bringing each landfill in the program up to standards protective of public health and the environment.

Program outputs and examples

Program accomplishments through FY06:

- 109 cleanup agreements executed
- 109 notices of compliance issued
- Reimbursements to responsible parties totaling \$38 million
- U.S. EPA reimbursements totaling \$4 million
- 107 response actions completed
- Program's goal of limiting leachate generation and infiltration to ground water 80 percent achieved
- 80 percent of landfill gas at CLP facilities prevented from release (where feasible).

Emerging contaminants

Since 2000, the MPCA has gathered information on newer chemicals of concern at landfills. Polybrominated diphenyl ethers (PBDEs), brominated dioxins and furans, perfluorinated chemicals (PFCs), and alkyl phenols have been the focus of several investigations. The CLP has begun to more closely focus on PBDEs and PFCs.

PBDE is a component of flame retardants in used in products such as computers, TVs, electrical appliances, furniture, building materials, carpets and automobiles. Products containing PBDE disposed in landfills are a potential source for ground-water contamination. The chemicals persist in the environment and bioaccumulate in humans and wildlife. PBDEs have been found in all environmental settings examined, and assessment of the extent of PBDEs in landfill leachate and gas continues.

PFCs, including perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), are a class of chemicals widely used in consumer products. PFOS was produced primarily by 3M and used during the last 50 years in a wide variety of industrial, commercial, and consumer products (e.g. Scotchguard). Preliminary research in 2005 detected the presence of PFCs in fish and the MPCA has continued looking into their presence and distribution in Minnesota's landfills and ground water.

Although there are not many studies of PFC-related health effects in people, high concentrations of certain PFCs in animals have shown adverse effects to the liver and other organs.

The CLP began sampling for PFCs in 2004 at the Washington County Landfill, after learning of past 3M disposal of production wastes at the site. This effort expanded to include nearly 400 residential drinking wells and municipal wells in Oakdale, Lake Elmo, and neighboring communities. Some 250 private wells are affected by PFCs; about 150 exceed health advisory limits, and the program provides these households with bottled water and/or water filters. The city of Lake Elmo, with a grant from 3M, is extending its municipal water supply to a number of affected residents.

Future activities

With recent advancements in technology and the increasing cost of energy, landfill gas is becoming an attractive source of energy. If all closed landfills were developed with gas extraction

MPCA Closed Landfill Program

systems for electrical generation, they could meet the annual electricity needs of more than 9,300 homes.

MPCA staff anticipate constructing improved covers, gas systems, and ground-water treatment systems, as well as implementing other response actions, at several CLP landfills in FY 07.

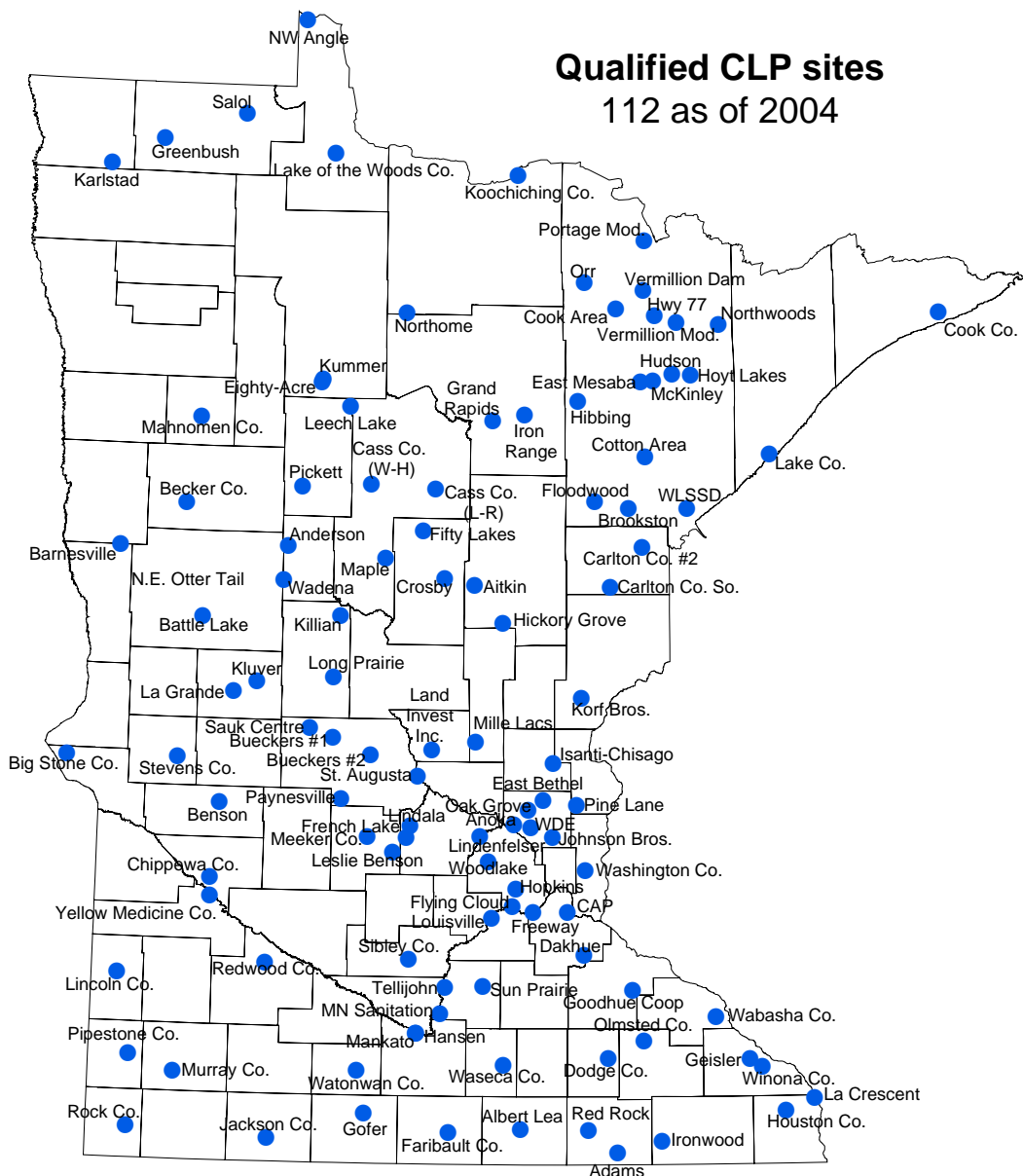
The MPCA continues to address the PFC contamination issue near the Washington County Landfill, evaluate remedial alternatives to address PFC contamination, and assess other potential sources of contamination.

