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Illinois Environmental Protection Agency
IEPA/ENV/02-011

Office of Environmental Quality
1021 North Grand Avenue East
Springfield, Illinois 62706
July 2002

Annual Environmental Conditions Report 2001

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PREFACE

Illinois continues to build a better partnership with USEPA that more clearly focuses on specific environmental progress goals and communicates the results to the public in a clearer and more concise fashion. The *2001 Annual Environmental Conditions Report* continues to reflect the performance measurement system jointly adopted by the Environmental Council of States and USEPA.

- A new section on major accomplishments has been added to this report.

  As of November 2001, the Chicago area counties had measured attainment of the 1-hour ozone standard (based on three years of air quality monitoring data). Unfortunately, due to a non-typical combination of weather conditions, and poor air quality just upwind of the area that ultimately moved in over the June 21-24, 2002 time period, the area has again measured nonattainment of the 1-hour ozone standard. However, if the area were being designated nonattainment today (following attainment of the standard), the design value would be 132ppb, rather than the 190 ppb design value of the area in 1990. Thus while the area is again in nonattainment, it has experienced significant improvement in 1-hour ozone air quality.
- New information on performance of the Emissions Reduction Market System is shown.
- A figure has been added which shows a trend in amount of wastes being managed at the disposal sites in differing stages of groundwater monitoring.
- Data has been added to a figure which shows the number of transfer stations have increased as the number of landfills decrease and waste is transported farther away to disposal sites.
- A new figure has been added which shows waste and landfill capacity on a per capita and landfill life expectancy basis for each region of the State.
- New charts have been added for annual participation at household hazardous waste events and paint collection.
- Annual redevelopment grant activity for the Brownfields Program is shown.
- New information has been collected for the number of persons served by Compliant Water Supplies.

The Agency welcomes comments and suggestions on this seventh report. We also hope this report provides useful information for the public and interest groups that have a stake in environmental protection.

Renee Cipriano, Director

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ANNUAL ENVIRONMENTAL CONDITIONS REPORT - 2001

INTRODUCTION

This annual environmental conditions report is prepared by the Illinois EPA to help focus attention on environmental results. As part of our annual performance agreement with United States Environmental Protection Agency (USEPA), Region 5, the Illinois EPA commits to prepare and distribute this report. The 2001 Performance Partnership Agreement between Illinois EPA and USEPA uses the performance measurement hierarchy ("SMART" chart) as a guide for program targets and measurements. In turn, this report reflects this measurement approach.

The report is structured around Illinois EPA's three major media programs, in addition to multimedia management. The Illinois EPA has tried to present the information contained in this report in a less technical, more user-friendly format. This format includes a master list of reference materials that are available as supplemental information in **Appendix A**. The materials in **Appendix B**, in many instances, provide the reader with more detailed analyses.

PUBLIC REVIEW

The Illinois EPA continues to encourage interested persons to review this report and provide comments regarding our environmental performance. The current report is also available on the Agency's web site each year at http://www.epa.state.il.us/environmental-conditions.

MAJOR ACCOMPLISHMENTS

This new section provides highlights for specific individual projects or accomplishments for the Illinois EPA during 2001.

Bureau of Air - Ozone Attainment in Chicago Metro Area

Quality-assured air monitoring data for 1999, 2000 and 2001 showed the Chicago area had attained the one-hour health standard for ozone (smog), the largest metropolitan area in the nation to have achieved attainment, albeit temporarily. Included in the original designation were the Illinois counties of Cook, DuPage, Lake, Kane, McHenry, Will and portions of Kendall and Grundy (population--8,126,446), plus areas in Northern Indiana.

To qualify for attainment, none of the individual monitoring sites can measure more than three exceedances within three years. None of the 21 ozone monitors located in the Illinois portion of the Chicago nonattainment area recorded any exceedances of the one-hour ozone

standard during the past three years (1999, 2000 and 2001). However, recently over the June 21-24, 2002 time period, the monitoring station at Chiwaukee, Wisconsin (included in the area's monitoring sites since it is a downwind site impacted by air quality within the Chicago area) has now measured nonattainment of the 1-hour standard. The Chiwaukee, Wisconsin site has four exceedances over a three-year period (2000, 2001, 2002), with a design value of 132 ppb (Design value is determined by the fourth highest measure value over the relevant three-year time period.)

Illinois has vigorously implemented a variety of regulatory and voluntary programs impacting both industrial sources and vehicles to reduce the primary pollutants --- volatile organic compounds, and nitrogen oxides---that react with sunlight to form ground-level ozone. As a result, there have been substantial reductions in the amounts of those pollutants going into the air.

  - ERMS Program - The second annual performance year shows that participating sources exceeded the reduction targets for VOCs .

Bureau of Land – Remediation and Brownfields Assistance Programs

Illinois EPA continues to work to enhance cleanup effectiveness and encourage economic redevelopment. Working with U.S.EPA, local governments, and other stakeholders, Illinois EPA can point to the following significant 2001 cleanup accomplishments within its six cleanup/redevelopment programs:

- Leaking Underground Storage Tank (LUST) Program
  - Illinois was one of the first ten states to receive an UST fields pilot grant from the U.S. EPA.
  - This was the first year, in over 16 years administration of the Illinois LUST Program, in which more LUST incidents were closed than reported.
- Superfund / Federal Facilities Programs
  - The Ilada Energy site, a 16.7 acres abandoned tank farm, in East Cape Girardeau was deleted from the National Priorities List (NPL). The site was added to the NPL in 1989. The only other Illinois site deleted from the NPL was in 1991 for the Petersen Sand & Gravel site in Libertyville.
  - Two southwestern Illinois sites were proposed for the NPL.
  - A consent order in People vs. Texaco, Inc. (Docket #01-CV-3221) was filed in October. The order directs Texaco to conduct the remedial investigation/ feasibility study at the NPL site in Lawrenceville.
  - Fort Sheridan was the first Base Realignment and Closure site in U.S. EPA Region 5 to turn over all of its transferable property (a total of 312 acres) to the local community for redevelopment. The property is estimated to generate between $5 million to $8.2 million in real estate taxes for Lake County.

- Site Remediation / State Response Action Programs
    - Voluntary cleanup enrollments increased at least 10% over the previous year for the fourth straight year.
    - Construction of the cover system at Chicago's Paxton II landfill was completed. The cover system includes a 19-acre landfill cap, leachate collection system, and gas extraction system.
- Brownfields Assistance Program
    - Over $1.25 million in Brownfield Redevelopment grants were issued to 20 communities. In the four-year history of the program, this represents 31% of the total grants awarded.
    - Illinois EPA and the City of Chicago co-hosted the sixth annual National Brownfields Conference. Over 3,500 participants from the United States and several foreign countries attended this three-day conference.

Bureau of Water - Persons Served by Compliant Water Supplies and River Miles Programs

- During calendar year 2001, the percentage of persons served by Illinois community water supplies that were compliant with all health requirements was 93.3%. This compliance percentage represents over a four-percentage improvement from calendar year 1995 and reflects continued progress toward the calendar year 2005 goal of 95%. It is important that safe drinking water be free of contamination that has the potential to cause either short-term or long-term health effects. The compliance outcome is significant because a total of 10,285,783 persons in Illinois were provided safe drinking water from water supplies compliant with all health requirements during 2001. This represents an additional 478,459 persons served by compliant water supplies when compared to 1995.

- The number of river miles in good condition has increased from 34.7% in 1972 to 63.6 % in 2001. This shows progress towards attainment of the goal of 67.5% of river miles assessed in good condition by 2005.

ENVIRONMENTAL PROGRESS AGENDA

Under the performance partnership system, the states and USEPA envision environmental management being increasingly driven by mutual determination of priorities and accountability for the results achieved. In this system, environmental goals and indicators are used as a tool to help program managers assess progress towards desired outcomes. Part of this process includes better characterization of environmental conditions.

Several considerations went into our selection of an agenda for environmental progress. First, the Illinois EPA wants goals, objectives, and related measures that are understandable. Second, we want to show important environmental quality trends wherever possible. The resulting goals and objectives for each program are summarized as follows:

AIR QUALITY MANAGEMENT

Emissions from a power plant.

Goal: Illinois should be free of air pollutants at levels that cause significant risk of cancer or respiratory or other health problems. The air should be clearer (i.e., less smog), and the impact of airborne pollutants on the quality of water and on plant life should be reduced.

Environmental Objectives:

1. Maintenance of 90% “good” or “moderate" air quality conditions in the areas of the state outside the Lake Michigan and Metro-East 1-hour ozone non-attainment areas.
2. Maintenance of 90% “good” or “moderate” air quality conditions in the two 1-hour ozone nonattainment areas.
3. Maintenance of attainment status for pollutants other than ozone, especially in urban areas.
4. Attainment of the 1-hour ozone standard in the Chicago area by 2007 and in the Metro-East area by 2003.

LAND QUALITY MANAGEMENT

Rusted abandoned drums discovered in open field.

Goal: Safe waste management and restored land.

Environmental Objectives:

1. By 2005, reduce or control risk to human health and the environment at 90,000 acres with contaminated soil, contaminated groundwater, or unmanaged waste.
2. By 2005, no significant release from waste management facilities that harm off-site groundwater, human health, or the environment.
3. By 2005, reduce the waste disposed in Illinois from in-state sources to 34 million cubic yards per year.

WATER QUALITY MANAGEMENT

Stream sampling for sediment and water quality .

Goals: ***Clean Water*** – Illinois’ rivers, streams and lakes will support all uses for which they are designated, including protection of aquatic life, recreation and drinking water supplies.

Safe Drinking Water - Every Illinois Public Water System will provide water that is consistently safe to drink.

Groundwater – Illinois’ groundwater resources will be protected for designated drinking water and other beneficial uses.

Environmental Objectives:

1. Waterways with good water quality conditions will increase 5% from 2000 levels by the year 2005.
2. The percentage of lakes in Good or Fair condition will remain constant from 2000 to the year 2005.
3. The percentage of open shoreline miles in Good condition will remain constant from 2000 to the year 2005.
4. The percentage of the population served by community water supplies that receive drinking water with no short-term (acute) or long-term (chronic) adverse health effects increases to over 95% by the year 2005 (an increase of 5%).
5. A declining trend of groundwater contaminants in community water supply wells will occur through the year 2005.

MULTIMEDIA MANAGEMENT

Goals: Adverse consequences resulting from toxic chemical releases are avoided, where possible, or otherwise minimized.

Environmental improvements will result from voluntary actions being taken by businesses, communities and the public.

Release of crude oil from wooden tank.

Environmental Objectives:

1. Toxic chemical hazards will be reduced over the next five years.
2. Better environmental performance is demonstrated over the next four years by participants in non-regulatory, structured situations.

ENVIRONMENTAL QUALITY CONDITIONS

The environmental data that is presented in this report comes primarily from sources (e.g., units, facilities, and sites) that are monitored in some manner or from direct monitoring of air, land and water quality. Environmental information about sources is usually available due to some specific regulatory requirement. The environmental performance of these monitored sources does influence some environmental conditions in Illinois and is a good reflection of progress for environmental protection. The overall utility of this type of information is related to the relative proportion of environmental impacts that are within the scope of the regulatory programs.

Information from direct monitoring is mostly a governmental service that is frequently linked to ambient environmental quality standards. Various types of monitoring networks or systems are operated to collect and analyze environmental samples for designated parameters. These systems are often designed to serve various environmental protection

purposes that have a high priority. Thus, the environmental data that is generated is designed to satisfy these purposes and may have limited applicability for other purposes, such as environmental research. Taken in context, however, these environmental data are still valuable indicators of environmental conditions and, in turn, our efforts to improve those conditions. A more detailed explanation of these measures is provided in **Appendix B**, where certain technical features are more fully described.

We continue to feature "green boxes" in the text to highlight key program performance. In this way, we hope to make the picture clearer and more meaningful for the reader.

AIR QUALITY MANAGEMENT

Goal: Illinois should be free of air pollutants at levels that cause significant risk of cancer or respiratory or other health problems. The air should be clearer (i.e., less smog), and the impact of airborne pollutants on the quality of water and on plant life should be reduced.

The USEPA has established national ambient air quality standards for six criteria pollutants: carbon monoxide (CO); lead (Pb); sulfur dioxide (SO_2); nitrogen dioxide (NO_2); particulate matter (PM); including particulate matter of 10 microns or less (PM_{10}) and particulate matter of two and one-half microns or less ($PM_{2.5}$ or fine PM); and ozone, including a 1-hour and an 8-hour standard. Illinois currently attains the national air quality standards for all of these pollutants except $PM_{2.5}$ and the 1-hour and 8-hour ozone standards.

In July 1997, USEPA promulgated additional air quality standards for fine PM ($PM_{2.5}$) and 8-hour ozone. However, in May 1999, the federal Court of Appeals for the District of Columbia Circuit stayed the enforcement of these two new standards, although it ordered States to continue certain activities related to the new standards. In March 2001, the United States Supreme Court upheld the validity of the fine PM and 8-hour ozone standards, but remanded the case to USEPA to more fully articulate its implementation policy for the 8-hour ozone standard. Although the fine PM standard is technically effective, it cannot serve as a basis to limit air pollution from any individual source until several preliminary steps are completed, including design of a monitoring network, actual monitoring for fine PM, analyses of monitoring samples, and USEPA promulgation of nonattainment areas and implementation policies. Thus, there is currently no regulatory schedule for implementing the fine PM and 8-hour ozone standards. Illinois has continued deployment of our fine PM monitoring network and is collecting data. Monitoring for 8-hour ozone is also ongoing and Illinois has submitted its proposed designations for 8-hour ozone nonattainment areas to USEPA. Because the monitoring data for fine PM is incomplete, and implementation of the 8-hour ozone standard is uncertain, this data will not be fully reported in this *2001 Environmental Conditions Report*. However, data relative to the new standards has been used in calculating the "Air Quality Index."

Illinois tracks emissions from stationary sources through Annual Emissions Reports, which are required by both the federal Clean Air Act and State law. Detailed information regarding this requirement is included in Appendix B. Illinois also tracks the impact of emissions on air quality through its ambient air quality monitoring network. This *Environmental Conditions Report* includes data collected by the monitoring network. A description of the various components of the entire monitoring network and their purposes is also included in **Appendix B**.

AIRSHED CONDITIONS

Environmental Objectives:

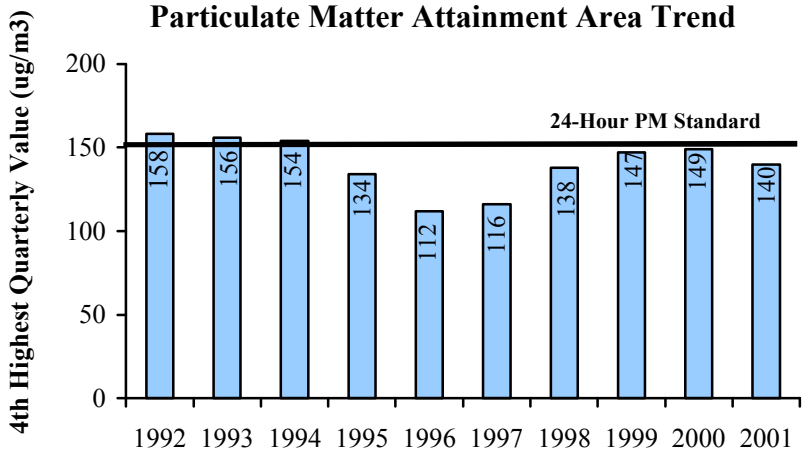
1. Maintenance of 90%[1] "good" or" moderate" air quality conditions in the areas of the state outside the Lake Michigan and Metro-East 1-hour ozone nonattainment areas.
2. Maintenance of 90% "good" or "moderate" air quality conditions in the two 1-hour ozone nonattainment areas.
3. Maintenance of attainment status for pollutants other than ozone, especially in urban areas.
4. Attainment of the 1-hour ozone standard in the Chicago area by 2007 and in the Metro-East area by 2003.

Visibility effected by differing PM2.5 values over a 10 day period.

Maintenance of National Air Quality Standards (Attainment Areas)

Where the State attains an air quality standard, activities within the State must be controlled so that the attainment status is maintained. In some cases, attainment is determined by the third or fourth highest ambient air quality value at a monitor during a three-year period. Where this is the case, the figures in this section indicate that the value presented is for the three-year period ending in that year. Thus, the value for 2001 represents the average of monitored levels in 1999 and 2000 and 2001. **Figure 1** shows that for a number of years, Illinois had several areas that did not attain the PM_{10} national air quality standard; now, all of Illinois attains the PM_{10} standard.

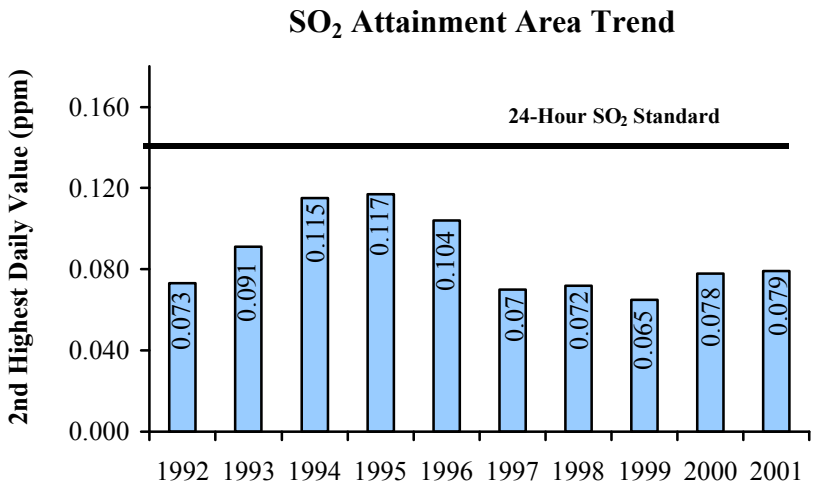
Figure 1



[1] The Air Quality Index includes the 8-hr ozone standard. It also includes six categories of air quality: good, moderate, unhealthy for sensitive groups, unhealthy, very unhealthy, and hazardous.

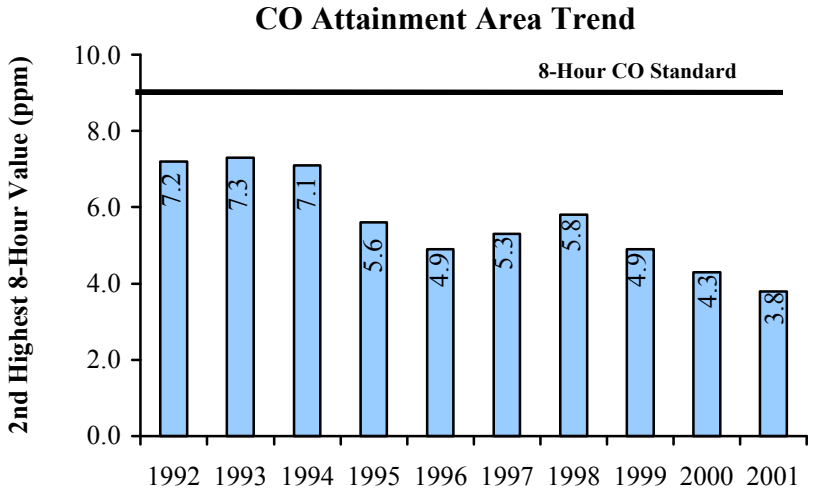
Figure 2 shows the ambient air quality levels of SO_2 emissions (reported as the second highest daily level measured at all monitors) monitored in the entire state. Additionally, all of Illinois' utilities subject to the USEPA's Acid Rain Program for SO_2 emissions are in compliance with that program.

Figure 2



Nationally, ambient air levels of CO tend to be problematic in urban areas rather than rural areas. Illinois is one of only a few states with large urbanized areas that does not have nonattainment areas for CO as illustrated in **Figure 3**. Illinois' ambient CO levels are considerably below the national air quality standard. Attainment with the national standard is determined by the second highest level of CO during any eight-hour period during the year.

Figure 3



NO_2 ambient levels, in **Figure 4** have remained fairly steady during the past decade. The NO_2 air quality in the state is well within the national standard.

Figure 4

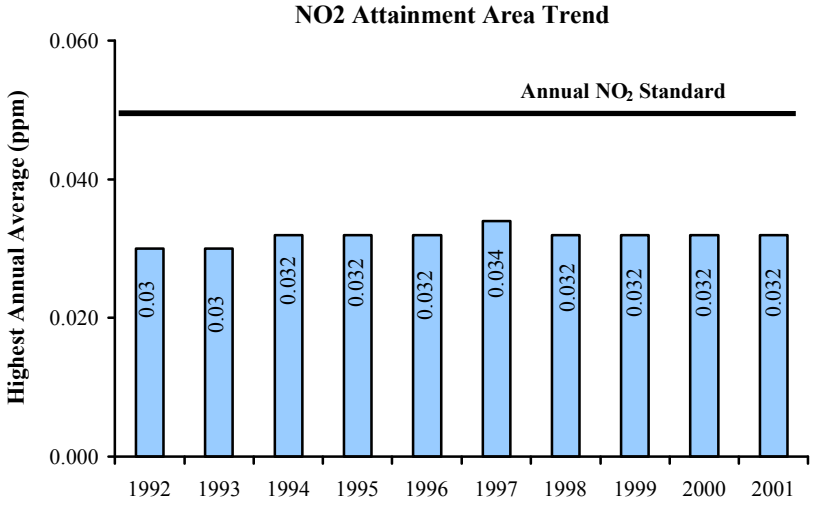
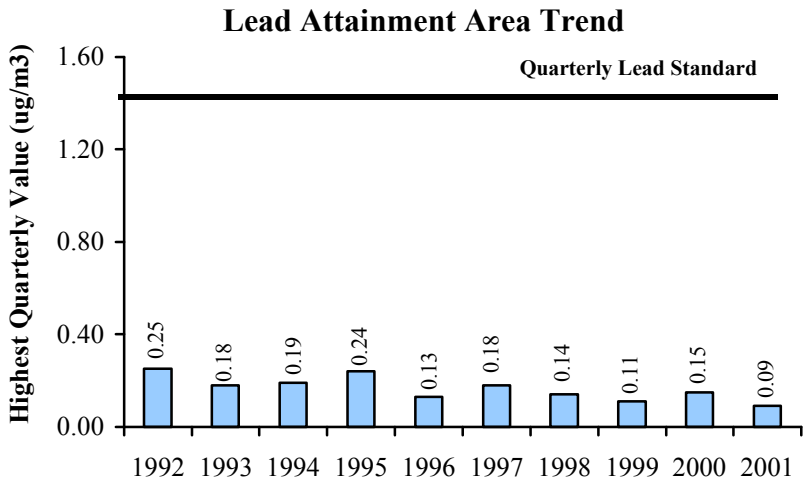


Figure 5 shows that the ambient air levels of lead levels have remained fairly steady in recent years.

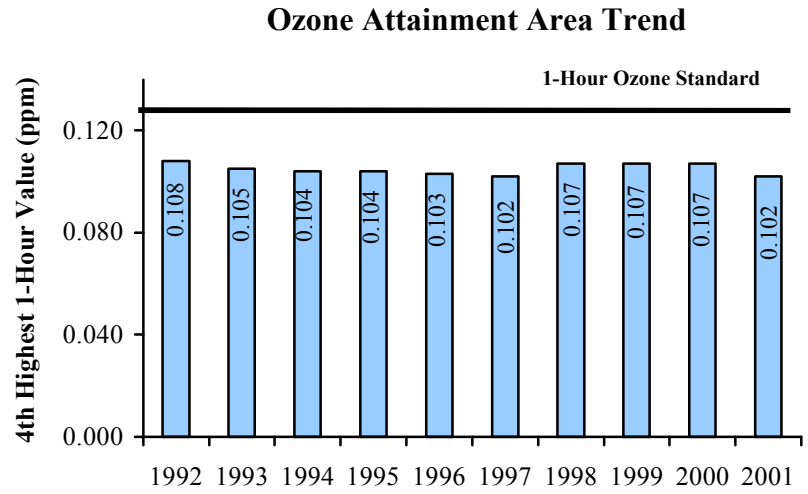
Figure 5



The trend in 1-hour ozone air quality levels in the areas of the State attaining the standard is presented in **Figure 6**.

Reduction in Ozone Levels (Nonattainment Areas)

Figure 6



Our actual progress in affecting ozone levels in nonattainment areas is evident in **Figure 7**, on the next page, which presents the actual monitored 1-hour ozone levels in the Lake Michigan and Metro-East nonattainment areas.

In 1990, the Clean Air Act was amended to provide specific direction regarding nonattainment area ozone. Trends are generally downward, particularly since implementation of control measures in the nonattainment areas beginning in 1991. A number of those measures were implemented nationally, such as reductions in the levels of certain compounds in consumer products (e.g., paints) and improvements to vehicle engines and exhaust systems, thus benefiting the attainment areas as well as the nonattainment areas. There has been a slight increase in ozone levels since 1998 for the Metro-East area due to elevated levels of ozone measured in Jersey County, which is downwind of the nonattainment area.

Jersey County experienced three days in excess of the 1-hour ozone standard in 1998, but no days in excess in 1999 and 2000, and only one day in 2001. Improvement in the 1-hour ozone air quality levels in Jersey County depends upon attaining the standard in the Metro-East nonattainment area.

Meteorologists are able to predict when the weather patterns are likely to be conducive to the formation of ozone. Since the number of ozone-conducive days has tended to remain fairly constant, a measure of our progress towards attaining the 1-hour ozone standard is to examine the number of days in each ozone season that exceeds the standard compared to the number of ozone-conducive days.

Figure 7

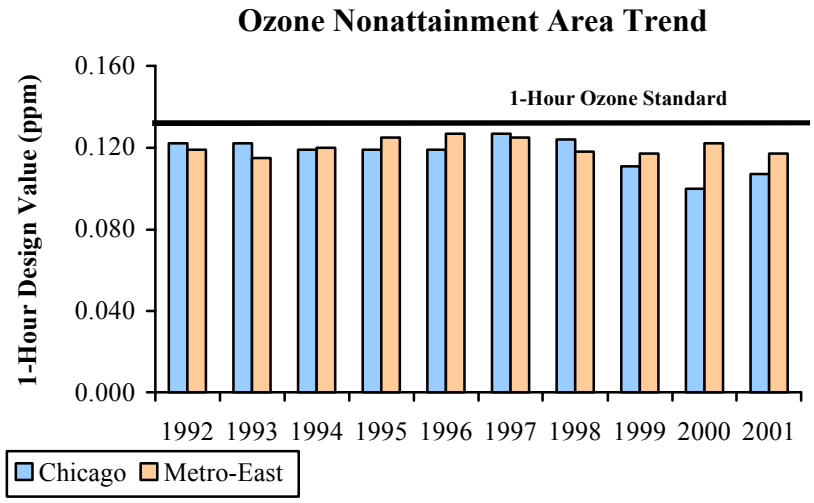


Figure 8

Figures 8 and **9** illustrate our progress towards attaining the 1-hour standard for the Lake Michigan and Metro-East areas, respectively. The progress towards attaining the 1-hour standard seen in both Lake Michigan and Metro-East from 1996 through 2001 is significant, particularly compared to 1988, when we had 70 ozone-conducive days and 20 exceedance days in the Lake Michigan area and 48 ozone-conducive days and 12 exceedance days in the Metro-East area. In 2001, there were no ozone exceedance days for the Lake Michigan area and one exceedance day in the Metro-East area.

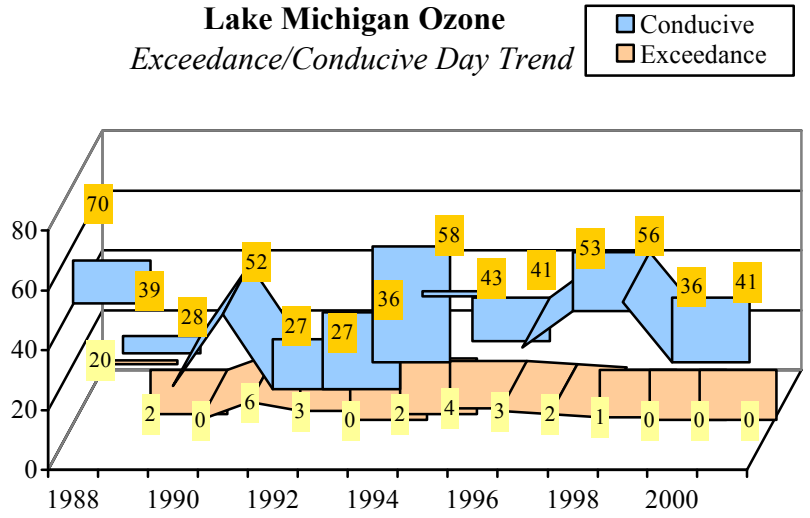
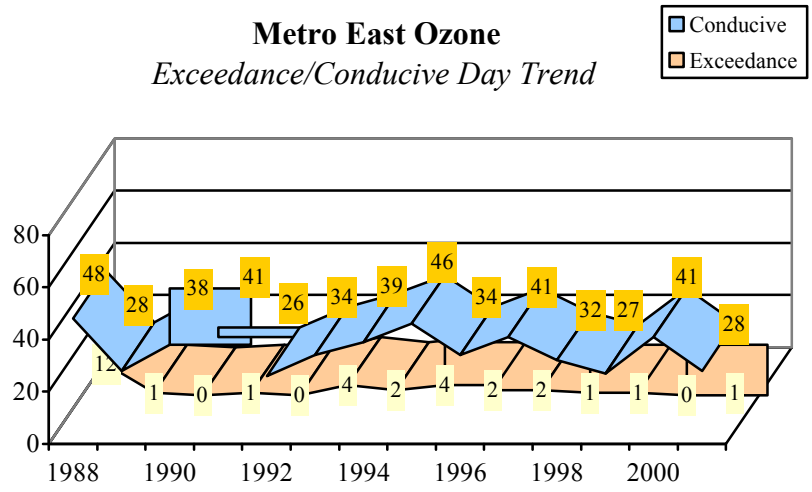
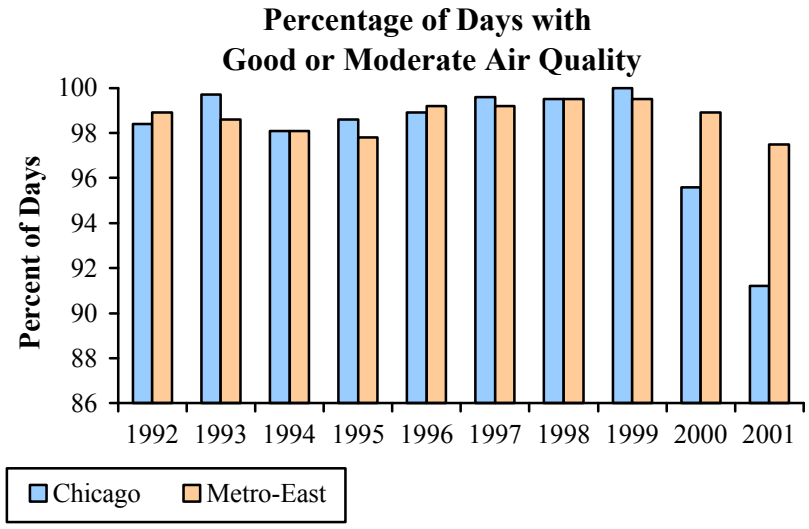


Figure 9



The bar chart in **Figure 10** provides information regarding the percentage of time each year that the Lake Michigan and Metro-East ozone nonattainment areas have experienced air quality that is at or below the national standards for all six criteria pollutants. Since ozone and PM2.5 are the only pollutants for which the state continues to experience exceedances of the standard, they are the pollutants that tend to cause air quality to be less than moderate. Other metropolitan areas of the state have experienced good to moderate air quality 100% of the time in recent years.

Figure 10



The specific means for determining this comprehensive look at all pollutants in an airshed is measured by the Air Quality Index (AQI), which is described in more detail in **Appendix B**.

PROGRAM PERFORMANCE

Program Objectives:

1. VOM emissions in the Chicago nonattainment area will be reduced by at least an additional 68 tons pre day by 2002, from a 1996 baseline.*
2. NOx emissions in areas of the state outside the Chicago nonattainment area will be reduced by at least an additional 105 tons per day by 2002, from a 1996 baseline.*
3. Reductions in emissions of hazardous air pollutants.

**Note: Illinois is progressing in reducing emissions of VOM and NOx to meet this air program performance objective. Although a 2002 milestone inventory will not be available until 18 to 24 months from the end of 2002, with regard to NOx reductions, the target reduction of 105 tpd from the 1996 milestone year may not be achieved due to delays in the implementation of the NOx SIP Call at the federal level. The additional NOx reduction of 105 tpd will likely not be achieved until the new NOx SIP Call implementation date of 2004. Reductions of VOM emissions since 1996 currently exceed the 68 tpd commitment level contained in the program objective. All of the reductions achieved between milestone year 1996 and 2002 will be verified once the 2002 periodic emission inventory is completed in late 2003 or early 2004.*

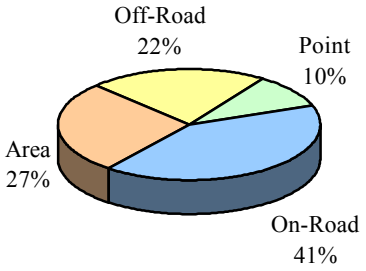
Reduction of VOM and NOx Emissions

The Chicago and Metro-East areas are designated as nonattainment for both the 1-hour and 8-hour ozone standards. Ozone is formed by the photochemical reaction of volatile organic materials (VOM), nitrogen oxides (NOx), and to a lesser extent, carbon monoxide (CO) in the presence of sunlight on very warm summer days. VOM is emitted by a number of types of sources, including industries, vehicles, consumer products, and plants.

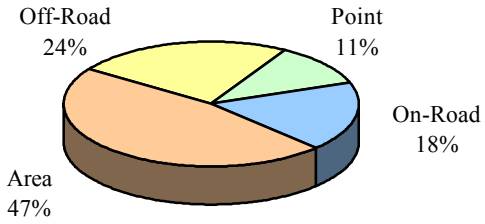
The pie charts in **Figures 11** show the relative distributions of VOM emissions in Chicago and outside the Chicago nonattainment areas, respectively, for stationary point sources such as from industries, on-road mobile sources, off-road mobile sources such as heavy machinery, and area sources such as drycleaners and gas stations.

Figure 11

2000 VOM Emissions / Chicago Nonatttainment Area
Total Ozone Season Emissions = 92,840 tons



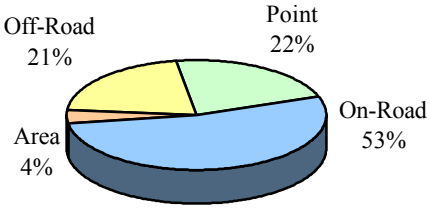
2000 VOM Emissions / Outside Chicago Nonattainment Area
Total Ozone Season Emissions = 185,530 tons



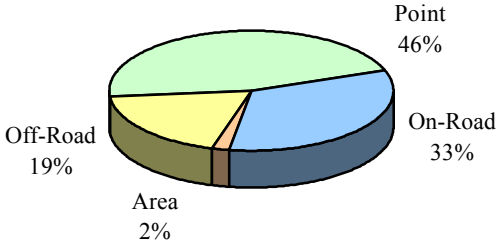
Figures 12 illustrates the relative distribution of NOx emissions in the Chicago nonattainment area and outside the Chicago nonattainment area. NOx is largely a product of combustion.

Figure 12

2000 NOx Emissions / Chicago Nonatttainment Area
Total Ozone Season Emissions = 129,210 tons



2000 NOx Emissions / Outside Chicago Nonattainment Area
Total Ozone Season Emissions = 232,820 tons

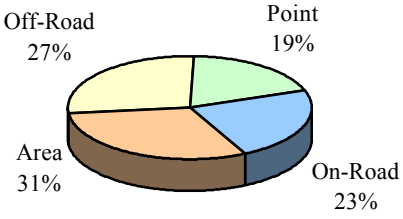


Therefore, large emitters of NOx include fossil fuel-fired power generators, industries that use fossil fuels to create heat, and engines.

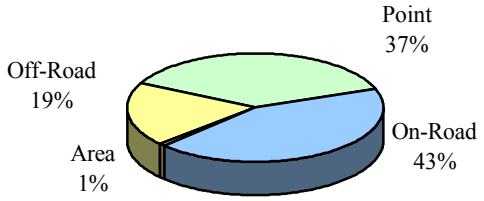
Figure 13 shows the VOM and NOx emissions in the Metro-East area respectively.

Figure 13

2000 VOM Emissions / Metro-East Nonatttainment Area
Total Ozone Season Emissions = 19,400 tons



2000 NOx Emissions / Metro-East Nonattainment Area
Total Ozone Season Emissions = 19,400 tons



Studies have shown that region-wide reductions of NOx emissions will have a significant impact on ozone levels in the nonattainment areas within the region because ozone is transported, or carried by weather, to areas other than where its precursors were emitted. In October 1998, USEPA issued a call for state implementation plans (SIPs) to reduce NOx emissions in 23 jurisdictions in the eastern U.S. Illinois engaged in an extensive effort with our stakeholders to develop the required, so-called NOx SIP Call. The Illinois EPA submitted several rulemakings to the Illinois Pollution Control Board to address the NOx SIP Call and these rules have been adopted and have been submitted to USEPA. USEPA has approved these rulemakings. The NOx SIP Call will be implemented in May 2004.

Our air quality modeling analyses have found that the NOx emissions reductions achieved from the regional implementation of the NOx SIP Call, along with the current program to reduce VOM emissions, will yield attainment in the Lake Michigan and Metro-East nonattainment areas.

Emissions Reduction Market System

The Illinois EPA completed the second year of operation for an innovative VOM emissions trading program. The Emissions Reduction Market System (ERMS) started operation in the Chicago ozone trading area in May 2000. Illinois was the first state in the nation to adopt this type of cap and trade program for VOM. The ERMS program is designed to operate on a seasonal basis, from May 1 through September 30, to correlate with the time of the year when ozone formation occurs. The program allows trading among participating sources in order to meet a reduced cap on their overall VOM emissions.

Emissions trading provides a cost-effective way for companies to comply with reduction requirements necessary to help meet the ozone standards. ERMS began operation with 179 sources participating in the VOM emissions trading market. Participating sources are issued allotment trading units (ATUs) each year for their seasonal emissions by the Illinois EPA, and in 2001 had 172 participating sources. In 2001, a total of 97,124 ATUs (9,712.4 tons) were allotted to sources of which 51,590 ATUs (5159.0 tons) were used, as shown in **Figure 14**.

Figure 14

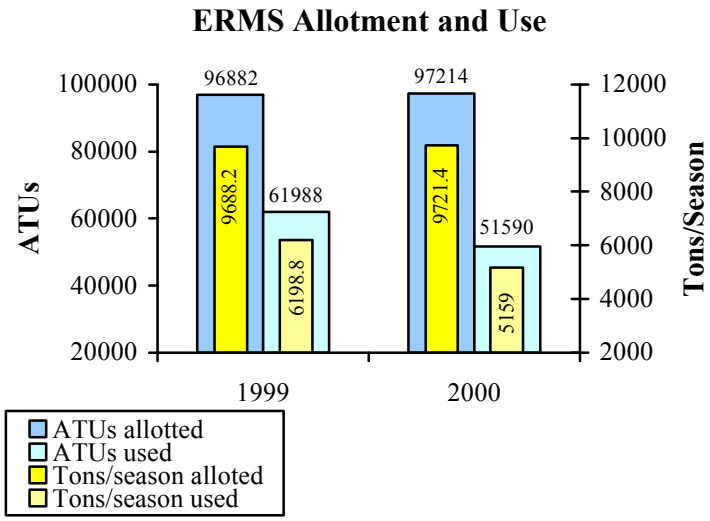


Figure 15

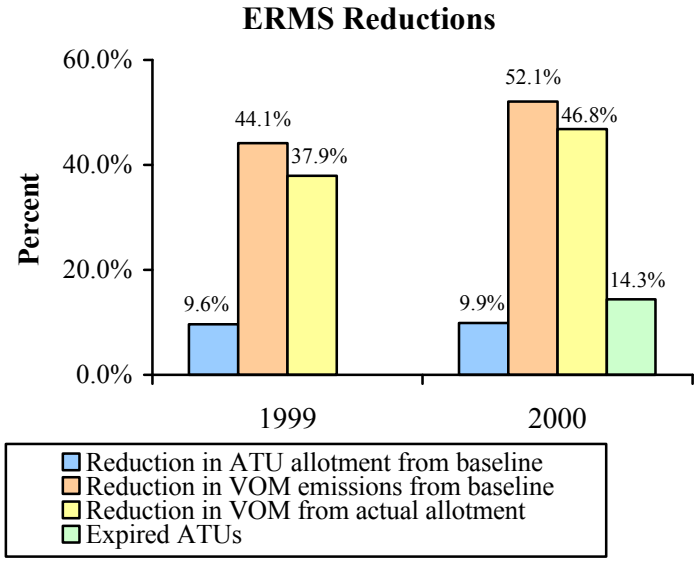


Figure 16

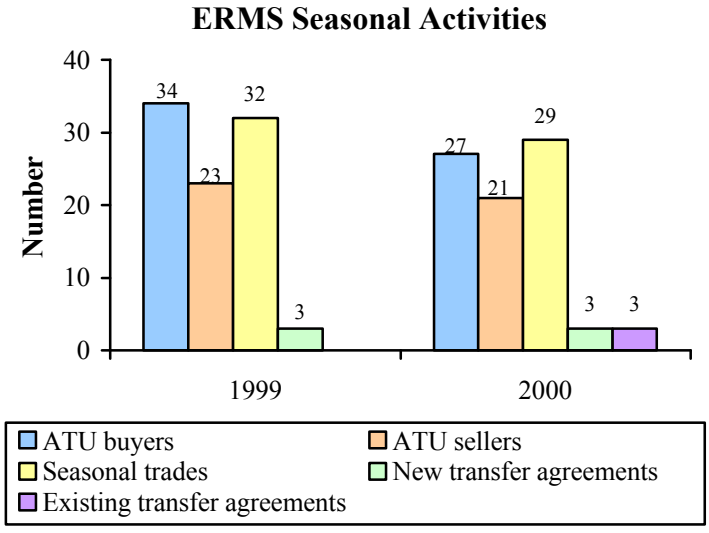


Figure 15 shows the percent reductions from the baseline allotment during the last two years.