The MPCA is developing additional land use plans at closed landfills, exploring additional landfill gas-to-energy opportunities, and conducting ongoing operation and maintenance activities.

For more information

For more information about closed landfills contact Doug Day at (651) 297-1780 or doug.day@pca.state.mn.us.

Additional information can also be found on the MPCA Web site at www.pca.state.mn.us/cleanup/landfills.html



MPCA Feedlot Program

January 2002, and update their registration every four years. Currently, 19,062 feedlots that meet the requirement are registered. Efforts continue to register all feedlots meeting the requirement.

Permits

Permits authorize larger feedlots to operate under specific conditions in order to comply with the federal Clean Water Act. State and federal regulations require all feedlots classified as Concentrated Animal Feeding Operations, or that have 1,000 or more AU, to have a National Pollutant Discharge Elimination System (NPDES) permit and/or a State Disposal System permit. Construction permits are required for projects with 300-999 AU. Interim permits may be issued to feedlots of any size that are required to correct a pollution problem.

General NPDES Permit

The General NPDES permit provides one comment period and set of permit provisions and requirements that apply to many facilities rather than having each facility placed on public notice individually. Use of the general permit reduces the amount of time needed to issue NPDES permits.

Open Lot Agreement

This provision in the feedlot rule provides benefits for smaller feedlots (<300 AU) with manure or manure-contaminated runoff. It provides more time to correct problems, and a conditional waiver of civil penalties for past violations regarding the runoff issues. About 1,400 feedlots in the Open Lot Program have until 2010 to complete improvements to control manure-contaminated runoff.

Training and technical assistance

The MPCA provides training opportunities and assistance to counties and livestock producers. County feedlot officers receive a detailed manual covering all aspects of the program. MPCA technical staff conduct workshops and presentations for county staff and producer

groups. In a joint effort of the MPCA, the Board of Water and Soil Resources, Soil and Water Conservation Districts and the National Resources Conservation Service, technicians have been hired to provide assistance for producers in the Open Lot Program.

Nutrient management

Livestock manure is a valuable resource if managed properly. Land application removes livestock manure from feedlots and fertilizes crops. Manure management plans are required when producers need to apply for a feedlot permit, or when a facility has 300 or more AU and does not use a licensed commercial applicator. Much land application is done by licensed commercial applicators. Manure management plans help ensure that application rates do not exceed crop nutrient needs, and that setbacks from waters and drain-tile intakes are observed.

Air quality

As some livestock operations have grown larger and more people are choosing to live near livestock farms, odor has become an issue. There are regulations for hydrogen sulfide and ammonia, which can be toxic at high levels. The MPCA does not regulate odor in general; however some local units of government may have restrictions related to odor. The MPCA requires odor management plans to be included in the permits of large feedlots, and may monitor hydrogen sulfide emissions at feedlots where there have been odor complaints.

For more information

For more information about the Feedlot Program contact Wayne Anderson, (651) 296-7323 or wayne.anderson@pca.state.mn.us.

More information about is also available on the MPCA Web site at www.pca.state.mn.us/hot/feedlots.html.

Emergency Response Program

Program description and purpose

Minn. Stat. 115.061 requires the reporting and cleanup of spills. The mission of the MPCA's Emergency Response (ER) Program is to:

- Minimize unpermitted releases of pollutants to the environment
- Support the emergency preparedness and planning of local public safety responders and oversee the preparedness of facilities that handle hazardous substances
- Support public safety responders and oversee cleanup contractors and responsible parties so spills are cleaned up in an efficient and coordinated manner, the public's health is protected, and damage to the environment is minimized.

On call 24-7

The ER Team works with local, county, state and federal public safety and environmental officials. A member of the team is always on call, and team members deal with more than 2,500 incidents yearly. Most spills are cleaned up by the spiller, as required by law. In those cases, the role of the ER Team is to provide guidance and oversight.

Declaring emergencies

In FY06, ER Team members declared emergencies 51 times because the party responsible for a spill of hazardous materials was unknown or was not taking adequate steps to control or clean up a spill. In such cases, the team responds by using one of the state's cleanup contractors and money from the state Superfund or Petrofund. Enforcement and cost-recovery often follow.

Spill response training

The ER Team trains local companies and fire departments in spill response and locating environmentally-sensitive areas. Team members develop response strategies for various spill scenarios and review companies' spill response plans. The team has equipped and trained more than 50 fire departments.

The ER Team works with groups of companies and governments to improve spill preparedness. It has done this with the Wakota Community Awareness and Emergency Response (CAER) group in Washington, Dakota and Ramsey counties, and with the River Defense Network, which includes the fire departments of 16 cities along the Mississippi River, from its headwaters to St. Paul. The ER Team also works with bordering states and federal agencies to prepare before "the big spill" occurs.

Disaster and terrorism preparedness

The role of the ER Team in Minnesota's disaster and terrorism preparedness is to prepare for and assist with debris management, support local



The ER Team often provides support and guidance to local emergency responders.

MPCA Emergency Response Program

safety personnel by developing standard operating procedures for likely scenarios, and participate in training and exercises. The team hosted two conferences on dealing with massive as well as contaminated debris. Preparedness tools have been distributed to the emergency managers and public works leaders of Minnesota's largest cities. The team is also helping the Board of Animal Health and state Department of Agriculture prepare for carcass disposal from catastrophic animal diseases.

Program examples

Little Falls pipeline rupture

At 9:22 p.m. on June 27, 2006, the Morrison County Sheriff received an emergency call from a motorist who had seen a geyser of oil along Highway 10, south of Little Falls. A pipeline belonging to the Minnesota Pipeline Co. had ruptured, releasing about 134,000 gallons of crude oil into a wet, wooded area.

The company, local fire and law enforcement officials, and the MPCA's ER Team worked together through the night to isolate the area and formulate a plan for the safe recovery of the spilled oil. Over the next weeks, the spilled oil was vacuumed up, oiled trees were cleared, and more than 31,000 tons of oil-contaminated soil were dug from the site. The result was almost total recovery or excavation of the spilled oil and almost no residual environmental threat at this 10-plus-acre spill site.

South St. Paul plastics plant fire

On October 11, 2006, ER Team members saw a rapidly expanding plume of black smoke south of the MPCA's St. Paul office. The Epoxical plant, which formulated resins, had exploded and was burning. Team members helped local fire and police officials deal with potentially toxic smoke, soot and runoff, and other safety, health and environmental concerns. Over the ensuing days, ER Team members obtained samples and provided advice on soot removal and building demolition.

Preparing for oil spills

Wakota CAER fosters spill prevention and preparedness along the Mississippi, from St. Paul through the Hastings area. Member companies and agencies have cooperatively bought more than 13,000 feet of containment boom and other oil-spill response and safety equipment. This equipment is staged in nine caches along the Mississippi and St. Croix rivers, where it is available for any member to use. Wakota CAER conducts "boom schools" each year to train members' employees and contractors, coordinates response drills and its members participate in mapping spill-response strategies along the rivers.

Rosemount mercury spill

On September 6, 2004, two youths broke into a garage at the former Brockway Glass factory in Rosemount and stole two jars of mercury. They took the mercury to a nearby mobile home park, where 16 children were contaminated with mercury and 31 other residents of the park were exposed.

The ER Team and local units of government responded to the incident. Thanks to quick action by a parent and a police officer who recognized the problem, none of those exposed were found to have permanent health issues. Many outdoor areas and 14 of 179 mobile homes evaluated had to be decontaminated; 38 residents were temporarily sheltered in hotels; and three vehicles were declared total losses due to mercury contamination. Altogether, responding to the incident cost the MPCA, the city of Rosemount and Dakota County more than \$525,000. The plant's owners and insurers reimbursed most of that amount.

For more information

For more information about MPCA emergency response activities, contact Steve Lee at (651) 297-8610 or stephen.lee@pca.state.mn.us. Additional information can also be found at www.pca.state.mn.us/cleanup/ert.html.



Environmental Review Program

Program description and purpose

The purpose of the Minnesota’s environmental review program is to avoid and minimize damage to the state’s environmental resources caused by public and private development projects. To accomplish this, certain proposed projects are required to undergo special review procedures before receiving needed approvals and permits.

The environment review process provides information to units of government on the potential impacts of a project. During the review process, citizens, interested groups and organizations can provide information on local conditions and concerns they feel need to be considered.

Minnesota’s environmental review process operates according to rules adopted by the Environmental Quality Board (EQB), but in nearly all cases, the actual reviews are usually carried out by a local government or a state agency.

The MPCA is the lead agency, or “responsible governmental unit” (RGU), for several broad classes of projects, examples of which include:

- wastewater treatment plants and major sewer extensions;
- industrial projects, such as paper mills, printing plants, ethanol plants, oil refineries, and facilities for storage, treatment or disposal of hazardous wastes;
- animal feedlots; and
- solid waste facilities, such as landfills, incinerators, compost plants and transfer stations.

Types of environmental review

Minnesota’s environmental review process is based on two different levels of review: the Environmental Impact Statement (EIS) and the Environmental Assessment Worksheet (EAW).

The EIS is a thorough and comprehensive study of a project’s environmental impacts and a comparative analysis of economic and sociological effects. EISs are completed for proposals with “the potential for significant environmental effects,” and only a handful of projects meet this qualification each year. A completed EIS gives government units information to determine whether a project is environmentally acceptable and what mitigation measures are needed.

The EAW process screens projects which *may* have the potential for significant environmental effects. It uses a six-page worksheet with a standardized list of questions, and typically takes between two to three months to complete. After its completion, the EAW is subject to a 30-day public review period before the RGU makes a decision about whether the project also needs an EIS.

Factors considered in an EAW

An EAW for a proposed project includes an analysis of several environmental factors, including:

- land use and habitat
- water issues including water consumption, stormwater management and wastewater treatment
- air emissions
- traffic impacts, and
- historic or archeological resources.

Determining when environmental review is mandatory

Depending on the nature, size and location, some proposed development projects are required to go through some level of environmental review. For instance, a proposed project to build a new petroleum refinery would be required to have an EIS, as would the proposed construction of a new paper or pulp processing mill.

MPCA Environmental Review Program

There are 37 categories of projects that, depending on size and scope, are required to go through the EAW process. A listing of projects required to go through environmental review as well as exemptions to these mandatory categories can be found on the EQB Web site at www.eqb.state.mn.us/review.html (*Guide to Minnesota Environmental Review Rules*).

Citizen petitions for an EAW

If a project is not required to go through the environmental review process, citizens can file a petition with the EQB to have an EAW prepared. Petitions must present a case for why a project should have an EAW, even though the proposed project does not qualify for mandatory environmental review.