The second year of ERMS as shown in **Figure 16** produced 29 seasonal trades, 3 new long-term transfer agreements, added to the 3 long-term transfer agreements already in effect. The trades involved a total of 21 sources as sellers and 27 as buyers, with 3,704 ATUs changing hands. This amounts to 3.8% of the total ATU allotment for the area, and 7.2% of the ATUs retired for compliance purposes.

An innovative feature of the ERMS program is the ability of sources to permanently retire ATUs by donating or selling them to special participants in the program. Two of the seasonal trades in 2001 involved the donation of ATUs for environmental benefit.

A number of key findings for the second year of this program are as follows:

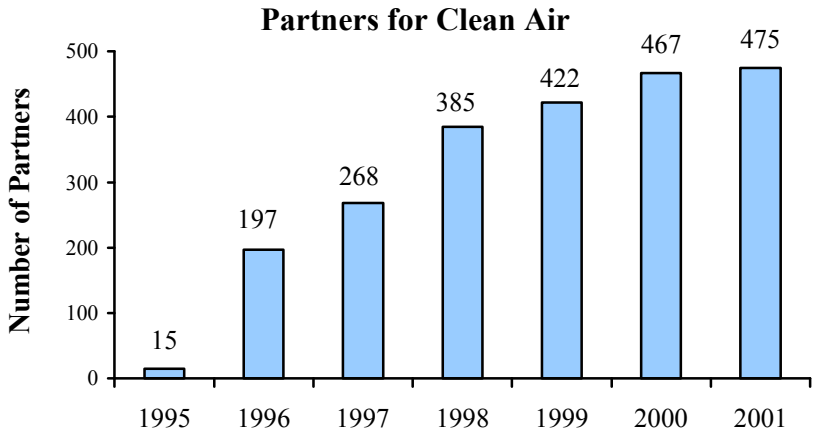
1. The allotment shows a 9.9% reduction from the original baseline for sources.
2. Sources were able to find trading partners, there was a sufficient supply of available ATUs, and market prices were conducive to trading.
3. Alternative ATU generation did not play a role in market performance.
4. The reconciliation and compensation processes performed as designed and operated in a timely and effective manner.
5. Overall, sources in the ERMS program emitted 52.1 % less VOM than their baselines would have allowed them to emit, and 46.8% less than their actual ATU allotment for 2001.
6. Overall, sources in the ERMS program emitted 52.1% less VOM than their baselines would have allowed them to emit, and 46.8% less than their actual ATU allotments for 2001.
7. Trading did not appear to influence HAP emissions.
8. ATUs equivalent to 14.3% of those allotted to participating sources in 2001 expired without being used.

Voluntary Reductions of Ozone Precursor Emissions

The Partners for Clean Air is a voluntary organization of industries and other entities in the Chicago area who take certain actions on Ozone Action Days (days when meteorologists predict that the weather patterns are conducive to ozone formation). The Agency forecasts Ozone Action Days based upon weather information and notifies the Partners. The Partners (with their employees) then take one or more actions to help reduce emissions of VOM. Such actions include staggered work hours to reduce rush hour traffic, telecommuting, and suspension of landscaping activities that involve use of small engines such as lawnmowers.

The number of Corporate Partners, shown in **Figure 17** is now 475, from only 15 at the beginning of the program in 1995. The Agency's public education efforts have also increased public awareness of actions that individuals can take to reduce ozone formation on Ozone Action Days. The Partners' Top Ten Tips for Ozone Action Days are included on the next page. The Partners for Clean Air accounted for an estimated 22.0 tons of VOM emissions reduced during the ozone season. We believe the efforts of the Partners and other individuals have been important in reducing the number of ozone exceedances days.

Figure 17



Ozone Action Days - Top 10 Tips for Individuals to Reduce Their Contributions to Ozone Formation

1. Limit driving, ridesharing, carpooling, walking, or biking.
2. Using public transportation.
3. Avoiding excessive car idling and jack-rabbit starts.
4. Refueling cars only after 7:00 p.m.
5. Avoiding using gasoline-powered recreational vehicles.
6. Deferring lawn mowing and gardening chores that use gasoline-powered equipment
7. Postponing oil-based paint and solvent use.
8. Barbequing with electric starters, not fluid starters.
9. Deferring use of household consumer products that release fumes or evaporate easily.
10. Conserving energy in your home.

Mobile Source Programs

Illinois has several mobile source programs for vehicles, fuels, and fueling activities. Additionally, new highway projects that are federally funded must demonstrate that the project will result in emissions from vehicles consistent with the level that can be supported by the airshed.

Enhanced Vehicle Inspection and Maintenance Program

In February 1999, Illinois launched operation of its Enhanced Vehicle Inspection and Maintenance (I/M) program, required by the Clean Air Act. A major difference in the enhanced test is that it includes a dynamometer test of the vehicle that allows for measurement of vehicle exhaust emissions at various speeds and loads, simulating actual in-use conditions. Because the enhanced test is more effective in identifying gross emitting vehicles than the idle test, it replaces and is augmented with the evaporative system integrity test (i.e., gas cap pressure test), emissions reductions from this new program are greater than with the previous program. During 1999, we tested 1.6 million vehicles, 9.7% of which failed the initial test. During 2000, we tested 1.5 million vehicles, 8.5% of which failed the enhanced test. Then in 2001 we tested 2.0 million vehicles, 13.5% of which failed the enhanced test. Effective February 2001, final IM240 exhaust emission standards for vehicles of model year 1998 or newer were supplemented, resulting in increased initial test failure rate. Repairs sufficient for the vehicles to pass on retest or to enable the owner to receive a waiver resulted in the reduction in VOM emissions of approximately 6,533 tons during the 2001 ozone season in the Chicago area, compared to what would have been emitted without the program.

Beginning in mid-summer of 2002, the Illinois EPA expects to move to "clean-screen" On-Board Diagnostic (OBD) testing on all 1996 and newer OBD-ready vehicles. OBD refers to computerized engine and emission system monitoring system built into most 1996 and newer passenger cars and light duty trucks. The primary purpose of these systems is to monitor major engine and other components for malfunctions that cause or can cause high emissions, and to alert drivers when these problems occur. OBD I/M testing will replace the

current exhaust test (primarily the dynamometer-based IM240 test) to determine if vehicles are meeting applicable emissions standards. OBD testing has potential for being significantly more cost-effective that current tests, since the test can be performed much quicker than current tests, which translates into increased motorist convenience in the form of shorter test and wait times.

USEPA's OBD I/M rule allows states to phase-in OBD pas/fail utilizing clean-screening and follow-up exhaust testing for up to two years (one test cycle), and Illinois EPA as elected to use this option. In January 2004, Illinois EPA will move to full OBD pass/fail testing for all OBD-ready vehicles. For calendar year 2002, approximately 40% of the testable vehicle population is equipped and eligible for OBD testing. This represents 60,000 – 75,000 exhaust emission tests (over 91% of which are IM240) that could be eliminated each month if OBD pass/fail were implemented. The current OBD advisory failure rate is approximately 6 percent or 3,000 – 4,000 vehicles per month at current test volumes.

Reformulated Gasoline Program

Reformulated Gasoline (RFG), a federally-administered program, is required in the nine areas of the country that had the worst air quality in 1990, which included the Chicago metropolitan area. RFG must meet certain federal standards for VOM, NOx, and air toxic emissions. RFG has resulted in significant reductions in VOM and toxic emissions in the Chicago area and provides a significant contribution to the improvement in air quality.

Clean Fuel Fleets Program

The Clean Fuel Fleets Program (CFFP) is a federal program required in ozone nonattainment areas classified serious and above. Therefore, the program is required in the Chicago nonattainment area. The program applies to owners of fleets of 10 or more vehicles, and requires that when a fleet owner replaces vehicles, a percentage of those vehicles must meet at least low emission vehicle or LEV standards. The CFFP has resulted in a reduction of 459 tons of VOM during the ozone season (3 tons per day) from more than a thousand fleets that were required to be in the program.

The actual CFFP emission reductions have exceeded the initially projected levels of reductions for several reasons:

1. The initial emissions reduction estimates made for this program in 1994 significantly underestimated the reductions.
2. There are more fleets subject to the program than anticipated.
3. Persons subject to the program are purchasing more clean-fueled vehicles than required by the program, and are not using those "credits" to offset future purchase requirements.
4. Persons subject to the program are purchasing lower-emitting vehicles than the minimum LEV requirements, such as ultra-low emitting vehicles or ULEVs, inherently low emitting vehicles or ILEVs, and zero emission vehicles or ZEVs. Those vehicles run on

natural gas, fuel cells, electricity or 85% ethanol blended fuels, and thus not only have lower tailpipe emissions, but also have lower evaporative emissions than LEVs.

"Green Pays on Green Days" Giveaway Program

The Illinois EPA has partnered with the Partners for Clean Air, local businesses, USEPA, the City of Chicago and media groups to sponsor a summer long ozone educational program called the "Green Pays on Green Days" Giveaway Program. Through Green Pays on Green Days, residents of the Chicago metro area counties of DuPage, Cook, Kane, Will, Lake, McHenry, Grundy and Kendall in Illinois may enter the contest by pledging to take one or more "Green Actions" on Ozone Action Days when weather conditions are favorable for smog formation. By pledging, citizens are entered into drawings for environmentally friendly prize packages. The program runs from May 27, 2002 through September 2, 2002.

The pledge/entry forms can be submitted online at www.NCB5.com, through mail-in forms on the weather page of the Friday Chicago Sun Times starting in late May 2002, or through mail-in forms from "Green Pays on Green Days" posters. The Friday Sun Times weather page also includes a Clean Air Fact and a Clean Air Tip for the week, designed to educate citizens on air quality issues. Throughout the summer, the Green Pays on Green Days campaign, along with Breathe Easy Man, the IEPA's air quality superhero, have appeared at local festivals, including the Taste of Chicago, to educate citizens about clean air.

The status of the air quality is a feature of this program, and prizes will be awarded on days when the six-color national Air Quality Index forecasts that air quality in the Chicago metro area is good or on "Green Days". The Air Quality Index is a six-color system that classifies air quality from "good" or "green" through increments down to "hazardous" or "maroon," and is featured in both the Chicago Sun Times and the Chicago Tribune and on the NBC5 weather report.

Stage I and II Vapor Control Program

The Stage I Vapor Control Program requires that the vapors emitted when unloading gasoline from a tanker truck to the storage tanks at gasoline stations be captured. This program applies both in the Lake Michigan and Metro-East ozone nonattainment areas. The Stage II Vapor Control Program applies only in the Lake Michigan nonattainment area. It requires capture of the vapors from a dispensing nozzle that would be emitted when fueling a vehicle. A capture device with openings near the end of the nozzle draws the fumes back into the storage tank and prevents their emission into the atmosphere.

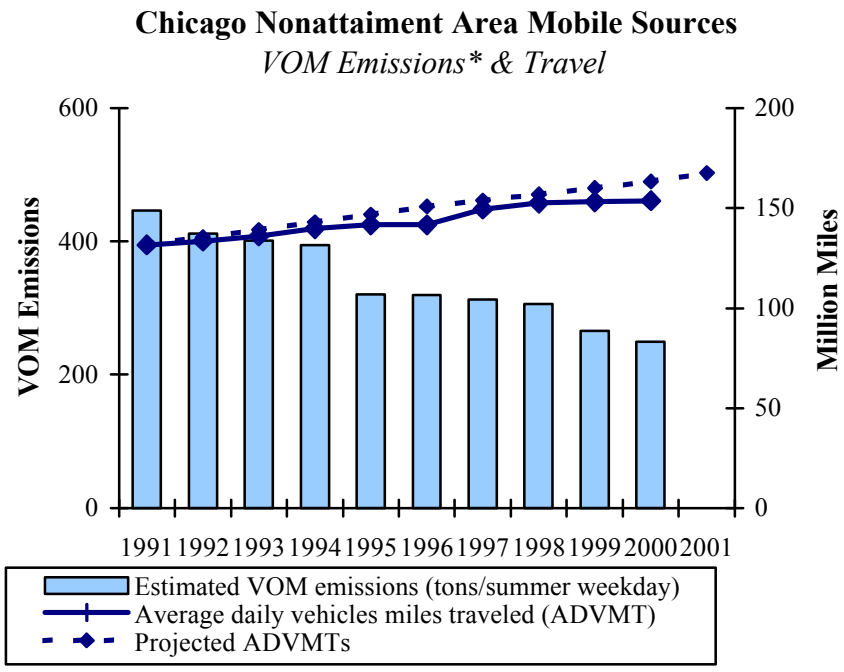
In 2000, 1,438 facilities were inspected by the City of Chicago for compliance with the Vapor Control Program. Approximately 867 facilities (60%) were in compliance and 571 (40%) were found to be out of compliance with the requirements.

Emissions from Mobile Sources

The vehicle miles traveled (VMT) in the ozone nonattainment areas are increasing every year. This is a real concern to environmental protection agencies across the nation. The Clean Air Act requires that transportation activities not cause new air quality violations, add to existing violations, or delay timely attainment of national ambient air quality standards. Therefore, new projects that will affect transportation activities and that have been provided federal funding must conform or be consistent with states' air quality implementation plans (SIPs). Likewise, SIPs that identify the measures that a state will take to meet the Clean Air Act's rate of progress and attainment requirements must contain a motor vehicle emissions budget. This is an estimate of the level of emissions (and increased emissions) from vehicles that can be sustained in a nonattainment area and which meets the air quality goals of the SIP. A motor vehicle emissions budget defines the total allowable emissions of a specific pollutant allocated to highway and transit vehicle use. In order to demonstrate conformity to the motor vehicle emissions budget, emissions from the implementation of a transportation plan or a transportation improvement program must be less than or equal to the budget level.

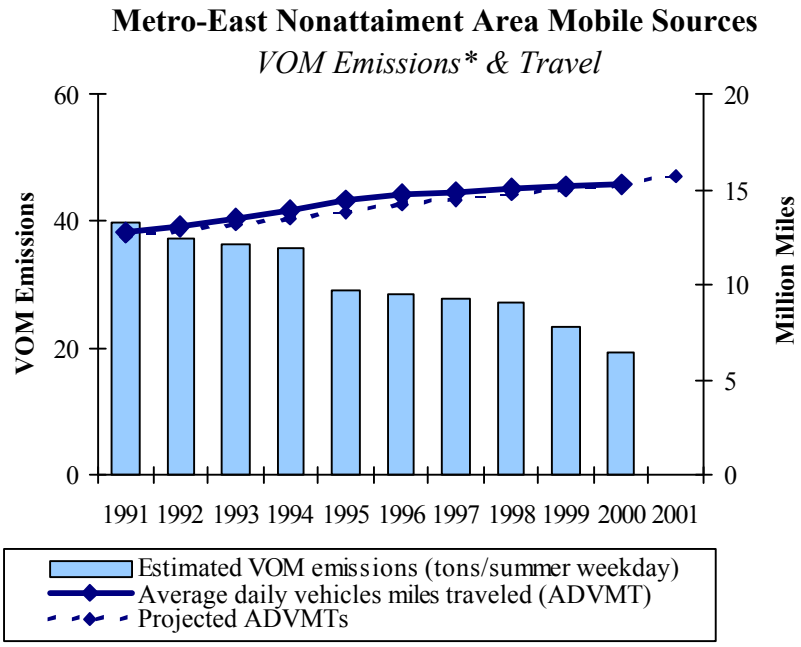
The Illinois Department of Transportation (IDOT) has general oversight of all transportation matters in Illinois. IDOT's Office of Planning and Programming (IDOT/OPP) provides Illinois' official Vehicle Miles Traveled (VMT) by county, which are estimates based on data counts for categories of roadways and population centers. Specifically, Illinois EPA uses Average Daily VMT data provided by the IDOT/OPP for its on-highway mobile source estimates. These data are derived ultimately from recent continuous and special traffic counts made by IDOT and other organizations, and cover essentially all road traffic in Illinois. IDOT's VMT estimation methodology conforms to Federal Highway Administration standards. Projected estimates of VMT are made by Illinois EPA using growth factors accepted by IDOT. Statewide, VMT is growing at the rate of about 2% per year.

Figure 18



Figures 18 and **19** show that emission levels from vehicles in the nonattainment areas have declined significantly. However, there is an indication that the significant progress made through cleaner-emitting vehicles and cleaner fuels could currently be offset by

Figure 19



increases in VMTs. The driving behavior of the motoring public has a large impact on the overall level of mobile source emissions. These individuals are responsible for vehicle use, frequency of trips, and driving habits that impact fuel usage (miles per gallon).

Green Fleets Program

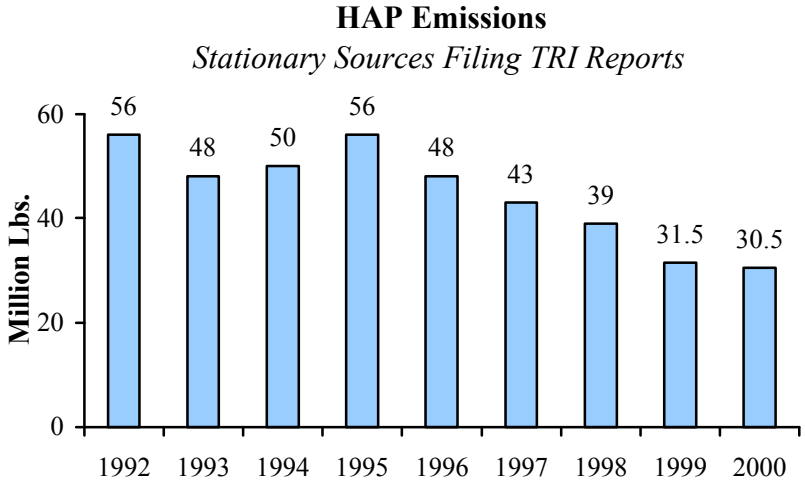
The Illinois Green Fleets Program was launched in the summer of 2001 as a voluntary mobile source, marketing, and education program. Fleets throughout the State that use clean, alternative fuels and vehicles are provided recognition by being designated as an "Illinois Green Fleet" and additional marketing opportunities for having a clean and green fleet. To date, 24 corporate, small business, and local government fleets in Illinois have been designated as green fleets for using natural gas, ethanol (E-85), propane, biodiesel and electricity as motor vehicle fuels. Prospective green fleets complete an annual survey and provide information on how many alternative fuel vehicles (AFVs) are in the fleet, the amount of alternative fuels used, whether they refuel at a private or retail fuel site, and their overall alternative fuel plan. These fleets are designated as a 1-star, 3-star, and the highest level, a 5-star green fleet based on a scoring system compared to established criteria that emphasizes the use of alternative fuels. In addition, a website has been established, a quarterly newsletter is distributed and conferences are held each year to have our "green fleets" share information and their experiences to colleagues that may be interested in clean, alternative fuels and vehicles. Since the program's inception last year, six fleets have committed to using alternative fuels and are working towards designation.

Air Toxics

Hazardous air pollutants (HAPs) may be carcinogenic, highly acidic or alkaline, explosive, or characteristically hazardous for some other reason. The best database currently available to indicate the level of emissions of HAPs into the atmosphere is the Toxic Release Inventory.

Figure 20 shows the levels reported HAP levels (as they relate to VOM) in the State from 1992 through 2000.

Figure 20



LAND QUALITY MANAGEMENT

Goals: Safe Waste Management and Restored Land

Environmental Objectives:

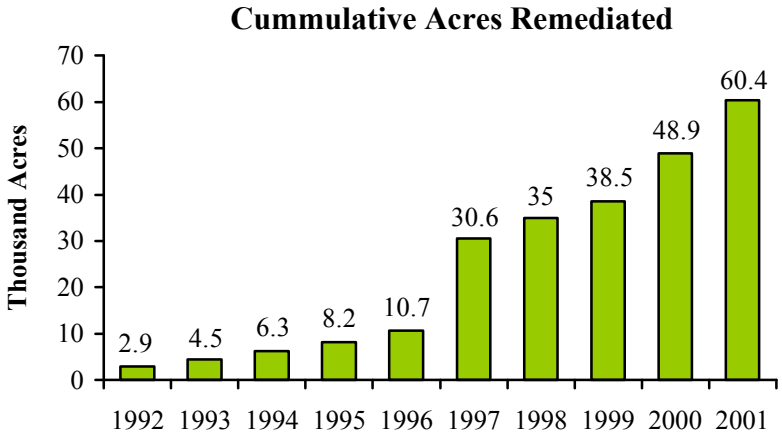
1. By 2005, reduce or control risk to human health and the environment at 90,000 acres with contaminated soil, contaminated groundwater, or unmanaged waste.
2. By 2005, no significant releases from waste management facilities that harm off-site groundwater, human health, or the environment.
3. By 2005, reduce the waste disposed in Illinois from in-state sources to 34 million cubic yards per year.

Core sampling to determine extent of contamination

SITE CONDITIONS

Acres of Land where Human Health Risk is Reduced or Controlled

Figure 21



Remediated sites are contaminated properties at which health risks are successfully reduced or controlled. In 2001, over 10,000 acres were remediated as a result of the Illinois EPA's Clean Land Program. **Figure 21** shows that since 1981, over 60,000 acres have been remediated. This is 67% of the first environmental objective of 90,000 acres remediated by 2005.

Groundwater

A modern sanitary landfill is designed to completely contain garbage so that contaminants cannot escape to pollute air or water. Safe containment of garbage and its byproducts relies on a landfill liner, which consists of impermeable plastic, compacted clay, or both. The liner is placed in a bed of gravel above a network of pipes that collects leachate which is pumped out of the landfill for treatment and disposal. The liner and collection system must provide that the groundwater, within a specified distance of the landfill, will meet drinking water

standards in the uppermost aquifer. Network of groundwater monitoring wells are installed around the landfill's perimeter to ensure the leachate collection system is working properly. One of Illinois EPA's primary goals is to protect groundwater resources near landfills and waste handling facilities. Facility's groundwater monitoring programs are classified into four groups, which include:

1. Facilities in detection monitoring. These facilities routinely monitor their groundwater as required by a permit and have not detected contaminants above a regulatory standard;
2. Facilities in assessment/compliance monitoring. These regulated facilities have detected a contaminant in the groundwater and are reviewing or assessing the situation to determine if corrective action is necessary, or to determine if the design and operation of the facility is within expected operating parameters and therefore no remedial action is needed;
3. Facilities undertaking corrective action. These facilities have determined that remedial action is necessary as a result of assessment/compliance monitoring; or
4. Facilities that are unknown or unclassified at this time. There is currently no available information on the groundwater at these sites.

The review and analysis of these groundwater monitoring programs should allow us to focus efforts on those unknown or unclassified facilities and those facilities that have been too long in assessment/ compliance monitoring and which may need to take more focused actions.

The ultimate goal is for all sites to be in, or return to, detection monitoring since these sites are not currently known to have groundwater problems. The Illinois EPA currently monitors 62 operating waste-disposal facilities listed in Appendix B. **Figure 22** indicates that, of these, in 2000, 32 (52%) are in detection monitoring, 16 (25%) are in assessment monitoring, and 14 (23%) are in corrective action. These percentages have not changed considerably from the previous year.

Figure 23 shows the amount of wastes in million tons, that are being managed at the facilities for each groundwater monitoring program. In 2000, 54% (8.2 million tons) of wastes were at sites that were doing detection monitoring, 24%

Figure 22

Classification
of Groundwater Condition

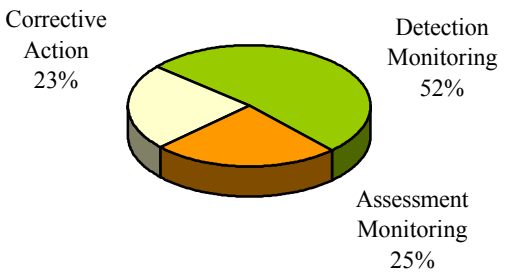
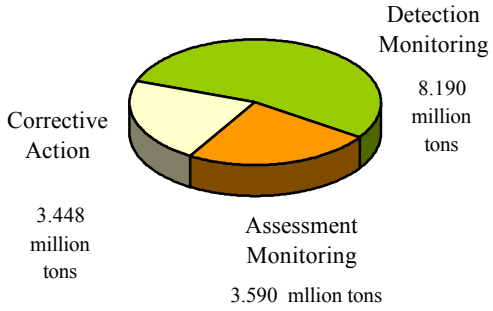


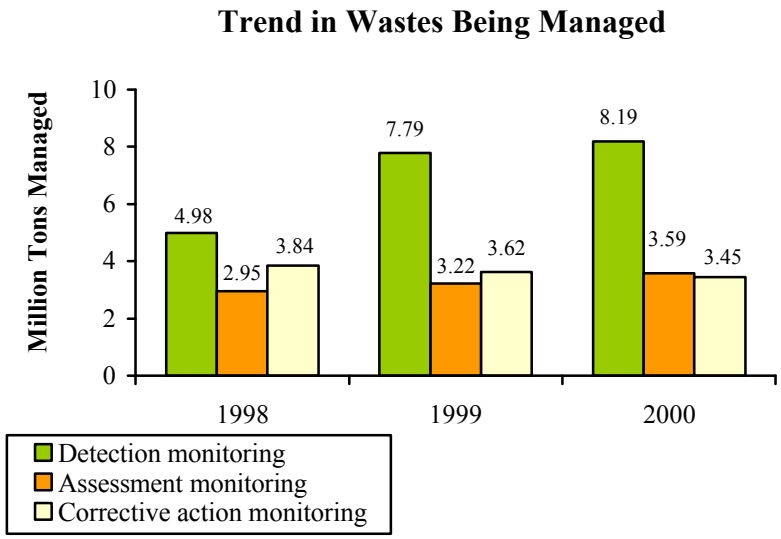
Figure 23

Wastes Managed in 2000
for each Groundwater Condition



(3.6 million tons) of wastes were in assessment monitoring and 22% (3.4 million tons) of wastes were in corrective action monitoring. Wastes are handled at disposal sites in different stages of groundwater monitoring with the greatest amount going to sites in detection monitoring (verified no problem). Older industrial sites - mainly on-site - may be in corrective action to address older problem areas of the facility while waste disposal continues. **Figure 24** shows the trend in the amount of waste being managed for the monitoring programs over the past few years.

Figure 24



Municipal Solid Waste

Municipal solid waste is the term used to describe the garbage that is discarded by households, stores, offices, factories, restaurants, schools and other institutions. Discarded most often means disposed of in an Agency permitted landfill. Increasing amounts are being handled through other means of solid waste management, such as recycling and composting. The state's only municipal solid waste incinerator closed in November 2000.

Landfill undergoing closure.

The current trend is toward fewer, but larger, regional landfills and the development of a more efficient waste transportation infrastructure. Whether it was the result of tougher environmental rules, the result of other business considerations, or a combination, one thing is clear: since 1987, the number of active landfills has fallen from 146 in 1987 to 53 in 2000. Most of these landfills have larger capacities.

During 1999-2000, the consolidation of waste management companies resulted in many changes in operation and ownership. More wastes were transferred out of the metropolitan Chicago area into Indiana and the north and central Illinois counties. Therefore, more transfer stations were sited in the Chicago suburbs. A transfer station is a waste handling facilities that stores and consolidate wastes. The number of transfer stations are expected to increase as the number of landfills decrease and waste is transported farther away to disposal sites. Transfer stations in Illinois numbered 83 in 2000. Illinois transfer stations handled nearly one-third of the wastes landfilled in 2000 (a 22% increase from 1999). Chicago metropolitan regional area, with 56 transfer stations handled 4.3 million tons or 87% of the waste transferred.

Figure 25 shows the trend in the number of landfills and transfer stations.

Figure 25

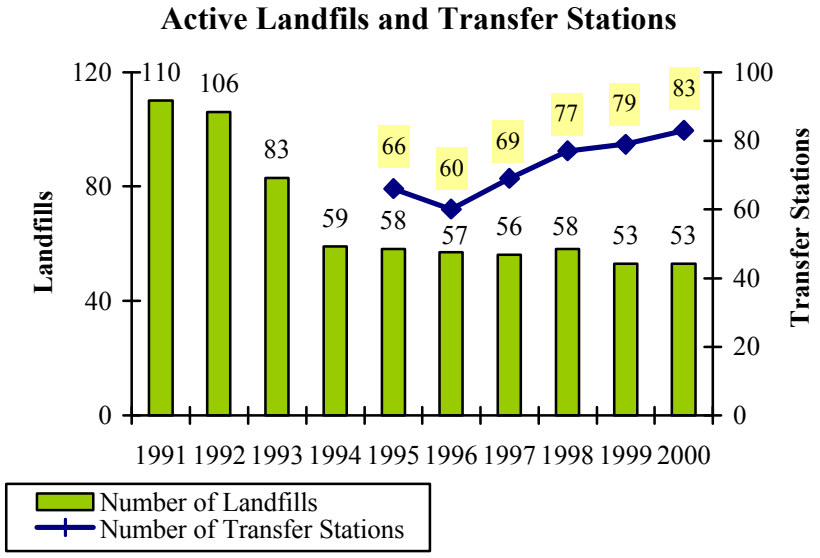


Figure 26

Landfill capacity, however, has increased during the same 10-year period as shown in **Figure 26**. In 2000, projected capacity (shown as 2001 data) dropped 6.2% from 792.7 to 743.4 million cubic yards and only one landfill opened near East. St. Louis.

The amount of waste generated in Illinois voluntarily reported by local recycling coordinators in 2000 was 15.1 million tons or 16.8 pounds per capita per day (pcd). The volume of waste disposed in Illinois landfills in 2000 was 49.3 million cubic yards as shown in **Figure 27**.

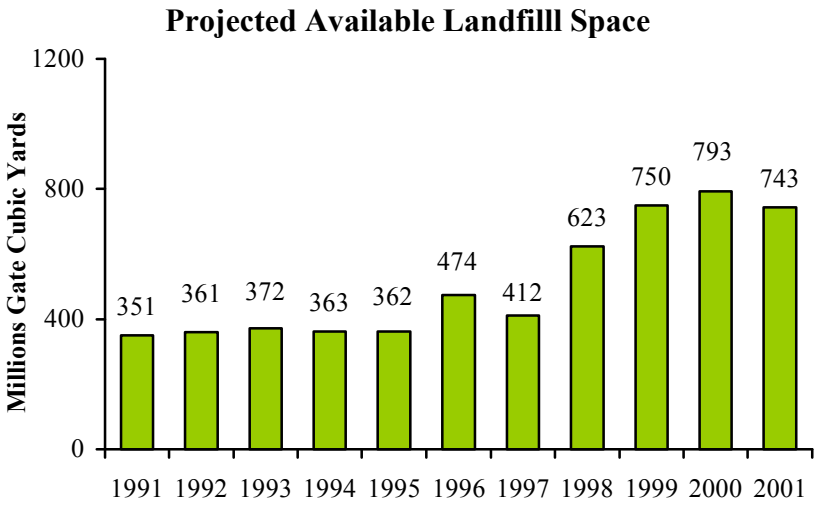
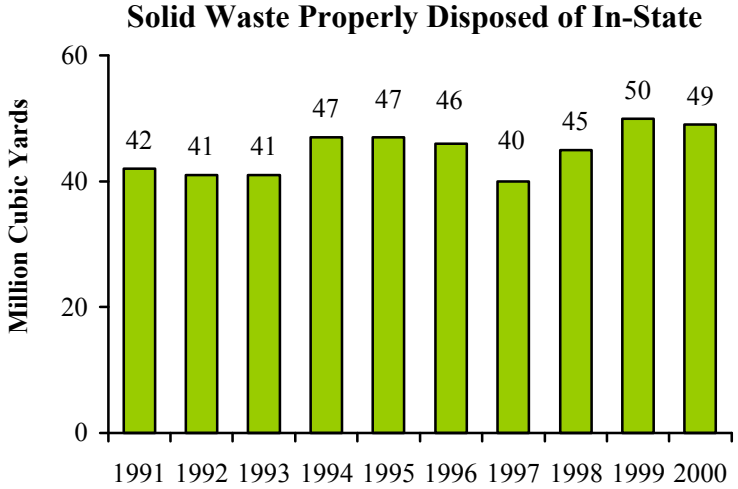


Figure 27

The Illinois EPA began tracking Illinois landfill disposal data in 1987 as required by the Illinois Solid Waste Management Act.

The volume of out-of-state wastes disposed in Illinois landfills has averaged five million cubic yards annually over the past five years. In 2000, out-of-state wastes accounted for 10 percent of the total disposed in Illinois landfills. The five states adjacent to Illinois (Missouri, Iowa, Indiana, and Wisconsin) contributed 99% of the to-



tal waste imports. Prior to 1992, the volume of out-of-state wastes disposed in Illinois was not evaluated because landfill operators were not required to submit State of Origin Quarterly Reports revealing the source of wastes.

Solid waste disposal at municipal landfill.

Figure 28 shows the amount of waste disposed and landfill capacity on a per capita and landfill life expectancy basis for each region of the State.

1. Northwestern Illinois
2. Metropolitan Chicago
3. Peoria/Quad Cities
4. East Central Illinois
5. West Central Illinois
6. Metropolitan East St. Louis
7. Southern Illinois

Figure 28

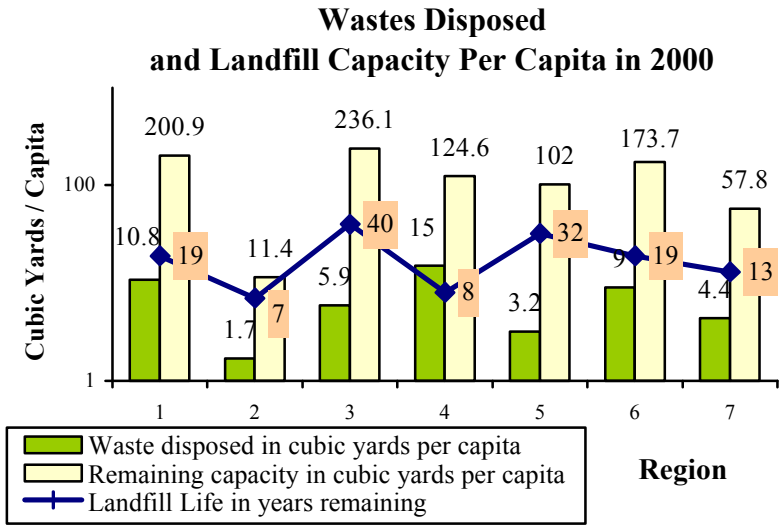
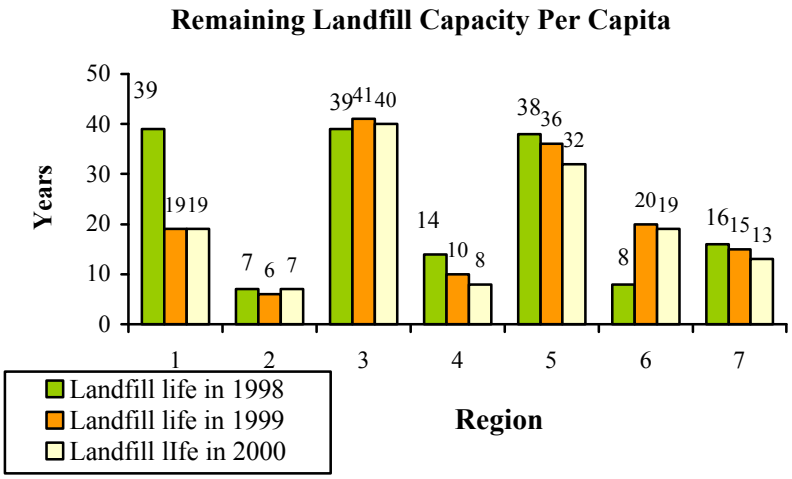


Figure 29 shows the amount of remaining landfill capacity remaining per capital for each of the regions of the state over the past three years.

1. Northwestern Illinois
2. Metropolitan Chicago
3. Peoria/Quad Cities
4. East Central Illinois
5. West Central Illinois
6. Metropolitan East St. Louis
7. Southern Illinois

Figure 29



PROGRAM PERFORMANCE

Program Objectives:

1. By 2005, reduce the annual amount of hazardous waste managed at commercial treatment/disposal facilities by 10%.
2. By 2005, 25% of the municipal waste stream generated in Illinois will be recycled.
3. By 2005, 60% of operating waste management facilities will be in detection monitoring.
3. By 2025, 95% of waste management sites with groundwater monitoring systems will have no measurable release to groundwater.
4. By 2005, 90% of RCRA-regulated and inspected sites will be in full compliance within 90 days of the inspection date.
4. By 2005, proper closure and post-closure of all inactive landfills will be ensured.
5. By 2005, 16,424 sites (about 93,475 acres) will be remediated.

Reduction of the Quantity and Hazardous Nature of Waste Generated

One of the Illinois EPA's objectives is to reduce both the amount and hazardous nature of waste that is generated in Illinois. To achieve this goal, the following programs are relied upon.

Compliance Assistance Surveys

The Illinois EPA provides assistance to smaller companies by performing preliminary inspections that help a company evaluate their complicated waste management rules. If a significant environmental problem is found then enforcement is quickly started. Otherwise, the company is given a short time to attain compliance. This program is referred to as a Compliance Assistance Survey.

In calendar year 2001, 297 Compliance Assistance Surveys were conducted. No regulatory deficiencies were observed during 165 of the 297 surveys. At 23 facilities, compliance was achieved during the Compliance Assistance Survey. In other words, the compliance rate observed through the Compliance Assistance Surveys was 63%.

Pollution Prevention (P2)

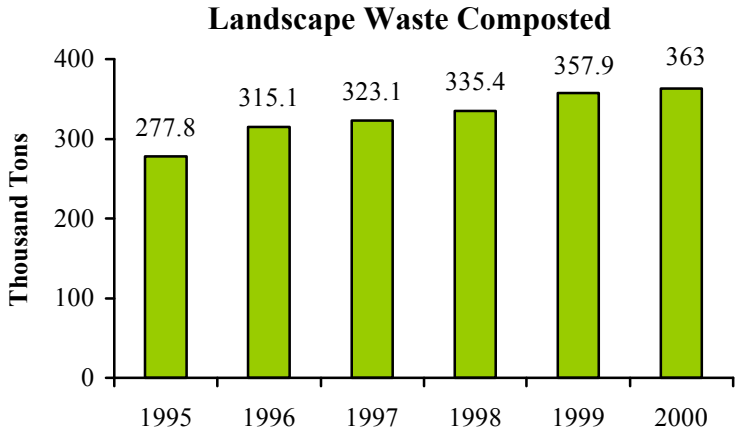
The field office conducts many inspections and compliance assistance activities at hazardous waste generators annually. The sites were provided with P2 feedback surveys which summarized the P2 opportunities found by FOS during the inspections. The Office of Pollution Prevention technical staff accompanied the field office on several other site visits to facilities that generate hazardous wastes. During 2001, 683 P2 opportunities were found at 69 sites throughout Illinois.

Source Reduction

Although the goal of waste reduction remains, more waste is generated and disposed in Illinois than the previous years. Many factors may account for these increases. The two most likely factors are increased population/households in the state and the robust economy with higher levels of production. Since household waste is proportional to the number of households and the number of people, as the population increases, so does the amount of waste. Likewise, as the number of items manufactured goes up (for example, cars) the industrial waste generated also goes up (in the example, waste paint, plastic trim scrap, etc.).

Landscape waste

Figure 30



On July 1, 1990, landscape waste disposal in Illinois landfills was banned to conserve available landfill capacity and encourage alternative uses (e.g., soil amendment for gardens, mulch for landscaping, etc.). Since then, the number of active compost facilities have begun to approach the number of active landfills, and may exceed them in a few years. The quantity of landscape waste collected at these facilities peaked at 438,262 tons in 1993. **Figure 30** shows 363,088 tons of landscape waste was collected at 47 facilities in 2000. The reduction from the peak in 1993 may be attributable to: (1) increased backyard composting; (2) more people leaving grass clippings on their lawns; and (3) increased application of landscape waste on farmlands. The landscape waste collected at these facilities is reduced through composting or chipping. Material recovered is used for landscaping, landfill cover, land reclamation, or gardens.

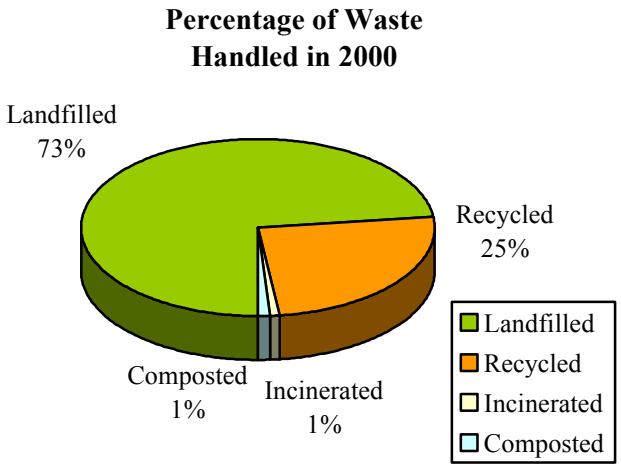
Landscape wastes processed in 2000 represent only about one percent of total wastes landfilled in Illinois that year. While this percentage is small, it is important to note that composting kept more than 360,000 tons of wastes out of landfills, each ton of waste not landfilled is a ton of landfill capacity preserved.

Recycling and Reuse

The Illinois EPA plays a peripheral role in controlling and promoting recycling; other state economic development agencies have been given the direct charge and authority to affect market development and support recycling industries. The Illinois EPA plays a significant supporting role primarily in regulating waste management options other than recycling and collecting fees on other pollution control activities. These actions provide incentives and

disincentives for citizens, business and industries to recycle their wastes rather than dispose of them. Twenty-five percent of the wastes handled in 2000 are recycled as indicated in **Figure 31**, which the same as the previous year.

Figure 31



Waste generation and recycling figures were prepared in many cases during the solid waste planning process several years ago. No additional studies have been done since then.

An additional 207.095 tons of waste was received at the Robbins Resource Recovery Facility in suburban Chicago in 2000, a 45% decrease from 1999 signaling the close of business. This site was permitted to operate in 1997 and closed in November 2000.

The Illinois EPA does provide some direct recycling services. These programs - Household Hazardous Waste, Hazardous School Waste, Paint Waste, Used Tires and the Industrial Materials Exchange Service - each focus on a different client base to address a different need. All these systems provide an outlet to deal with a waste in an environmentally preferred and economically viable manner.