Petitioners must document unusual features relating to the project's nature or location, and must do more than simply state opposition to a project or raise issues and concerns. A valid petition must include the signatures of at least 25 individuals and meet several other administrative criteria (listed in the *Guide to Minnesota Environmental Review*).

Petitions are then filed with the EQB. If a petition is complete and meets all administrative requirements, further permitting of the project is placed on hold until an RGU is assigned. The RGU determines the need for an EAW and has 30 days to make this determination. In most situations, the EQB is merely a clearinghouse and does not make recommendations about the need for review.

The petition process is not a means for resolving a disagreement with local government about whether a project should be built. If environmental concerns are involved, people can use the petition to bring their case to the attention of the RGU, but petitioning does not create an additional source of approval for projects, nor does it bring the state government into the dispute.

Environmental reviews completed per year

In general, the MPCA oversees completion of about 30 EAWs a year. The agency is involved in far fewer EISs, perhaps one or two per year. MPCA staff frequently review and comment on EAWs and EISs prepared by other state agencies or local governments.

Economic development trends tend to influence how much environmental review work the agency conducts. For example, there are 22 ethanol facilities and eight mining-related projects currently in some stage of development. Each of these proposed projects will need to undergo some level of environmental review.

For more information

For more information about environmental review at the MPCA, contact Rick Newquist at (651) 296-7780 or by e-mail at richard.newquist@pca.state.mn.us.

Additional information is also available on the MPCA Web site at www.pca.state.mn.us/programs/envr_p.html.



Environmental Monitoring

Program description and purpose

The MPCA conducts extensive monitoring of water and air quality across the state as part of its environmental protection efforts. Monitoring activities range from measuring transparency in lakes and streams, to use of sophisticated electronic equipment and laboratory analysis. Citizen volunteers help with many lake and stream sites.

Most monitoring provides data for assessing the status (health) and trends in quality of water and air. In some cases, monitoring is a component of a specific regulatory or enforcement action, or may be part of a long-term research effort. A significant amount of monitoring occurs through permit requirements at specific facilities such as municipal and industrial wastewater treatment plants.

Water

Many years of analyzing water samples and taking transparency readings have built up an extensive database of ground and surface water quality. This information helps in deciding the best use of resources to protect and improve water quality. Analyzing the condition of biological life also helps determine water quality in lakes and streams.

Air

The MPCA monitors outdoor air quality and precipitation chemistry to ensure the public and environment are protected from the harmful effects of air pollutants. Monitoring networks determine if Minnesota is meeting state and federal air quality standards for ozone, particulate matter, carbon monoxide, sulfur dioxide, nitrogen dioxide, lead, and hydrogen sulfide. Hazardous air pollutants and “air toxics” are currently monitored in the Twin Cities metropolitan area and Duluth. Air toxics have been monitored in communities throughout Minnesota for nearly 10 years. The MPCA also maintains monitoring networks for visibility

(regional haze), acid rain, and mercury deposition.

Program statistics

- 670 — Stream sites monitored in 2005
- 1,814 — Citizen lake monitors (2005)
- 1,095 — Lakes monitored by citizens (2005)
- 9.9 feet — Average lake transparency (2005)
- 3,100+ — Lakes with water quality data in 2006, featured on MPCA’s Web site
- 876 — Lakes assessed for trends in transparency (249 improving, 571 no change, 56 declining)
- 8 — Acid rain monitoring sites
- 4 — Mercury deposition sites
- 19 — Air toxics monitoring sites
- 26 — Fine particle monitoring sites
- 10 — Particulate matter (<10 ppm) sites
- 15 — Total suspended particulate sites
- 16 — Ozone monitoring sites
- 7 — Carbon monoxide and sulfur dioxide sites
- 4 — Hydrogen sulfide sites (feedlots)

Program examples

Citizen monitoring

Citizen volunteers take measurements at hundreds of lake and stream sites around the state. About once a week during the summer, volunteers visit an established spot on a stream or lake and take measurements of transparency, appearance and recreational suitability. For streams, precipitation and water level are also monitored. An advanced program that allows for the collection of lake-water samples by volunteers, in addition to measuring transparency, has been added in recent years.

The combination of transparency and chemistry data helps the MPCA identify problems and develop strategies for improving water quality and track progress. This information is provided to citizen volunteer groups and local

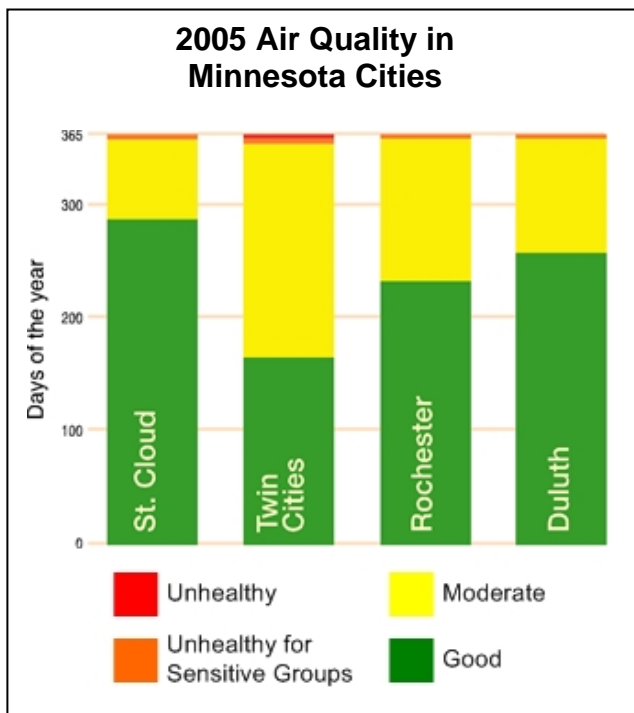
MPCA Environmental Monitoring

governments to help them in their efforts to protect Minnesota's waters.