Household Hazardous Waste Collections

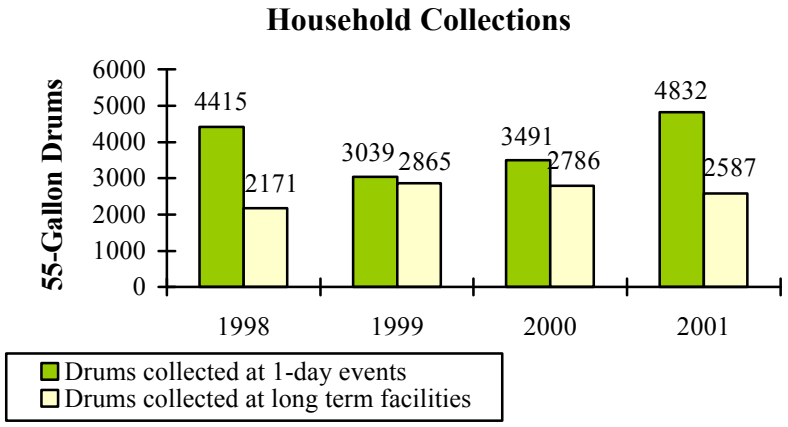
The Illinois EPA's Household Hazardous Waste Collection Program, with the assistance of local governments, diverts municipal waste containing hazardous materials (e.g., waste oils, petroleum distal late-based solvents, liquid paints, pesticides, etc.) from solid waste landfills through one-day collection events and long-term collection facilities. Residents are encouraged to bring their household hazardous waste to a collection center selected by the Illinois EPA and the local community. The waste is identified, packaged, and transported to permitted hazardous waste disposal facilities.

Household collection events with different staging areas

Since 1989, a total of 261 one-day collection events have been conducted. Unfortunately, the demand for this service far exceeds state resources available to fund an event in all communities requesting a collection. Over 45 communities have pending applications requesting the Illinois EPA to sponsor a one-day collection event in their community. In Spring 2001, the Illinois General Assembly appropriated $3.2 million dollars for the Household Hazardous Waste program to address the backlog of applications. The Illinois EPA co-sponsored

29 one-day collection events, resulting in the proper disposal of 4,832 fifty-five gallons drums of toxic materials. Over 22,848 households participated in twenty-four counties at an approximate total cost of $1,884,993 (contributing co-sponsor communities contributed a total of $304,143; the Illinois EPA provided $1,520,850, and $60,000 was obtained from a USEPA grant). The increased number of participants at one-day collection events indicates the need for long-term collection facilities as shown in **Figure 32**.

Figure 32

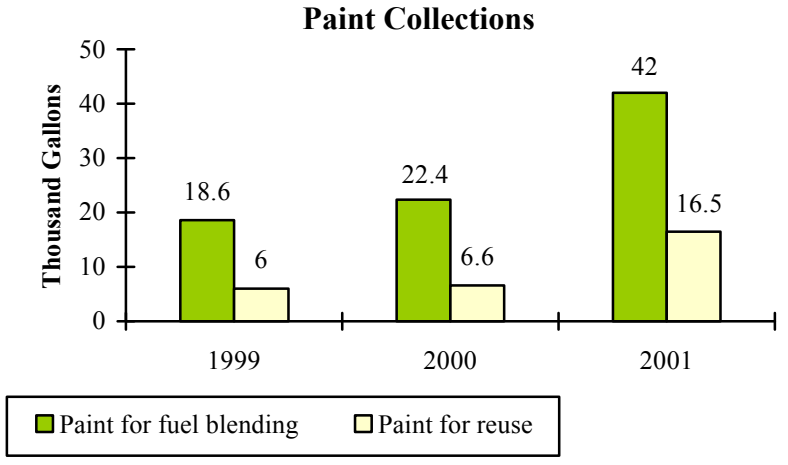


Illinois EPA provides financial assistance in the transportation and disposal of household hazardous waste at two long-term collection facilities located in Naperville and Rockford. Both facilities accept household hazardous waste on weekends. Participation at long-term collection facilities has grown annually. In 2001, 1,860 and 727 drums of household hazardous waste were collected at the Naperville and Rockford facilities, respectively.

Paint Collections

The most common type of material received at Illinois EPA household hazardous waste collections is paint. To reduce the amount of paint collected, the Illinois EPA and paint retailers created the Partners for Waste Paint Solutions program in 1995. This program allows consumers the opportunity to return paint products to a paint retailer participating in the program. The paint is either reused or disposed. In 2001, 19 Partners for Waste Paint Solutions bulked 764 fifty-five gallon drums of waste paint (42,020 gallons) for fuels blending. These same partners processed 3,300 five-gallon pails (16,500 gallons) for reuse as shown in **Figure 33**. The increase in the number of drums (408 drums in 2000) and pails (1,320 in 2000) from the previous year could be due in part to the longer

Figure 33



established, higher volume partners managing more reusable paint products. These collection programs provide many benefits beyond the collection and disposal of household hazardous waste. These programs include public education elements that identify: (1) household wastes containing chemicals that make their disposal in municipal waste landfills or incinerators undesirable; (2) safe use and storage procedures for household hazardous materials; (3) consumer practices to reduce the amount and toxicity of household products discarded (e.g., buying only the amounts needed, finding less hazardous substitutes, etc.).

School Hazardous Waste Collections

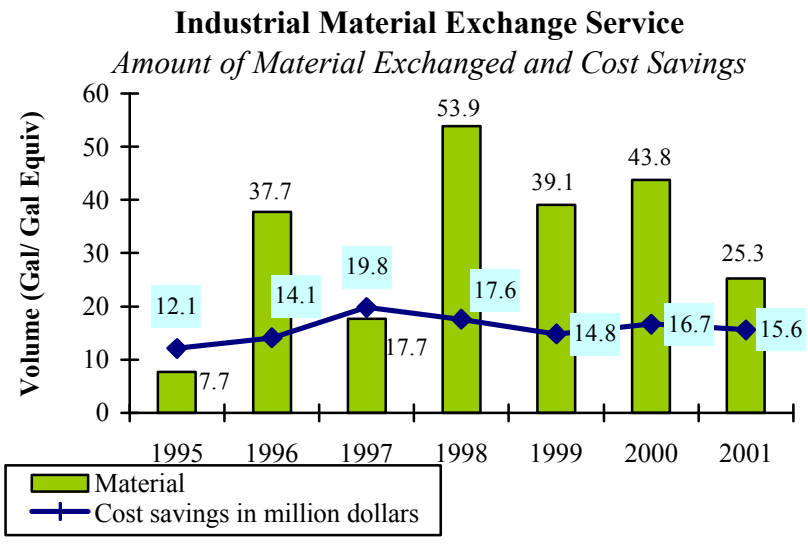
The Illinois EPA provides school districts with hazardous educational waste collections associated with one-day household hazardous waste collection events. Since its inception in 1996, 90 high schools have participated. More than 215 drums of educational hazardous wastes (e.g., laboratory wastes, expired chemicals, unstable compounds, and toxic or flammable materials) were collected and disposed at an approximate cost of $84,291. In 2001, 45 drums of hazardous educational waste from 23 high schools were collected and disposed at an approximate cost of $22,253.

Materials Transferred

The Illinois EPA's Industrial Material Exchange Service administers an information exchange for hazardous and nonhazardous waste by-products, off-spec items, and overstocked or damaged materials with a potential for industrial reuse. This service publishes a bimonthly directory for 15,000 subscribers nationwide. The directory lists both materials available and materials requested. After a business responds to a listing, the service puts this business in contact with the business offering or requesting the material. The final transaction and transportation of materials are left to the businesses involved. Since 1981, more than 494 million gallon-equivalents of material have been diverted from disposal at an estimated cost savings of $204.4 million to industry.

Figure 34 shows that in 2001, the service diverted 25.3 million gallon-equivalents of potential waste for industrial reuse at an estimated cost savings of approximately $15.6 million to industry.

Figure 34



Mercury Collections

Residential mercury collections held during 2000 at 30 suburban Chicago fire stations and four in the city netted 1,365 pounds of mercury containing products. The program was conducted to address citizen concerns after the discovery of accidental releases of mercury in a number of suburban Chicago homes by NICOR and Peoples Gas Co. The releases occurred during replacement of old style gas meters that had regulators containing small amounts of mercury.

Residents were encouraged to drop off elemental mercury and mercury containing products at the sites, where the mercury was picked up to be recycled. Cost of the program, including supplies, mobilization and waste treatment, totaled $41,494.

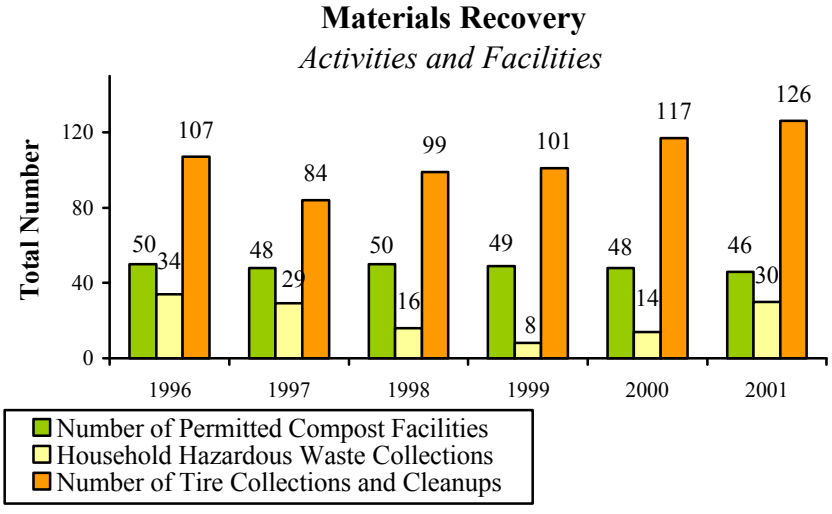
Used and Waste Tires

On July 1, 1994, whole tires were banned from disposal in landfills in Illinois. The same legislation encouraged alternative uses (e.g., supplemental fuel, stamped rubber parts, playground cover, etc.). The Illinois EPA's Used Tire Program ensures that: (1) used and waste tires are properly managed and put to beneficial use or properly disposed; and (2) tire dumps are cleaned up. The Illinois EPA conducts approximately 100 individual tire cleanup activities and more than 600 inspections of used tire handlers (retailers, storage/processors, etc.) annually.

Since 1990, approximately 150 million used and waste tires were properly disposed through private markets in Illinois. Over 10 million used and waste tires (6.7% of the total) were collected or cleaned up through this program. The tires are either shredded and processed into supplemental fuel and burned at power plants and industrial facilities, or processed into crumb rubber and used in a variety of applications including rubber-modified asphalt, manufacturing of rubber products, athletic turf additive, etc. A small percentage is used for stamped rubber parts or playground cover. Most of the large tire dumps were cleaned up by 1995. Since then, the annual amount of used and waste tires collected and cleaned up has gradually declined. In 2001, the Illinois EPA cleaned up 14,011.67 tons of waste tires at a cost of $1,761,503.71. That is the equivalent of 1,120,933.60 passenger (cars) tires (PTE).

Figure 35 provide the Material Recovery Activities from 1996 to 2001. The number of tire cleanups conducted has been updated from last year's report.

Figure 35



Proper Management of Waste

The Illinois EPA has inspected facilities and evaluated compliance for nearly two decades. We would expect that today's inspections should find a majority of companies to be in compliance with the hazardous waste rules once inspected.

Compliance Status

In calendar year 2001, the Illinois EPA conducted 384 inspections at permitted solid waste facilities (landfills, transfer stations, etc.). Violations were observed during 113 of the inspections. Therefore, the compliance rate among solid waste facilities is 71%. The Illinois EPA conducted 84 inspections at hazardous waste treatment, storage, and disposal facilities in calendar year 2001. Of these facilities 48 were in compliance at the time of the inspection. Therefore, the compliance rate among hazardous waste facilities is 57%.

During 2001, the Illinois EPA conducted 728 inspections at used tire facilities (441 used tire storage-exempt "retailer" facility inspections; 254 used tire storage facility inspections; and 33 waste tire disposal inspections). The compliance rate among used tire storage-exempt "retailer" facilities was 78% and the compliance rate among used tire storage facilities inspected was 49%. Both of these figures represent the compliance rate at the time of the initial inspection. These figures do not reflect the efforts that Illinois EPA undertakes after the inspection to return the facility to compliance with all applicable environmental requirements. Therefore, as of this date, the compliance rate among those used tire facilities inspected in 2001 is significantly higher than indicated above.

Open Dumping

Open dumping of waste is an illegal activity and poses a variety of health, safety, and environmental threats; fire and explosion; source of toxic gases; injury to children playing on or around the dump sites; habitat for disease-carrying mosquitoes, flies, and rodents; damage to natural resources; and decrease in the quality of life to nearby residents and the local community. In addition, open dumps encourage more open dumping.

Figure 36

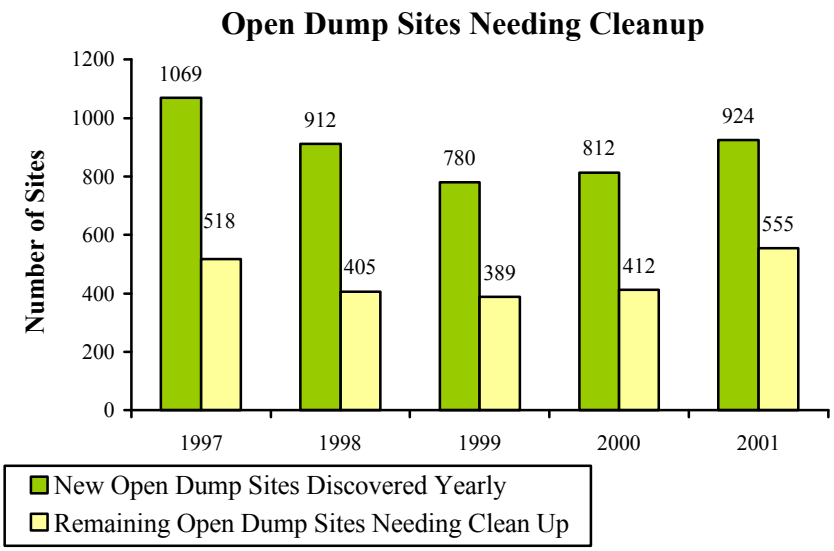
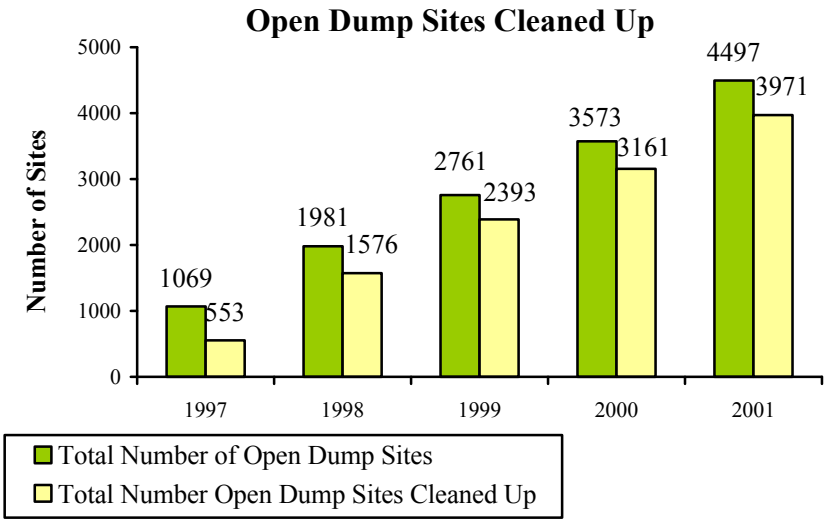


Figure 36 shows that in 2001, the Illinois EPA received 946 complaints resulting in the discovery of 924 open dump sites

by the Illinois EPA, in partnership with 20-delegated partners. Compliance and enforcement actions resulted in the cleanup of 369 sites (40%) of these sites discovered in 2001. Since 1997, the backlog of open dump sites needing cleanup is being maintained at 12% due to sites being added and dropping off.

Figure 37



Since 1997, 4497 open dump sites have been discovered from which 3971 (88%) have been cleaned up shown in **Figure 37**. About 50% of the open dumps are cleaned up within 12 months of their discovery. Approximately 447,800 cubic yards of waste were removed and properly disposed from these open dumps during 1997-2001.

Closing Non-Active Units

The Illinois EPA identified a concern regarding landfills that had stopped accepting waste but had apparently failed to meet the regulatory obligation of properly closing (including closure certification to Illinois EPA). The concern regarding these landfills is that the actual closure of the facility has not occurred and that the landfill could be creating an environmental danger.

The Illinois EPA originally identified 67 non-hazardous waste landfills and one hazardous waste landfill that apparently fell into this category. Of the 67 non-hazardous waste landfills identified, 14 facilities were found to have been certified closed, certified through post-closure, or wrongly identified as part of the list. This leaves 54 non-hazardous waste landfills that no longer accept waste and must be properly closed.

During 2001 thirty-seven of these landfills have been inspected. The findings from these inspections has been reviewed and enforcement actions taken to assure that "closure" of the landfills can be certified and the necessary post-closure activities, i.e. groundwater monitoring, are occurring.

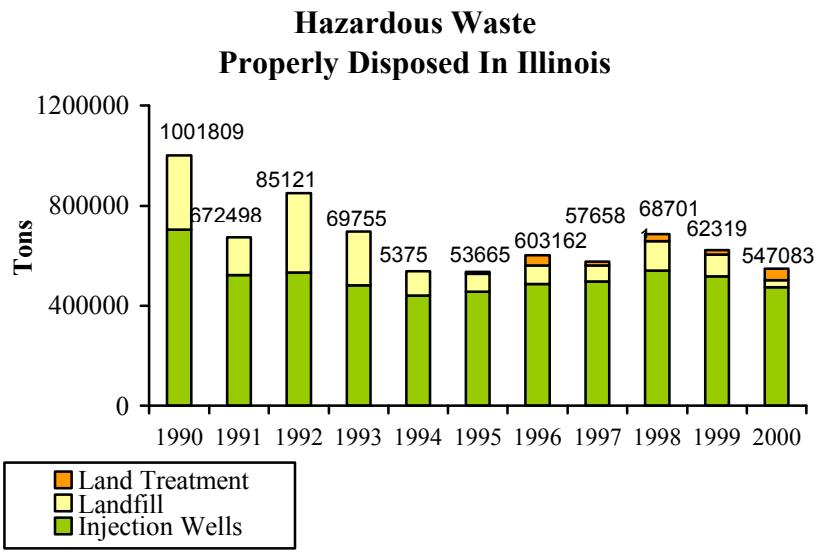
Hazardous Waste

The Illinois EPA ensures that facilities engaging in hazardous waste management processes (e.g., disposal, treatment, and storage) meet safe waste management standards. Over 1.1

million tons of hazardous waste was managed at Illinois hazardous waste management facilities in 2000.

Appendix B shows that approximately 547,083 tons of hazardous waste, which were generated in the United States, were disposed in Illinois. The remaining 0.8 million tons of hazardous waste was either incinerated, treated (with the residuals managed as a pollution control waste), or recovered.

Figure 38



Hazardous waste disposal in Illinois has decreased 36% since 1992 partially as a result of land disposal restrictions (i.e., prohibition of land disposal of hazardous waste that has not been adequately treated), and increased pollution prevention and waste minimization practices. **Figure 38** shows that in 2000, hazardous waste was disposed of in Illinois at two private underground injection wells (475,232 tons), two commercial landfills (26,254 tons), and a land treatment unit (45,597 tons).

Sites Where Health Risks are Identified

Restoration of contaminated properties depends on systematic site identification, investigation, and remediation. These activities are administered by the Illinois EPA within seven site categories (1) Leaking Underground Storage Tank (LUST) sites, (2) Superfund sites, (3) state response action sites, (4) Site Remediation Program sites, (5) federal facility sites, (6) Resource Conservation and Recovery Act (RCRA) sites, and (7) site assessment sites.

LUST sites are properties where petroleum or hazardous substances have leaked from underground storage tanks and the Illinois Emergency Management Agency has been notified. Contamination is frequently discovered during tank upgrade and removal activities. The owner or operator is responsible for taking immediate action to prevent further release, evaluate the extent of contamination, establish remediation objectives, and perform corrective action, as necessary. In 2001, over 830 LUST incidents were reported in Illinois (31% decrease from 1999).

UST Field Grants

In 2001, the Illinois EPA received a $100,000 UST Fields pilot grant to remediate a leaking underground storage tank contaminated site. Through the City of Chicago's Abandoned Service Station Management Program, the Illinois EPA selected a candidate site for the pilot at 2759 West Washington Street in Chicago, which was acquired by the City through demolition lien foreclosure. The City pulled eight underground storage tanks in 1999 and removed contaminated soil along with an abandoned heating oil tank in August and September of 2001. The City plans to construct up to four (4) low-income housing units on the site.

The Illinois EPA has applied for three (3) $100,000 UST Field Grants in 2002 for remediation of sites in Arthur, Freeport and Waukegan.

Superfund sites are the most serious hazardous waste sites in the nation and are listed on the National Priorities List (NPL). These sites require coordinated remediation efforts between federal and state authorities. In 2001, three sites were added to the NPL, bringing the total of listed sites to 47. These sites undergo removal actions (i.e. short term solutions) and remedial actions (i.e., permanent remedies). Since 1982, removal and remedial actions have been completed at 41 (or 87 %) of these sites.

MTBE

Methyl tertiary butyl ether (MTBE) is a volatile, organic chemical that has been used in the United States since 1979 as an octane enhancing replacement for lead in gasoline.