Air Quality Index for Twin Cities

The Air Quality Index (AQI) was developed by the U.S. EPA to provide a simple, uniform way to report daily air-quality conditions. Air quality in the Twin Cities metro area is determined by measuring four pollutants: ozone, sulfur dioxide (SO₂), fine particulate matter (PM_{2.5}) and carbon monoxide.

The MPCA takes hourly measurements of these pollutants at air quality monitoring sites located in the Twin Cities, Rochester, Marshall, Detroit Lakes, Brainerd, St. Cloud, Ely, Duluth and Grand Portage. Ozone levels, which are only elevated in warm weather, are measured from April through September in Minnesota.



Contaminated sediments

Analysis of sediment cores from 55 lakes documents geographic and historic trends in lake eutrophication as well as nonpoint inputs of toxic metals and organic pollutants. Since 1992 a study of the St. Louis River has helped locate areas of sediment contamination and determine cleanup actions.

Perfluorochemicals (PFCs)

PFCs are a family of proprietary 3M chemicals that have been used for decades to make products that resist heat, oil, stains, grease, and water. A number of consumer products that used Scotchgard (produced by 3M) or Teflon (produced by Dupont) may contain various PFCs. High concentrations of certain PFCs in animal studies have shown adverse affects to the liver and other organs.

The MPCA and Minnesota Department of Health have coordinated private well sampling recently at nearly 400 homes in Oakdale and Lake Elmo, and of municipal wells near the 3M Chemolite site in Cottage Grove. The MPCA is also monitoring the Mississippi River and its sediments to determine aquatic impact. The agency is monitoring Minnesota Superfund and voluntary cleanup sites as well as landfills that may have either PFC-production waste or PFC-containing consumer waste.

For more information

For more information about water monitoring contact Dan Helwig, (651) 296-7215 or dan.helwig@pca.state.mn.us. For air monitoring contact Todd Biewen, (651) 296-8156 or todd.biewen@pca.state.mn.us.

For more information about environmental monitoring, visit the MPCA Web site at www.pca.state.mn.us/monitoring/index.html.



Pollution Prevention and Assistance Activities

Program description and purpose

In addition to its traditional regulatory programs, the MPCA operates a number of programs designed to encourage Minnesota businesses to adopt new processes, materials, and methods that prevent pollution before it occurs. In addition, the agency offers technical and financial assistance to help local government, businesses and citizens make both regulatory and voluntary changes to help our environment.

Pollution Prevention

Pollution prevention is a “front-end” approach that decreases risks and environmental concerns while also lowering costs. Pollution prevention reduces or eliminates waste at its source. Once practices are in place, savings from pollution prevention continue year after year. The MPCA incorporates pollution prevention into the agency’s permitting, inspections, enforcement, rules development, remediation, assistance and other functions. Some of the pollution prevention activities at the MPCA are:

Minnesota Technical Assistance Program

MnTAP helps Minnesota businesses develop and implement industry-tailored solutions that maximize resource efficiency, prevent pollution and reduce costs and energy use. MnTAP is funded primarily by the MPCA.

Design for the Environment

By asking the right questions up-front during product design, unnecessary use of hazardous materials along with associated regulatory requirements and costs can be eliminated. This program helps businesses weave environmental considerations into product design.

Healthy Schools

This EPA-funded interagency, cross-sector collaboration works to help schools on a variety of issues, such as health, performance and

sustainability. It offers technical assistance, online resources, and demonstration projects to help schools incorporate sustainable practices, reduce operating costs, reduce environmental impacts, and promote a healthy environment for future generations.

Lead Tackle Exchange

Lead fishing weights poison wildlife such as loons and eagles. This program educates anglers about the alternatives to lead tackle and offers opportunities to try out non-lead sinkers and jigs.

Burn Barrel Campaign

Household burn barrels, fire pits, wood stoves or similar homemade devices produce low-temperature fires releasing toxic chemicals. This program encourages the safe and legal disposal of garbage and works to increase recycling and composting.

Interagency Pollution Prevention Advisory Team

The MPCA coordinates this group of representatives from state agencies that cooperate in the execution of the Governor’s Executive Order 99-4. The group meets four times a year to share information and offer case studies on pollution prevention, including waste reduction and resource conservation.

Recognition Awards

The annual Governor’s Awards for Excellence in Waste and Pollution Prevention honors superior environmental achievement by Minnesota’s businesses, nonprofits and private institutions. The Governor’s MnGREAT Awards recognize environmental achievements by government employees.

MPCA Pollution Prevention and Assistance Activities

Assistance

Customer Assistance Center

The MPCA's CAC answers technical questions from the public and industry about air, water, above- and underground storage tanks, and hazardous waste regulations. Staff refer other questions to appropriate MPCA staff or other state agencies. The CAC assisted about 8,000 customer calls last year.

Small Business Environmental Assistance Program

Provides free, non-regulatory, confidential environmental assistance to small businesses. The focus is on compliance assistance, but there is also an emphasis on pollution prevention opportunities to get small businesses out of the regulatory loop or into a less burdensome regulatory process.

Small Business Ombudsman

The ombudsman reviews environmental regulatory activities to ensure they are fair, reasonable and appropriate for small businesses. The program investigates complaints, mediates disputes, and represents small-business interests during rulemaking. The ombudsman also works with the small-business assistance program to provide technical and educational assistance, and is a contact for small businesses looking for financial assistance.

Recycling Market Development

The MPCA helps start-up and expanding businesses in Minnesota develop uses for recycled materials by offering technical, financial and marketing assistance.

Local Government Solid Waste Assistance

The MPCA helps counties, cities and townships develop systems that manage waste to recover resources and reduce environmental impact. The goal is to reduce, reuse, recycle and recover resources from waste generated by Minnesota's residents and businesses.