The Illinois General Assembly recognized that MTBE poses a substantial environmental threat while ethanol is an acceptable octane enhancer. Consequently, the use, manufacture, or sale of MTBE as a fuel additive or the transport of fuel containing MTBE is banned by the year 2004.

Response action sites are properties where the remediation of hazardous substances is completed by the state. Responsible parties are offered an opportunity to remediate sites at their own expense to avoid punitive damages. These sites include the 33 abandoned landfills being remediated in part by a $50 million appropriation from the Governor's Illinois FIRST legislation. In 2001, Illinois EPA conducted remediation activities at over 58 sites in 41 communities.

Site Remediation Program (SRP) sites are remediated voluntarily under Illinois EPA's supervision and approval. Since 1989, the Illinois EPA has enrolled 1,667 sites into the SRP, with 273 (or 16%) of these sites enrolling in 2001 (a 10% increase over last year).

Federal facility sites are government-owned properties requiring remediation due to past spills or hazardous waste disposal practices. These sites range from abandoned mines and artillery ranges in remote locations to major weapons production facilities adjacent to urban areas. The Illinois EPA provides guidance and oversight to the federal agencies responsible for remediating 45 sites in Illinois.

RCRA sites are those facilities permitted to treat, store, or dispose hazardous waste. Past and present activities at these facilities have sometimes resulted in releases of hazardous substances into the environment. Owners and operators are responsible for the investigation and remediation of contamination from their facilities (i.e., perform corrective action). In 2001, eight sites were added to bring the total number of RCRA sites which are undergoing or have completed corrective action in Illinois to 44.

Site assessment sites are uncontrolled or unregulated facilities that undergo evaluation for remediation under Superfund or for brownfields redevelopment. In 2001, Illinois EPA evaluated 14 sites for the NPL using the Hazard Ranking System (i.e., U.S. EPA screening tool to assign numerical values on the relative potential of a site to pose a threat to human health or the environment) and conducted environmental assessments at 6 brownfields sites.

Private water sampling as part of the Downers grove Investigation

Downers Grove Groundwater Investigation

Since July 2001, the Illinois EPA has analyzed groundwater from more than 480 private water wells in unincorporated Downers Grove for the presence of chlorinated solvents. These wells are located in five separate areas within in a 5,300 acre vicinity. The groundwater investigation revealed that approximately 40% of the wells sampled within the main study area (roughly 1,400 acres) exceeded the drinking water standards for the solvents trichlorethylene and/or tetrachlorethylene.

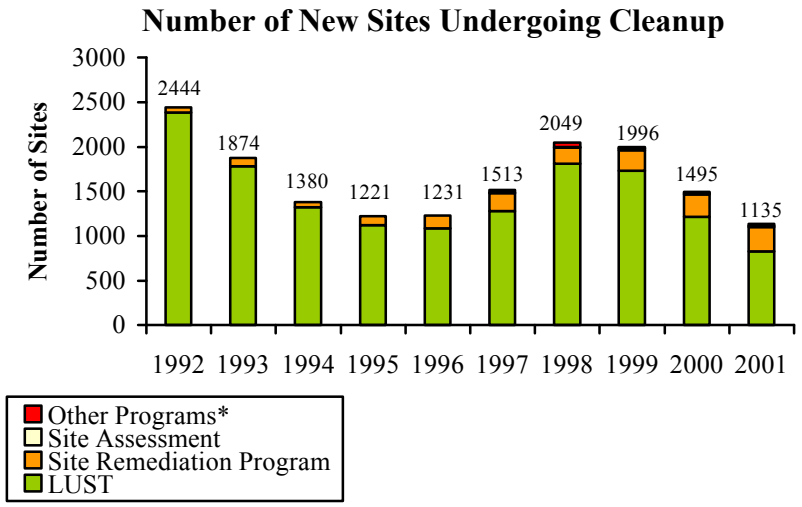
The majority of homes and businesses located within the Village of Downers Grove are connected to a public water supply and not affected by the groundwater. However, many homes within the unincorporated areas rely on groundwater for drinking purposes. The Governor's office has formed an Action Team comprised of State, federal and local government officials to assess options to provide alternative water supplies to affected residents, as well as deal with groundwater issues on a statewide level.

The Illinois EPA and USEPA are conducting an investigation into the source, nature and extent of groundwater contamination in the area.

Figure 39 shows the number of new sites undergoing cleanup annually. In 2001, there were 1,135 new sites (a 24% decrease from the previous year).

*Other programs include RCRA, Federal, State and Superfund facilities

Figure 39

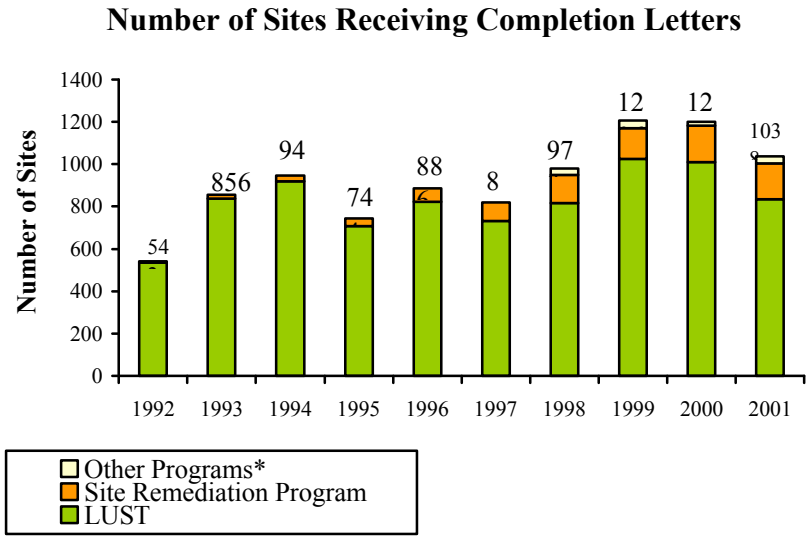


Number of Sites Remediated

Once a site meets all cleanup program requirements, the Illinois EPA may issue a completion letter to the property owner or other persons as allowed by the cleanup program. The Illinois EPA issued a total of 1,038 completion letters in 2001, a 13% decrease from the previous years, as shown in **Figure 40**.

*Other programs include RCRA, Federal, State and Superfund facilities

Figure 40

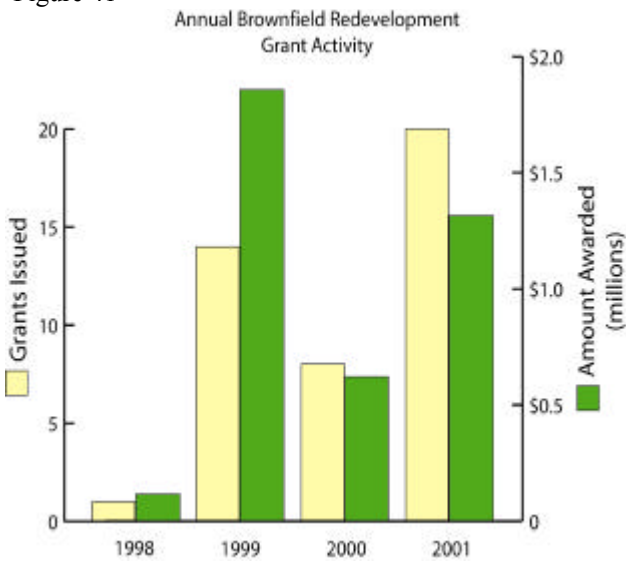


Redevelopment of Abandoned Industrial and Commercial Properties

Abandoned or underused industrial and commercial properties that have not been purchased, sold or redeveloped because they are contaminated or presumed contaminated are referred to as brownfields sites. These sites are a community problem, reducing local employment opportunities and tax revenue, attracting vandals and open dumping, and lowering property values.

The Illinois EPA supports efforts to clean up brownfields properties so they may be put back into productive use. Besides offering technical assistance and innovative remediation methods, the Illinois EPA offers financial help for brownfields sites investigations and remediation. **Figure 41** shows the grants awarded through the end of 2001.

Figure 41



Former brownfields site.

Many of the financial tools are designed for use by municipalities or private parties that did not cause the contamination. Since 1998, the Illinois EPA has offered technical and financial help to 43 communities to investigate brownfields as shown in **Figure 42** on the next page**.**

Site today after redevelopment.

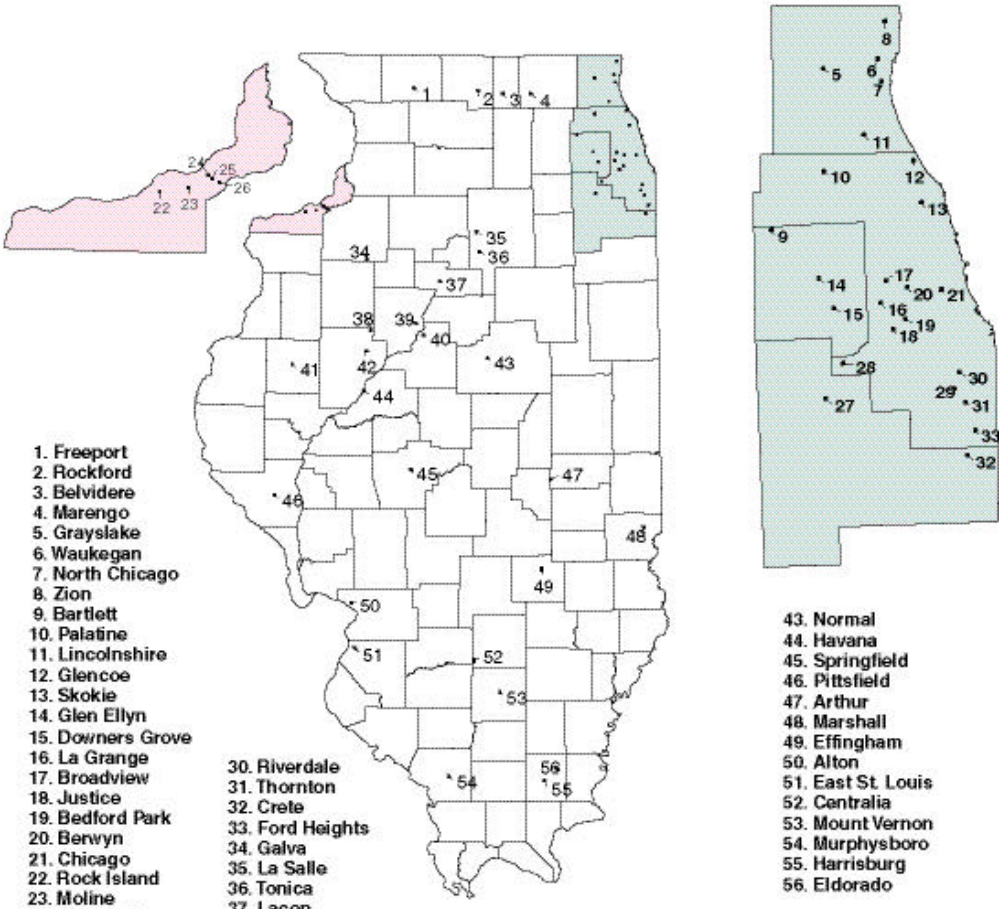
Brownfields Revitalization Act – PL 107-118

Brownfields are abandoned, idled or underused industrial and commercial properties where expansion or redevelopment is complicated by real or perceived contamination. As businesses and industry avoid Brownfield sites for open spaces (i.e., new undeveloped locations in suburban and rural areas), resources shift from older communities to new ones. Abandonment of brownfields for open spaces results in urban blight, loss of habitat and farmland, reinvestment in infrastructure, and a deterioration of regional air quality as reliance on automobiles increase.

Uncertainties about owner liability and environmental costs are considerable disincentives to the brownfields redevelopment and urban revitalization. To promote brownfields redevelopment, President Bush signed into law the Small Business Liability Relief and Brownfields Revitalization Act on January 11, 2002. This Act provides exemptions from Superfund liability for prospective purchases, innocent landowners and persons who clean up contaminated properties in compliance with State cleanup programs. The Act more than doubles the federal funds available to help states and communities restore brownfield sites through grant and revolving loan programs.

Figure 42

Communites receiving Brownfields financial and/or technical assistance from the Illinois EPA



WATER QUALITY MANAGEMENT

Goals: ***CLEAN WATER*** – Illinois' rivers, streams and lakes will support all uses for which they are designated, including protection of aquatic life, recreation and drinking water supplies.

SAFE DRINKING WATER - Every Illinois Public Water System will provide water that is consistently safe to drink.

GROUNDWATER – Illinois' resource groundwater will be protected for designated drinking water and other beneficial uses.

WATERSHED CONDITIONS

A watershed is defined as the land area that drains into a river, stream, or lake; the watershed for a major river may encompass a number of smaller watersheds. The Agency has endeavored to identify five environmental objectives which together provide a general overview of the quality of watershed conditions within Illinois. This report begins with surface water and proceeds to groundwater.

Environmental Objectives:

1. Waterways with good water quality conditions will increase 5% from 2000 levels by the year 2005.
2. The percentage of lakes in Good or Fair condition will remain constant from 2000 to the year 2005**.**
3. The percentage of open shoreline miles in Good condition will remain constant from 2000 to the year 2005.
4. The percentage of the population served by community water supplies (CWS) who receive drinking water with no short-term (acute) or long-term (chronic) adverse health effects increases to over 95% by the year 2005 (an increase of 5%).
5. A declining trend of groundwater contaminants in CWS wells will occur through the year 2005.

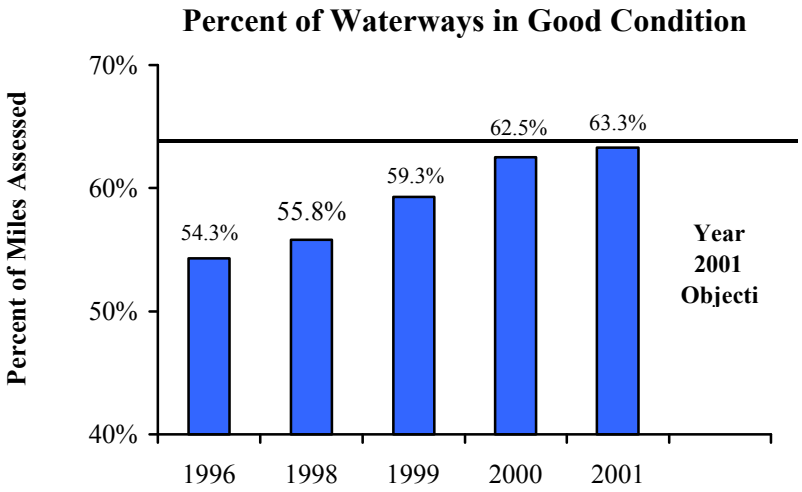
Routine stream sampling event.

Waterways

Waterways are an important gauge that indicate overall environmental quality. Illinois' water resources can be impacted by a variety of sources including agriculture, industry, urban development, and mining. These activities can have an effect on the degree to which a given waterbody can be used for human and aquatic life uses. Waters all over the state have been classified as good, fair, or poor, depending upon whether they can attain their designated

uses. The quality of Illinois' rivers and streams has dramatically improved over the last thirty years. The number of river miles in good condition has increased from 34.7% in 1972 to 63.3% in 2001 as shown in **Figure 43**.

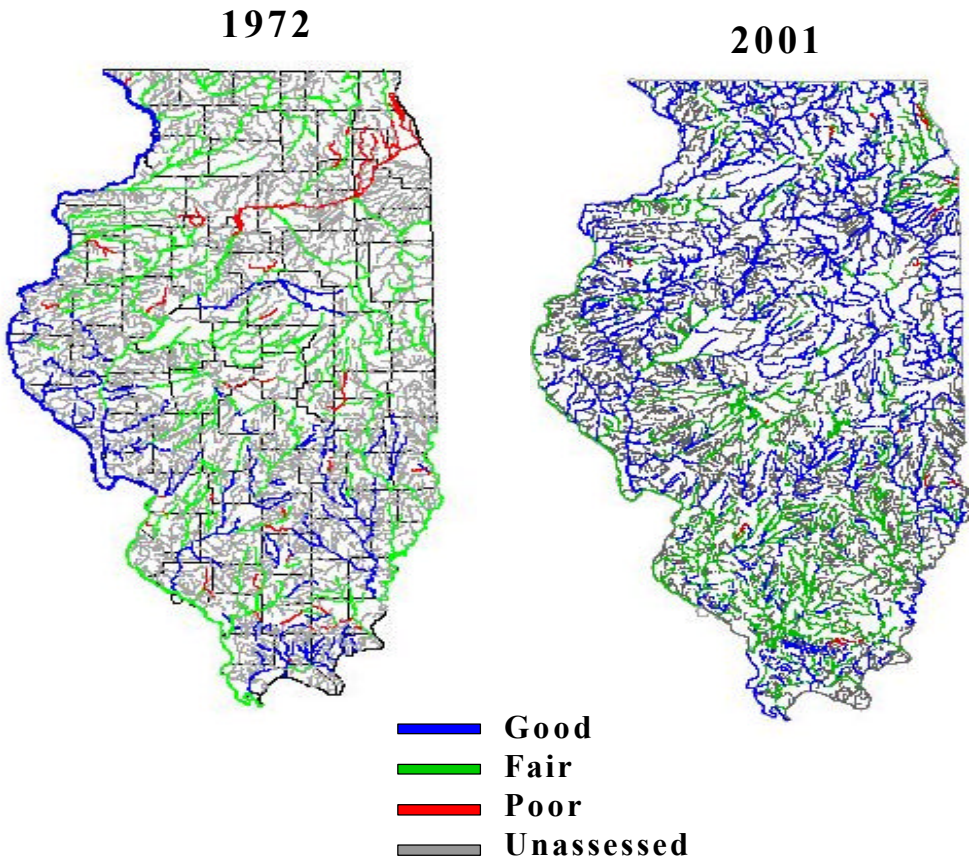
Figure 43



This shows progress towards attainment of the goal of 67.5% of river miles assessed in good condition by 2005. Illinois EPA has also evaluated individual watersheds within the state and detailed the water quality conditions as well as the various impacts to each watershed. The following **Figure 44** highlights the water quality within the fourteen major river basins in the State.

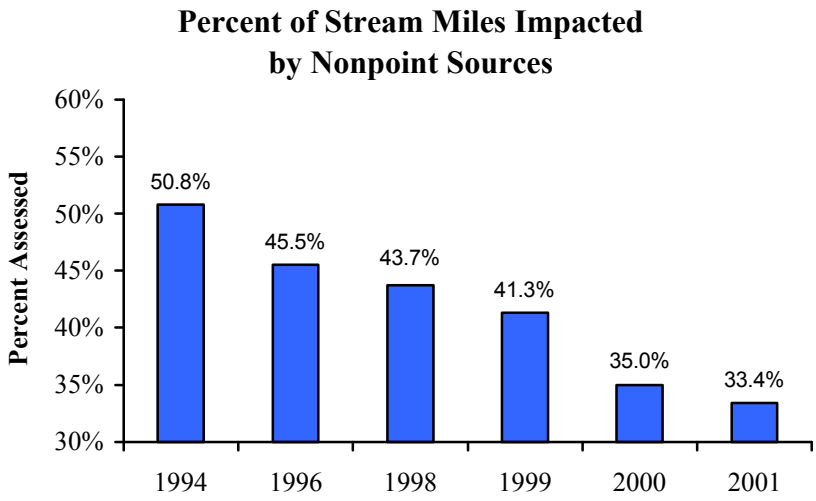
Figure 43

CONDITION OF ILLINOIS RIVERS AND STREAMS



Much of the improvement in watershed conditions over the next five years is expected to come from reducing nonpoint source impacts. The percentage of stream miles needing additional nonpoint source corrective actions has declined 33.4% between 1994 and 2001 as shown in **Figure 45**.

Figure 45



Illinois River

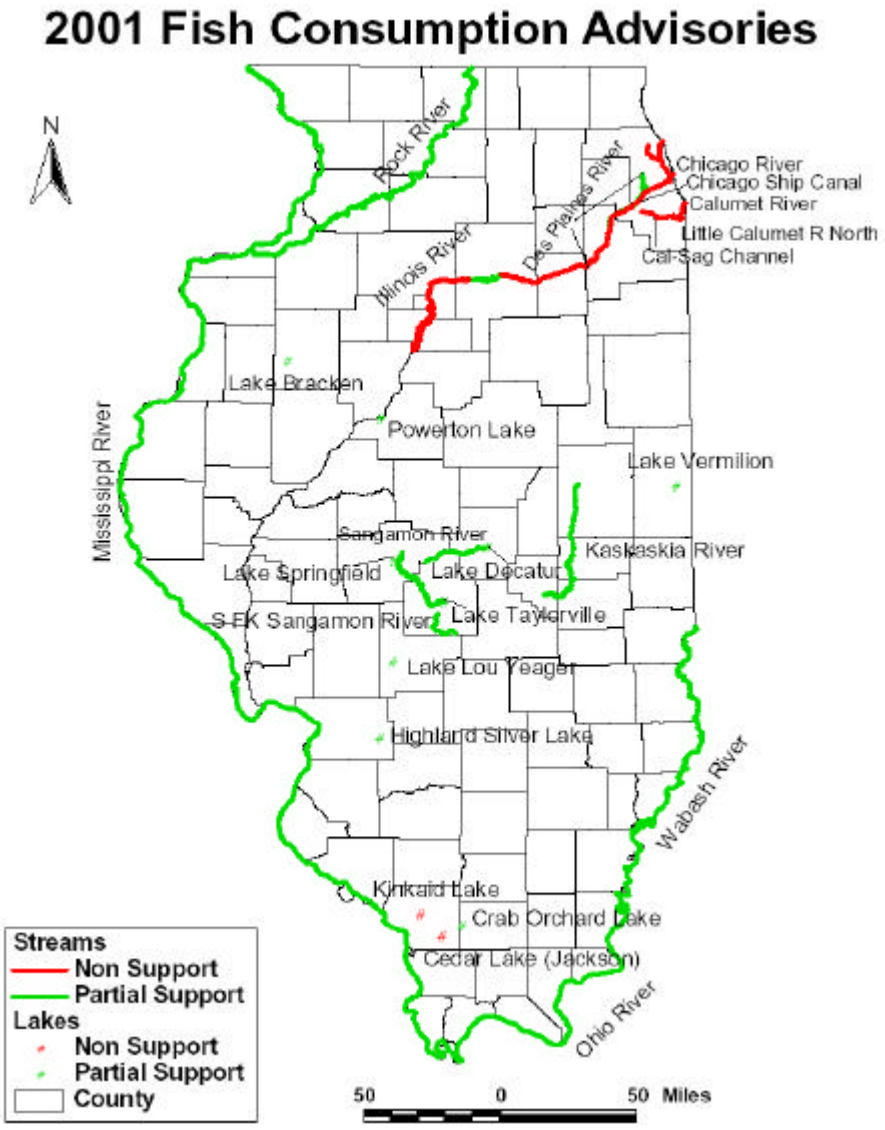
In the 1970's, the Illinois River was just another dirty old stream. The river was an environmental nightmare – a receptacle for trash and industrial waste, choked with silt and a haven for polluting barge traffic. But nearly 30 years of point source pollution control efforts, and more recent efforts to reduce nonpoint source pollution, have demonstrably improved water quality. As the water cleaned up, the fish returned. Thirty years ago, fisherman mostly caught catfish and carp. Today, anglers from throughout the Midwest flock there to catch walleye, sauger, crappie and largemouth, smallmouth and white bass. The Illinois River is a modern-day success story.

Fish Contamination

Fish are able to accumulate contaminants and are thus a key indicator for determining water quality. Contaminant levels in fish are monitored through a cooperative effort between the Illinois Departments of Agriculture, Natural Resources, Nuclear Safety, Public Health, and the Illinois Environmental Protection Agency. Fish samples are collected from streams, lakes, and impoundments and Illinois' portion of Lake Michigan. Pollutants causing advisories in Illinois fish include the pesticide chlordane, the industrial chemical polychlorinated biphenyls (PCBs) and the heavy metal mercury. Since bans have been imposed for these compounds (except mercury) during the mid- and late 70's, there has been a considerable reduction in the concentrations of these pollutants found in fish. The Agency expects this trend to continue over the next five years as a result of decreases in the levels of the contaminants remaining in the environment. As the Agency continues to collect samples and expand its fish contaminant monitoring program, more information will become available to set a specific numeric goal.

Figure 46 shows the lakes and streams where limited consumption is recommended, or where no consumption of certain species of fish is recommended. Based on data collected by Illinois EPA in 2002, no advisories were needed for 80% of the lake acres and 74% of the stream miles where fish have been tested.

Figure 46



The Illinois Fish Contaminant Monitoring Program (FCMP) operated with limited data in 1993 and 1996, and with no data except for Lake Michigan in 1994-1995, due to budgetary constraints. An increase in funding in Fiscal year 1998 allowed for resumption of a more complete fish monitoring program, and this stable funding source has allowed the FCMP to continue to build the type of data base necessary to adequately assess contaminant levels in sport fish across the State. In order to do this more effectively, there has been a shift from

the previous practice of collecting a number of fish from a network of permanent monitoring stations and a lesser number of fish from "new" stations, to an approach that relies on collecting more samples from "new" stations and less from the permanent network.

With the consumption advisory for Lake Michigan for 1997, the FCMP began the process of converting the advisory program from use of U. S. Food and Drug Administration Action Levels (which apply to commercially-harvested fish in interstate commerce) to Health Protection Values developed in accord with the Protocol for a Uniform Great Lakes Sport Fish Consumption Advisory (which are developed specifically for sport-caught fish) as criteria values for issuing fish consumption advisories. The Health Protection Values reflect more recent health effects data and are generally more stringent than the Action Levels. This process continued in 1999, when the advisories for most fish from in-state waters (other than those based on mercury) were changed to be consistent with the Great Lakes Protocol. It was completed in 2001 when USEPA's new Reference Dose for methylmercury was adopted as the Health Protection Value for mercury by the FMCP. As a result of these updates, the number of watersheds in which fish consumption advisories were issued has increased over the past few years.

Advisory information for specific water bodies is available in the current Illinois Fishing Information Booklet published by the Illinois Department of Natural Resources, and in the Illinois Department of Public Health website, at http://www.idph.state.il.us/envhealth/fishadv/fishadvisory02.htm.

Program Changes for 2002

Based on the new methylmercury Health Protection Value, updated state-wide advisories may now be issued for predator species recommending one meal per week for women of child-bearing age and children under 15. If this occurs, it is important to note that these advisories are not necessarily the result of newly-discovered contamination or increased levels of contamination found in the fish. In this case, the advisories may be the direct result of FCMP changes rather than due to sampling data.

Lake Conditions

Another integral part of watershed conditions is the quality of inland lakes. Inland lakes are a vital component of the economic and social well-being of Illinois. Some 100 million visitor days of general lake recreation generates nearly $2.0 billion annually to the state's economy. Similar to the way rivers and streams have been evaluated, Illinois lakes have been judged to be in good, fair, or poor condition based upon whether they can attain their designated uses (i.e. aquatic life, public water supply).

As indicated in **Figure 47**, 97.4% of Illinois lake acreage was rated good or fair in 2001, compared to 72.2% in 1972.

Figure 47

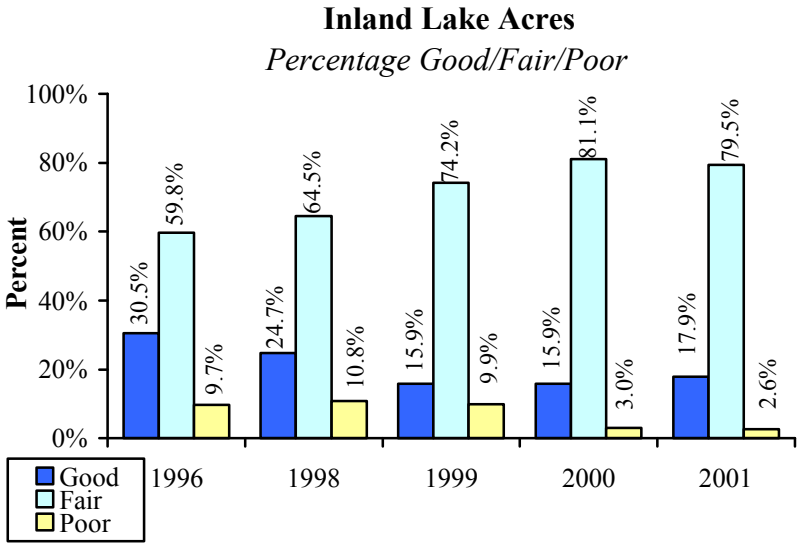
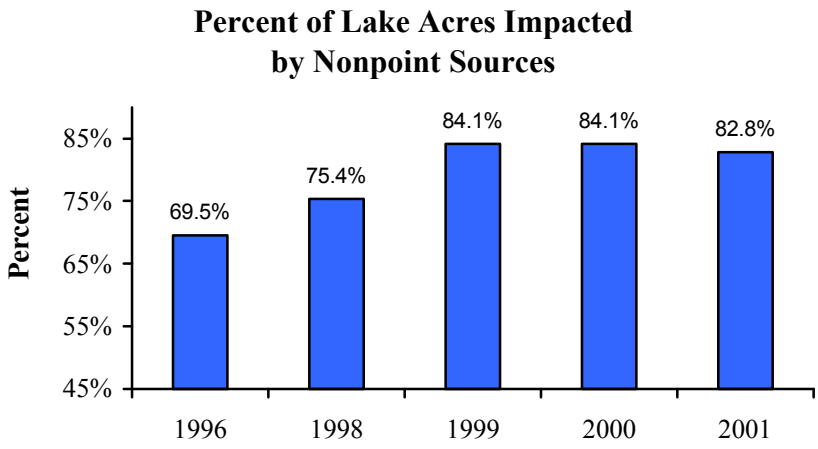


Figure 48 shows the percentage of lake acres that have use impairments due to nonpoint source impacts. At first glance, this figure shows an increasing, then leveling trend of nonpoint impacts on lakes. In reality, this apparent trend is primarily due to (1) yearly variability in the number and type of lakes assessed, and more importantly (2) a change in assessment methodology and reporting. In past reporting cycles, 24 large reservoirs were segmented into 53 waterbodies. In many cases when a large reservoir was segmented, the segment closest to the dam was categorized as "good," with the other segments (typically two) categorized as "fair". When Agency methodologies changed to delete this segmentation/reporting process, an overall rating of "fair" was typically assigned, thereby losing a large number of previously reported "good" acres. This same change in methodology explains the apparent decrease, then leveling of, the percentage of "good" lake acres from 1996 as found in the previous figure**.**

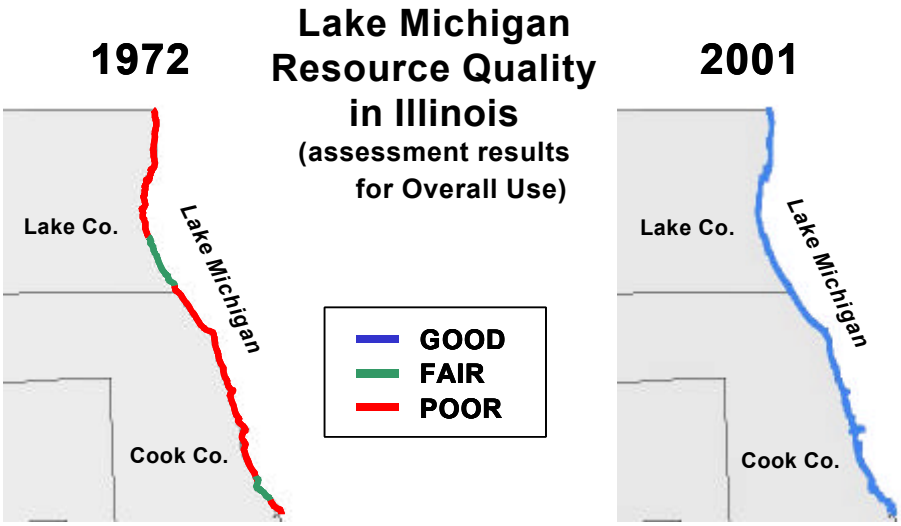
Figure 48



As with streams, much of the improvement in lake conditions over the next five years is expected to come from reducing nonpoint source impacts.

The quality of Lake Michigan is assessed separately from Illinois' inland lakes. The Great Lake forms the Northeastern portion of Illinois' border and serves as a center for recreation for many Illinois residents. As indicated, the quality of Lake Michigan has improved dramatically over the past thirty years. All 63 of the Lake Michigan shoreline miles within Illinois are considered to be in good condition as shown in **Figure 49**.

Figure 49



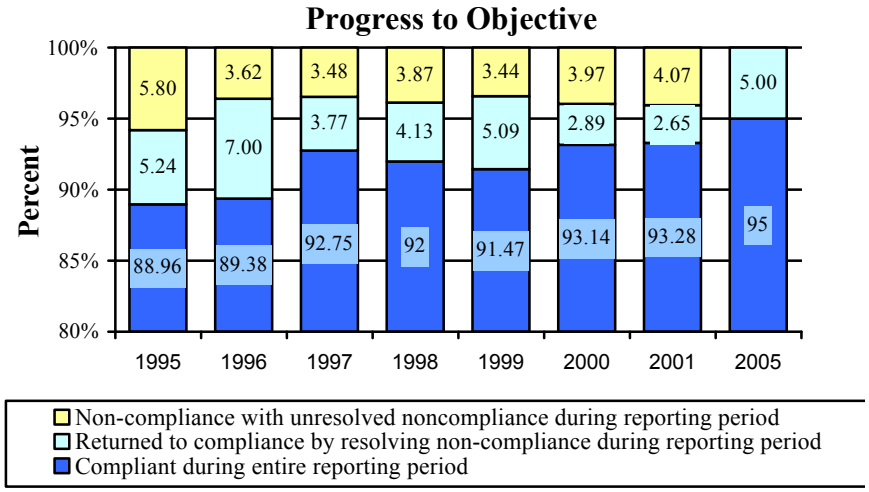
Conservation 2000

Since 1995, the Agency has received state funding through the governor's "Conservation 2000" initiative to implement new and expanded inland lake management programs. In August of 1999, Governor Ryan, due to the overwhelming popularity of Conservation 2000, signed House Bill 1747 into legislation, thereby extending the Conservation 2000 program until the year 2009. Through State FY2001, a total of 38 lake study and restoration projects have since been funded through the *Illinois Clean Lakes Program*. The *Priority Lake and Watershed Implementation Program* has funded shoreline erosion control and aeration activities at 21 high-priority lakes. A total of 584 schools and other not-for-profit organizations have received *Lake Education Assistance Program* awards to further their lake education efforts. In addition, ambient and volunteer lake monitoring programs have been significantly expanded; four new staff have been hired to offer direct technical assistance to lake owners; hands-on lake workshops are offered on the shores of five to six lakes annually; and new lake education programs (i.e., *Lake Notes* fact sheets development, Project Wet funding, specialty workshops) are now offered to the public. Since losing federal support in 1995 through USEPA's Federal Clean Lakes Program, Illinois is indeed fortunate to have one of only a handful of state-supported, comprehensive lake management programs in the entire country.

Persons Served by Compliant Water Supplies

Safe drinking water should be free of contaminants that have the potential to cause either short term or long term health effects. During calendar year 2001, the percentage of persons served by Illinois community water supplies that were compliant with all health requirements (maximum contaminant levels, treatment techniques, or health advisories that have been in effect for more than three years) was 93.3%. Progress toward the Year 2005 objective is illustrated as Percent Population Served by Community Water Supplies Compliant with Health Requirements as provided in **Figure 50**. The 2001 compliance percentage is over a four percentage improvement in compliance from calendar year 1995; furthermore, it represents 0.14% improvement in compliance when compared to calendar year 2000. The major contributing factor for this past year's improvement was a reduction in bacteriologic violations. Compliance efforts will continue to focus on minimizing the frequency and duration of excursions and the development of enforceable schedules for the implementation of corrective action plans to achieve sustained compliance.

Figure 50



The number of water supplies in full compliance with all health requirements during 2001 was 1,625, or 90%, of the community water supplies in Illinois.

Persons Served by Compliant Water Supplies

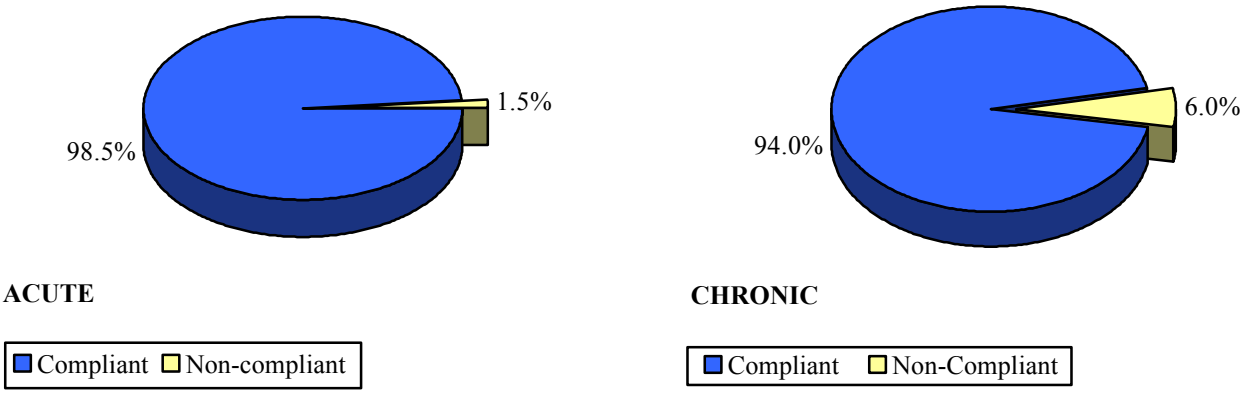
During calendar year 2001, the percentage of persons served by Illinois community water supplies that were compliant with all health requirements was 93.3%. This compliance percentage represents over a four-percentage improvement from calendar year 1995 and reflects continued progress toward the calendar year 2005 goal of 95%. It is important that safe drinking water be free of contamination that has the potential to cause either short-term or long-term health effects. The compliance outcome is significant because a total of 10,285,783 persons in Illinois were provided safe drinking water from water supplies compliant with all health requirements during 2001. This represents an additional 478,459 persons served by compliant water supplies when compared to 1995.

Figure 51 shows that over 98.5% of the population served by Illinois community water supplies received drinking water in compliance with acute (short-term) health requirements, and over 94% were in compliance with chronic (long-term) health requirements. It is important to note that most non-compliance was short in duration, and the potential for health risk was minimized through prompt corrective action by the water supplies. Supplies with microbial problems (bacterial or turbidity non-compliance) are required to issue boil orders. Supplies exceeding the nitrate maximum contaminant level are required to provide bottled water until the levels are consistently well below the maximum contaminant level.

Figure 51

Acute and Chronic Requirements (2001 data)

Percent of Population Served Compliant with Health Records



Lead and Copper Rule Compliance

The lead action level (15 parts per billion of lead) when exceeded in more than ten percent of the water samples collected in consumers homes, requires the water supply to implement a treatment technique or enforceable procedure which would prevent anticipated adverse health effects and insure that lead or copper is controlled in the drinking water.

In 2001, 1,759 water supplies, or approximately 97% of community water supplies were below the lead action level. These water supplies serve 99% of the population.

This was the third year supplies that installed treatment were required to meet water quality parameter (WQP) ranges as part of a treatment technique described above. The WQPs are measured at daily or bi-weekly frequencies. Ranges were effective for 168 supplies in 2001.

Generally, non-compliance is for a short period of time because the treatment is quickly adjusted to required ranges. In 2001, four supplies with a total population of 52,391 were outside a WQP range at some point during the year.

Illinois Groundwater Conditions

The state-wide detection rate for VOCs in CWS wells does not appear to have increased since 1988. Nearly ten percent of the CWS wells in the state are predicted to have water quality which is either partially or not supporting groundwater use as a result of impacts by one of the three contaminant groups assessed (volatile organic/compounds, nitrate, or synthetic organic compounds). Water-quality degradation or contamination results from point and nonpoint sources throughout the state. In many industrialized areas, including the metropolitan areas of Chicago, Rockford, and St. Louis, groundwater has been degraded by improperly contained or disposed of chemicals. In many agricultural areas, the quality of groundwater in shallow aquifers has been degraded by the routine application of agricultural chemicals.

As a cost effective means of continuing to assess trends in groundwater quality, the Illinois EPA operates an Ambient Network of Community Water Supply Wells (CWS Network) consisting of 351 fixed locations. The CWS Network is designed to:

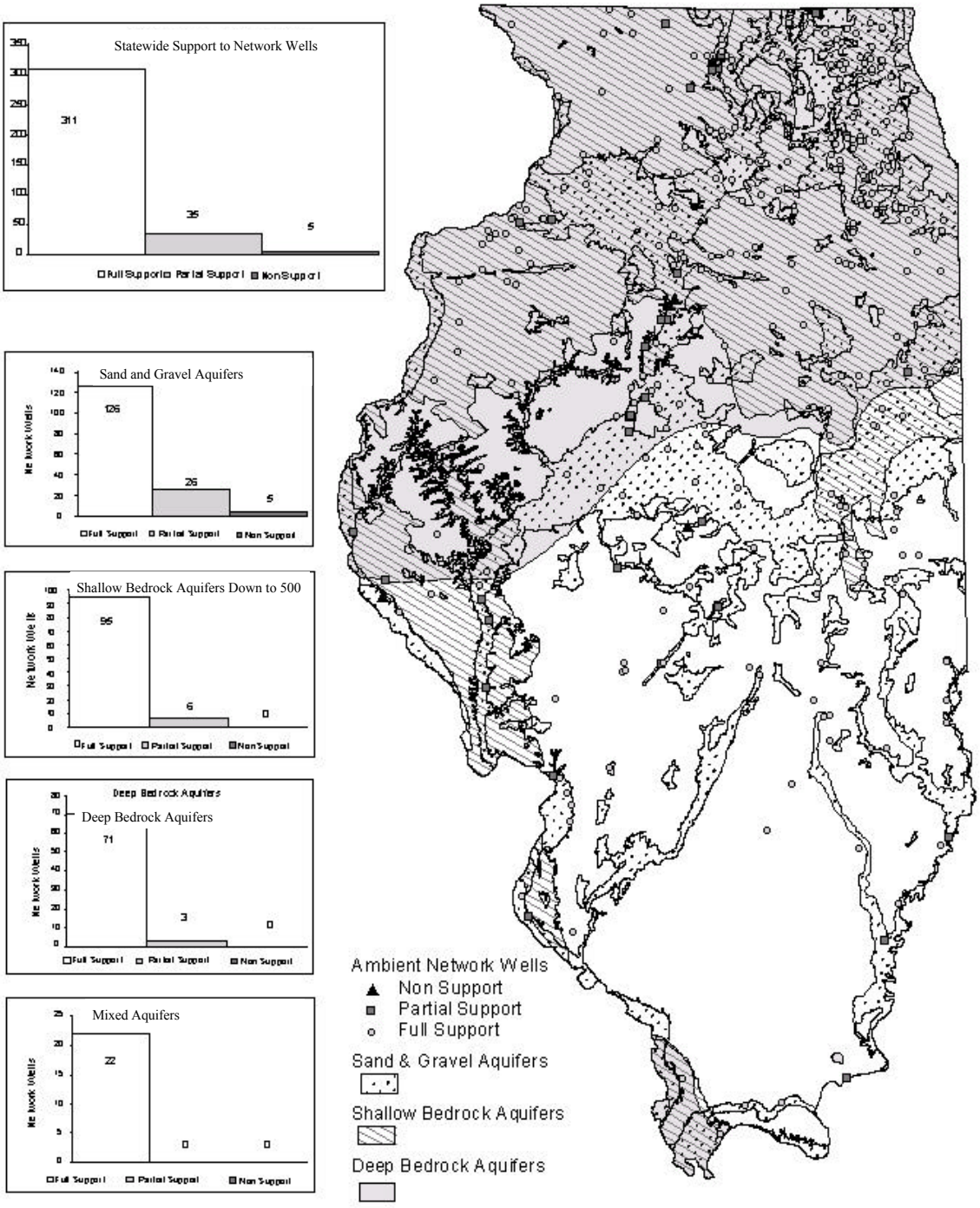
- Provide an overview of the groundwater conditions in the CWS wells in Illinois;
- Provide an overview of the groundwater conditions in the major aquifers in Illinois;
- Establish baselines of water quality within the major aquifers in Illinois;
- Identify trends in groundwater quality in the major aquifers in Illinois; and
- Evaluate the long term effectiveness of Clean and Safe Drinking Water Act program activities in protecting groundwater in Illinois.