Household Hazardous Waste Program

This partnership with Minnesota counties provides education about household hazardous-waste purchase, use, storage and disposal. Staff provide technical and administrative assistance, including program design and development, facility operation, administration of contracts for household hazardous-waste management, and county program staff training and development in the areas of safety and education.

Training

Keeping up to date with environmental rules and regulations can be difficult, especially for smaller businesses that don't have full-time environmental compliance staff. To help businesses and organizations comply with applicable rules, the MPCA provides training on topics such as landfill operation, wastewater treatment technology, and storage-tank regulations.

Grants and Loans

The MPCA offers various grants, loans and other financial assistance for environmental projects in Minnesota. Available financial resources include environmental assistance grants, capital assistance grants, environmental assistance loans, small business environmental loans, pollution prevention grants and more.

For more information

For more information on the MPCA's prevention and assistance programs, contact Cathy Moeger, (651) 296-7369 or by e-mail at cathy.moeger@pca.state.mn.us.

Additional information is on the MPCA Web site at www.pca.state.mn.us/p2/index.html and www.pca.state.mn.us/assistance/index.html.



Mercury Reduction Activities

Program description and purpose

Reducing mercury in Minnesota's surface waters and in the fish they produce is a high priority for the MPCA.

The MPCA and the state departments of Health, Natural Resources, and Agriculture monitor the mercury content of Minnesota fish. The MPCA aims to reduce 2000 fish mercury levels by 10 percent by 2010, and will use data from the Fish Contaminant Monitoring Program to determine if this goal has been reached.

Because of mercury contamination, the Minnesota Department of Health advises people to restrict their consumption of some Minnesota fish. When the consumption advisory for fish from a water body is more restrictive than one meal per week, the MPCA considers that water body to be "impaired" under provisions of the federal Clean Water Act. Nearly two-thirds of the state's waters listed as impaired are on the list due to mercury.

To improve these impaired waters, the MPCA has begun work on a statewide Total Maximum Daily Load (TMDL) pollutant reduction plan for mercury. The mercury TMDL calls for a 93 percent reduction in Minnesota's mercury emissions from 1990 levels. Water point sources will be required to stay below one percent of the total load and all but the smallest dischargers will be required to develop mercury minimization plans. The goal for air sources — products, energy production and mining — will be to reduce emissions by 93 percent from 1990 levels.

Minn. Stat. 116.915 mandated that mercury emissions be reduced by 60 percent by 2000 and 70 percent by 2005 (compared to 1990 levels). Both of these goals were met; emissions to the air in Minnesota declined from 11,272 lb. to 3,341 lb. by 2005, a 70 percent reduction.

With the passage and signing of the Minnesota Mercury Emissions Reduction Act of 2006, added emphasis has been placed on reducing emissions from power plants. The act, when fully implemented, will result in a 90 percent reduction (about 1,200 lb.) in emissions from six generating units at Minnesota's three largest coal-fired power plants. This is more than one-third of the total annual mercury emissions in the state, and more than 70 percent of the total emissions from the state's electric power industry. The reductions will be accomplished well before 2018, the deadline established by the U.S. EPA to reduce mercury emissions.

Examples of reduction activities

Since the 1990s, Minnesota has been a national leader in reducing mercury releases to the air, water and land, especially from product-related sources. The MPCA continues to educate regulated parties and the general public about how wastes containing mercury should be managed.

A list of the voluntary and regulatory programs and the state laws that the MPCA has implemented or supported may be seen at www.pca.state.mn.us/publications/reports/lrp-mercury05-appc.pdf. Examples include the Mercury-Free Zone Program, voluntary reduction agreements, waste-combustor standards and laws banning the sale of mercury-containing toys, games, apparel and thermometers.

For more information

For more information about MPCA mercury-reduction activities, contact Ned Brooks at (651) 296-7242 or by e-mail at ned.brooks@pca.state.mn.us.

Additional information can also be found on the MPCA Web site at www.pca.state.mn.us/air/mercury-mn.html.



Environmental Education Activities

Program description and purpose

The MPCA works with other environmental educators to give Minnesotans the knowledge necessary to make informed decisions about the most important environmental issues of the day. The agency has developed a comprehensive package of environmental education and supporting programs to further this goal.

GreenPrint for Minnesota

This state plan for environmental education provides guidance and policy recommendations to those who deliver or support environmental education. The GreenPrint is being revised in 2006.

Learning Resource Center and Library

Located at the St. Paul office, the center provides hands-on information and displays, much of which is available to check out.

Sharing Environmental Education Knowledge (SEEK)

An interactive online directory of environmental education resources, SEEK gathers together the resources of up of 120 organizations, agencies, institutions and individuals involved in environmental education.

The Minnesota Environmental Education Advisory Board

The EEAB was created by the state legislature to guide the direction of environmental education in Minnesota. A key objective of the EEAB is to bring together environmental education organizations to coordinate roles and address the statewide issues and strategies identified in the state GreenPrint. Eleven citizen members and nine agency staff foster coordinated partnerships throughout the state.

Rethink Recycling

This effort is a new collaboration by the MPCA, the Solid Waste Management Coordinating Board, the Association of Recycling Managers, and the

Recycling Association of Minnesota to reinvigorate residential recycling.

Living Green 365

A new program offering citizens tips on how to live in a way that will protect Minnesota's environment year-round and for generations to come.

Outreach events

The Living Green Expo, now in its sixth year, and the Eco Experience at the State Fair (new in 2006) are two examples of successful, large-scale public outreach events that serve as vehicles for environmental education.

Minnesota Environment magazine

The mission of this quarterly magazine (circulation 25,000) is to provide Minnesota citizens and businesses with the information they need to protect and improve the environment.

Proactive news release efforts

This new media effort draws on the educational resources of the MPCA to generate "good news" stories that encourage citizens to take positive environmental action.

Minnesota Report Cards on Environmental Literacy

This periodic survey polls 1,000 adults on knowledge, attitudes and behaviors related to the environment in Minnesota. Results so far show a connection between increased environmental knowledge and behavior change. The next survey is tentatively scheduled for 2007.

For more information

For more information on the MPCA's environmental education efforts, contact Cathy Moeger, (651) 296-7369 or by e-mail at cathy.moeger@pca.state.mn.us.

Additional information is on the MPCA Web site at www.pca.state.mn.us/education/index.html.

Compliance and Enforcement Activities

Program description and purpose

Environmental rules and regulations set standards for environmental quality and limits on pollutants. Thus, they are essential tools for protecting Minnesota’s environment. The MPCA helps protect our environment by writing and enforcing these rules and regulations.

To help regulated parties stay in compliance with environmental rules and regulations, the MPCA conducts on-site inspections, provides training, and distributes fact sheets and other guidance materials.

Types of enforcement actions

The severity of the enforcement action depends on the environmental impact of the violation, whether it is a repeat offense, and how quickly the problem is corrected, among other factors. Several types of actions are available

Administrative Penalty Order

The MPCA issues APOs to resolve compliance problems involving state or federal environmental laws. An APO contains a monetary penalty and a schedule of actions the violator must follow to return to compliance. The maximum penalty that can be assessed in an APO is \$10,000.

There are three types of APOs: forgivable, nonforgivable, or a combination of the two. A forgivable APO assesses a penalty, but “forgives” it if corrective actions are completed on schedule. With a nonforgivable APO, no portion of the monetary penalty is waived.

In a combination APO, a portion of the monetary penalty is forgiven if corrective actions are completed on schedule, usually within 30 days.

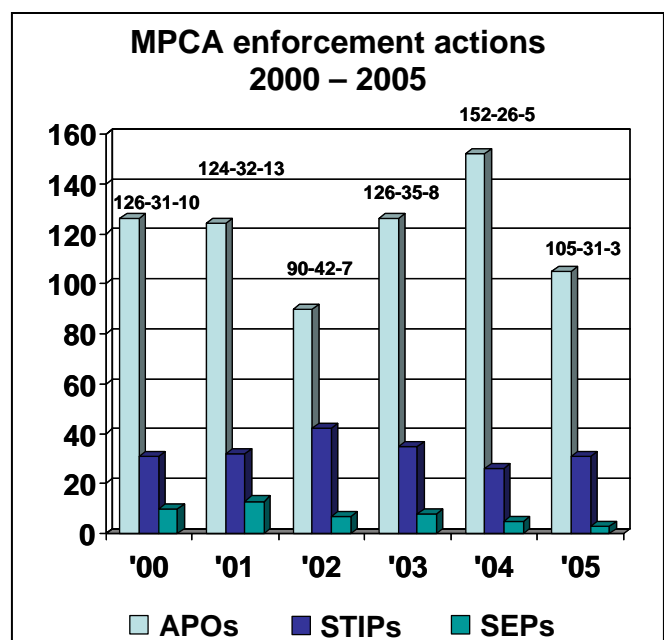
Stipulation Agreement

Stipulation agreements are negotiated settlements used when violations are serious enough to warrant a civil penalty greater than \$10,000. They are also used when the actions needed to correct the problem may take more than 30 days to complete.

Stipulation agreements include a schedule the violator must follow to return to compliance with applicable regulations. Depending on the size of the monetary penalty and the violator’s ability to pay, a payment schedule may also be included in the agreement.

Supplemental Environmental Project

Supplemental Environmental Projects are intended to provide extra environmental and public health benefits. SEPs typically are environmentally beneficial projects which a responsible party agrees to undertake in the settlement of an enforcement action, but which would not otherwise be legally required. SEPs are often used as part of a stipulation agreement. A good example of a significant SEP resulting from a stipulation agreement is documented in



MPCA Compliance and Enforcement Activities

the Summer 2002 issue of the MPCA's *Minnesota Environment* magazine, available on the MPCA Web site at

www.pca.state.mn.us/publications/mnenvironment/summer2002/abc.html.

Penalty amounts

When the MPCA assigns a penalty, the dollar amount is determined using a formula that takes into account the following factors:

- risks a violation posed to public health or the environment;
- whether the violation was an isolated incident or part of a pattern of violations;
- damage the violation caused to natural resources;
- whether the violation was intentional or accidental;
- how quickly a violation was reported to the appropriate authorities;
- whether an operation gets an economic benefit from the violations; and,
- how prompt and cooperative the party was in correcting the problem.

Since January 2001, enforcement penalty amounts have totaled more than \$12.4 million. The table at right shows a breakdown of this amount by quarter. These numbers include forgivable and nonforgivable APOs, STIPs and SEPs.

For more information

For more information about MPCA enforcement policies and practices, contact Steve Giddings at (651) 296-7677 or by e-mail at steve.giddings@pca.state.mn.us.

Quarterly enforcement summaries are posted on the MPCA Web site at

www.pca.state.mn.us/newscenter/enforcement.html.

Time Period	Penalty Amount
July – September 2006	\$530,241
April – June 2006	\$226,010
January – March 2006	\$216,393
October – December 2005	\$150,751
July – September 2005	\$233,835
April – June 2005	\$898,305
January – March 2005	\$981,791
October – December 2004	\$202,978
July – September 2004	\$193,388
April – June 2004	\$382,723
January – March 2004	\$400,219
October – December 2003	\$482,172
July – September 2003	\$388,908
April – June 2003	\$553,105
January – March 2003	\$91,655
October – December 2002	\$499,587
July – September 2002	\$389,905
April – June 2002	\$262,247
January – March 2002	\$133,973
October – December 2001	\$641,843
July – September 2001	\$244,894
April – June 2001	\$3,138,938
January – March 2001	\$1,189,921
TOTAL	\$12,433,782



Sustainability Activities

Program description and purpose

In the environmental arena, a sustainable approach or action is one that meets today's needs without depleting resources or harming natural cycles that future generations will depend on. While the definition is broad enough to encompass much of the agency's work, sustainability is becoming increasingly important in the MPCA's decision-making. The following programs enhance economic opportunity and community well-being while protecting the natural environment upon which people and economies depend.

Minnesota Sustainable Communities Network

This is an MPCA-supported network of individuals, non-profits, business, local governments and others who share information about sustainable development activities at the community level. Members receive bi-weekly e-mail newsletters and occasional mailings, and they have opportunities to meet each other at conferences and workshops. They also get the latest news about financial and other available assistance. In addition, network members can link up with other networks organized around related issues such as sustainable agriculture.

Next Step

This interactive Web site, designed for people interested in sustainability, is the online home for the sustainable communities' network mentioned above. Users can both post and search for resources, job listings, calendar events and case studies, join ongoing discussions, and more.

Green Buildings Program

Green buildings have a much smaller environmental "footprint" than traditional structures, and are healthier and more comfortable for occupants. Using non-toxic materials, natural "daylighting" and other "green design" features increases worker

productivity, decreases use of sick leave and makes buildings cheaper to operate.

The MPCA's Green Building Program helps communities find creative environmental solutions that are economically viable and meet social needs. The program teams state and local government officials, community groups, private developers, building professionals, academia, and citizens to advance sustainable building practices in Minnesota.

Buy Green Power

"Green power" is electricity generated from renewable, high-efficiency or low-pollution energy sources, such as wind or solar energy. During the last two years, the MPCA has worked to increase the number of consumers buying green power through their local utilities. The campaign has resulted in more than 3,000 new customers that have either signed up directly or have pledged to buy green power.

The purchases of 1,100 of those customers will result in more than four million kilowatt hours of new green power (enough to build the equivalent of two new, utility-scale wind turbines) annually and prevent the release to the atmosphere of 3,732 tons of carbon dioxide, 22,455 pounds of sulfur dioxide, 16,165 pounds of nitrogen oxides and 81 grams of mercury.

In further support of this effort, the MPCA made a three-year commitment to purchase 450,000 kilowatt hours per year of green power at its St. Paul office to match the new purchases of our employees during the staff challenge to buy green power.

Sustainable development projects

For the past two years, a coalition of public and private partners has evolved a regional approach to expand and transform local industries to more efficient and environmentally-sound production methods. The first phase of this project, started

MPCA Sustainability Activities

in January 2005, was funded by a start-up grant from the McKnight Foundation and led by the MPCA's sustainable development staff. The next phase of work will create a regional Coalition for Eco-Industrial Development. The goals of CEID include:

- increased energy security and independence
- commercialization of clean technologies and eco-based ventures
- improved competitiveness through adoption of eco-efficiency strategies
- promotion of new industrial development, and
- positioning the region as a leader in sustainable development.

A second eco-industrial project is a collaborative effort in southern Minnesota near the city of Madelia. Partners are exploring the opportunity to develop a "bio-based" industrial park that uses renewable energy to produce value-added local agricultural products. Benefits will include reduced emissions and creation of living-wage jobs.

For more information

For more information on the MPCA's sustainability efforts, contact Cathy Moeger, (651) 296-7369 or by e-mail at cathy.moeger@pca.state.mn.us.

Additional information is on the MPCA Web site at www.pca.state.mn.us/sustainability/index.html

Other Environmental Activities

Introduction

The other fact sheets in this series cover the larger environmental programs operated by the Minnesota Pollution Control Agency. However, the agency also has a host of smaller programs and activities that protect Minnesota's environment. Following are brief descriptions of some of the more noteworthy programs and activities.

Global climate change

Increases in greenhouse gases such as carbon dioxide from vehicles, power plants and industry are helping cause the earth's atmosphere to warm. The MPCA devotes some of its resources to analyzing sources of greenhouse gas emissions in Minnesota and developing strategies to reduce them. More information can be found at www.pca.state.mn.us/hot/globalwarming.html.

Air pollution from mobile sources

About 40 percent of the air pollution emitted in Minnesota comes from "mobile sources." Because vehicles are such a significant source of pollution, the MPCA promotes alternative fuel use and fuel-efficient vehicles, and supports increasing the use of mass transit in cities. The MPCA's vehicle fleet includes two gas-electric hybrids and 64 flex-fuel vehicles.

The MPCA is a major partner in "Project Green Fleet," developed by a consortium of government, nonprofit and business called Clean Air Minnesota. Green Fleet is halfway to its goal of reducing harmful diesel emissions by retrofitting 500 school buses with pollution-reduction equipment by the end of 2007. Information on mobile source pollution is available at www.pca.state.mn.us/air/mvpollution.html.

Lower-polluting energy alternatives

The MPCA supports, educates and models the use of alternative energies and technologies such as wind, ethanol, biodiesel, fuel cells and hybrid vehicles. The MPCA buys 50,000 kilowatt hours of wind energy per year for its St. Paul office (14 percent of the total).

The MPCA continues to promote wind energy through "Green Power" sign-up programs for residential power customers. Minnesota currently ranks fourth in the nation in wind-power output.

Minnesota is a major producer and user of ethanol and has the most (300) E85 fueling stations in the U.S. We're the first state to mandate that all diesel fuel sold in the state contain a small percent (two) of biodiesel. The MPCA has formed an ethanol team. For ethanol information go to www.pca.state.mn.us/programs/ethanol.html.

Noise

The MPCA enforces Minnesota state noise rules. In addition to responding to complaints and conducting monitoring, staff work with other state agencies as well as cities to prevent noise pollution. More information about noise pollution is available at www.pca.state.mn.us/programs/noise.html.

For more information

For staff contact information please call the MPCA Public Information Office at (651) 296-6515.