Figure 52, on the next page, illustrates the CWS Network wells which are used to statistically represent trends in the principal aquifers in Illinois. For a more detailed description and evaluation of the CWS Network monitoring procedures, locations, stratification criteria, and principal aquifer locations refer to the Illinois State Water Quality Report (2001, Clean Water Act, Section 305(b) Report).

According to 1998-99 data, the statewide detection rate for VOCs in Ambient Network for wells is 3.4 percent, which is down from 5.4 percent in the 1996-97 monitoring period. Of the wells that had VOC detections, only one was over the groundwater standard for the contaminant. The statewide detection rate for nitrates in CWS wells is 40 percent. However, 77 percent of the wells with detections were at levels below 3 ppm. Based on existing research, these levels may be the result of naturally occurring nitrate in the aquifer. Approximately 3.5 percent of the nitrate detections are at or above the Class I Groundwater Quality Standard of 10 ppm.

Figure 52

SUPPORT FOR THE AMBIENT NETWORK WELLS WITHIN ILLINOIS PRINCIPAL AQUIFERS



PROGRAM PERFORMANCE

Program Objectives:


Visible sheen in river.

1. The total pollutant load discharged in the year 2005 will be 99.5% compliant with permit discharge limits.
2. Fifty percent of the community water systems in the State will have source water protection programs in place by 2005.
3. The percentage of groundwater recharge areas with protection programs established or under development will increase to 45 percent by 2005. Furthermore, 90 percent of the state's population utilizing community water supply groundwater sources will have protection programs in place, or under development, by the year 2005.

The program performance results follow the same sequence as used for the watershed conditions section. The Agency's effort to track the level of progress for maintaining clean and safe water in Illinois is described below.

Pollutant Load Discharged

Wastewater from an industry or a municipality can contain different levels of dissolved or suspended matter. All wastewater discharged from industrial or municipal sources into Illinois waterways must meet certain limits on pollutant discharges. These limits are set to assure compliance with water quality standards. Compliance with these permit limits is an indication of the minimization of potential stress being placed on our water resources.

By identifying critical watersheds and facilities with significant levels of non-compliant loads the Illinois EPA prioritizes its efforts at eliminating the most significant pollutant loads impacting our water resources. This effort currently includes the evaluation and prioritization of 2,268 facilities in Illinois or all permitted wastewater facilities with discharge monitoring data available. (Data submitted in non-standard formats are currently not available electronically.)

Figure 53, on the next page, illustrates the percentage of the total pollutant load discharged from all permitted facilities with discharge monitoring data which was compliant with permit discharge limits during 1995 through 2001.

Continued progress toward the 2005 program objective of 99.5% was noted again this year for the sixth consecutive year. The increases from 1995 to 2001 was from 98.5% to 99.4 % with an increase of 0.007% during 2001. Less than 0.1% will be needed to achieve the program objective for the year 2005.

Figure 54, provides an illustration of the percentage of compliant load by watershed for all permitted facilities based on discharge monitoring data.

Figure 53

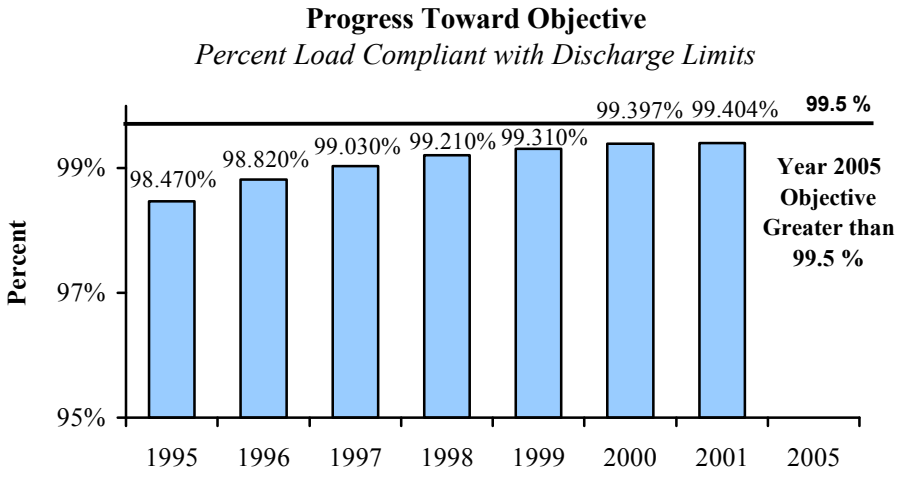
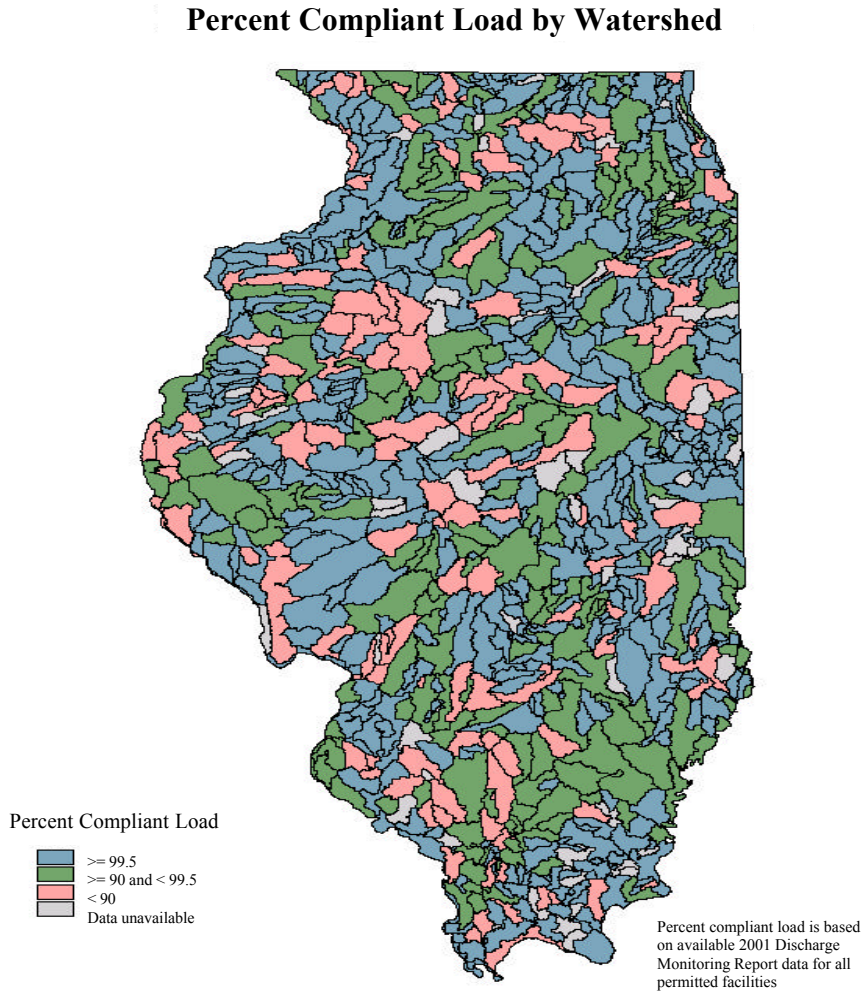


Figure 54



Conventional vs. Priority Pollutants

Further analysis of permit exceedances shows that over 99% of the non-compliant pollutant loading relates to conventional pollutants and less than 1% to priority pollutants (specific metal and organic chemicals).

Watershed Plans

The Illinois EPA continues to utilize a watershed approach in the development and implementation of its ground and surface water programs. The Agency coordinates watershed activities with other state and federal natural resource agencies. To enhance program coordination and improve communication between agencies, a Natural Resources Conservation Service liaison position has been established and is housed at Illinois EPA. The Unified Watershed Assessment will be used in the expansion of programs, and enhanced coordination of watershed activities with other state and federal agencies. Watershed Implementation Plan development has been initiated in two watersheds selected from the Unified Watershed Assessment 1999-2000 Restoration Schedule for Category I Watersheds most in need of restoration. The development of watershed plans in targeted watersheds, utilizing 104(b)(3) funding, is an ongoing process which has implemented 15 watershed efforts to date. Watershed implementation plans are also being developed in the Macoupin Creek and the Vermillion River watersheds as part of this watershed planning effort. Section 319 funds are utilized to implement watershed plans developed through these programs as well as plans submitted by local planning groups.

TMDLs in Illinois

Total Maximum Daily Loads are being developed for water bodies that do not meet the uses for which they have been designated, i.e., swimming, drinking water supply. Waters not meeting designated uses are considered impaired and are required by Section 303(d) of the federal Clean Water Act to have TMDLs developed. Illinois' impaired waters are identified in "Clean Water Act Section 303(d) List: Illinois' Submittal For 1998". Illinois's next submittal to USEPA of an impaired waters list will be in October of 2002.

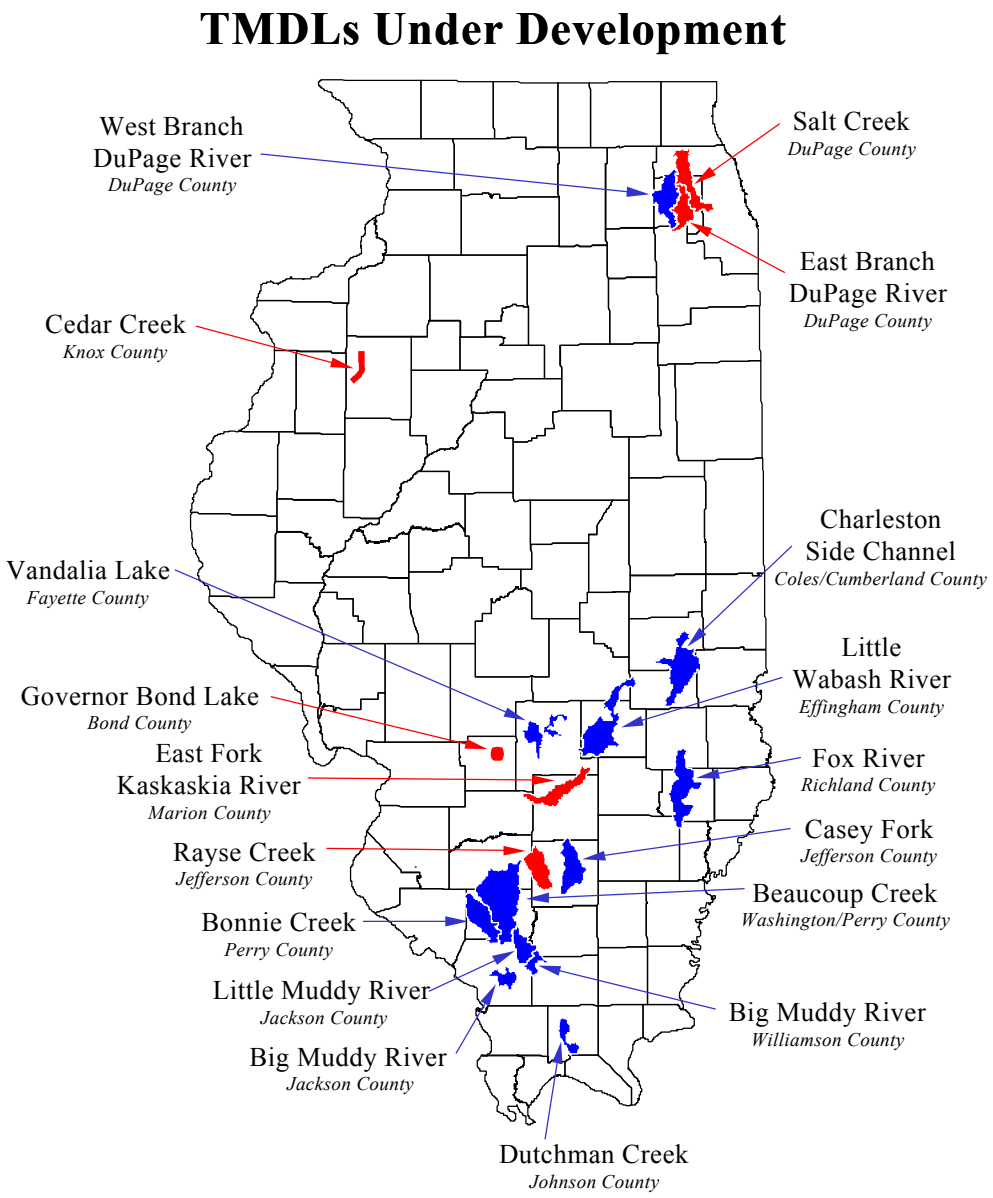
Illinois EPA hired consultants to develop TMDLs on a watershed basis. Currently TMDLs are being developed for impaired water bodies in 18 watersheds (**Figure 55**). The TMDL process consists of data collection and analysis, methodology development and model selection, model development and calibration, scenario development, development of an implementation plan, and public outreach. Included in the process are public meetings and a public hearing. A public meeting is held at the beginning of each TMDL to notify the public of the watersheds for which TMDLs will be developed, to announce the consultant(s) selected for each watershed, to seek comments from the public, and to generate local support.

The second public meeting held is in the watershed. These meetings consisted of explaining the TMDL program to the local watershed community, sharing the information/data collected and the methodology for development of the TMDLs. The main focus of the meeting is to seek public input, additional information/data, and generate local support.

When the TMDL has been completed, a public hearing is scheduled. All comments received during the hearing are assembled and answered, and become the responsiveness summary which will be attached to the final TMDL.

Currently there are 18 watersheds under TMDL development. Two of the 18 have gone through the public hearing stage and are being finalized for submittal to USEPA. Four watersheds are in the final stages of development with 12 approximately at the half way point. An additional 14 watersheds will begin TMDL development in the 2002-2003 time frame.

Figure 55



Source Water Protection

Protection of Illinois' valuable groundwater resource is critical. During 1995, groundwater withdrawals averaged 953 million gallons per day ("MGD"). Groundwater in Illinois supports domestic (drinking water use), commercial, agricultural, industrial, mining, thermoelectric and special resource uses. Special Resource Groundwater is described as the groundwater contributing to highly sensitive areas such as dedicated nature preserves. In addition, groundwater in Illinois supports ecologically sensitive areas such as the karst plain located in Monroe, St. Clair and Randolph Counties.

- 70% of the groundwater dependent CWS in the state withdraw water from confined aquifers that have natural geologic protection from surface and near surface activities
- 30% of the groundwater dependent CWS in the state withdraw water from unconfined aquifers that are susceptible to pollution from land use and other surface activities

- Approximately 400,000 residences of the state are served by their own public wells
- Approximately 4.1 million people use groundwater as a source of public water supply in Illinois
- There are 5,534 groundwater dependent public water supplies in the state
- 1,195 of these Public Water Supplies are community water supplies
- These community water supplies serve about 3.3 million people

The Illinois EPA has made considerable progress in groundwater protection through such initiatives as the groundwater quality standards, Regional Groundwater Protection Planning Programs, regulated recharge area rulemaking, recharge area pollution prevention technical assistance, and the Safe Drinking Water Act Monitoring Waiver Program. Illinois continues to address the need for protecting groundwater by accomplishing the mission set forth in the Illinois Groundwater Protection Act and through federal, state and local partnerships to establish groundwater protection programs.

Under the Illinois EPA's source water assessment program (SWAP), approved by USEPA, the Agency has worked with the U.S. Geological Survey to develop an Internet-based geographic system (GIS) to provide the public with access to groundwater assessment and protection data. Source water assessment and protection program data is now available over the Internet at http://www.epa.state.il.us/water/groundwater/source-water-quality-program.html. This information will allow for the development and application of a balanced management plan for the protection of groundwater resources.

Please note: Due to security concerns resulting from the events of September 11, 2001, the Illinois EPA has temporarily removed this website from public availability.

Groundwater seeping out at a road cut in Southern Illinois off Interstate 24.

These partnerships have utilized regulatory and non-regulatory programs to achieve success. Source water assessment and protection information is now provided to the public through an Internet geographic information system (GIS).

A karst window is a special type of sinkhole that results from the collapse of the roof of a cave system. The water flowing through the opening in the bottom of this karst window continues as an underground stream.

As illustrated in **Figure 56**, Illinois EPA is measuring the population served by systems with protected unconfined and confined aquifer resources.

Figure 56

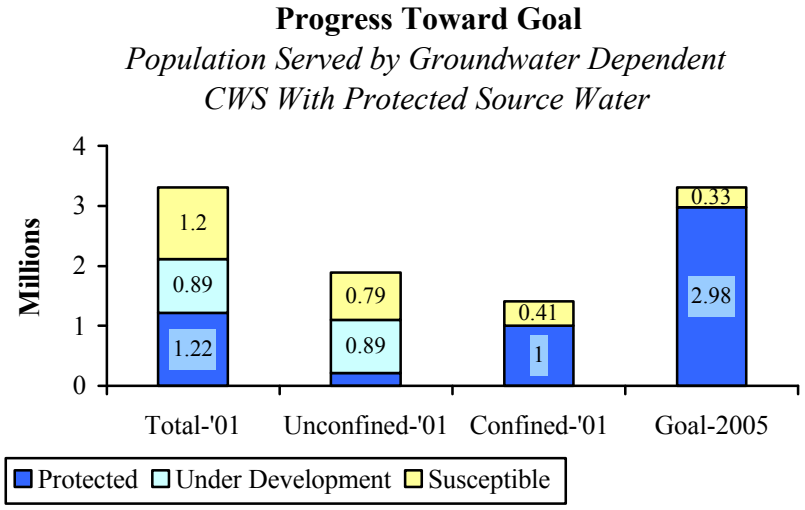
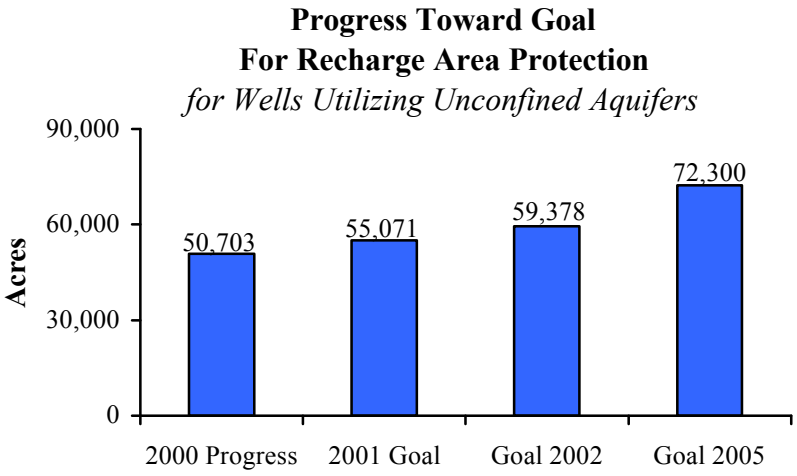


Figure 57

Since approximately 1.2 million people in Illinois rely on susceptible unconfined aquifers for their source of drinking water, Illinois has placed added emphasis on the protection of these groundwater systems.

Protecting the land surface areas around susceptible unconfined aquifer wells (recharge areas) can help prevent contamination of groundwater. Coupled with the population served, as documented in **Figure 57**, measuring the acres with protection programs under development or in place provides an effective indicator of Illinois' progress in protecting these susceptible areas.



Areas of Concern

Waukegan Harbor is Illinois' only Great Lakes "Areas of Concern" and is also a Superfund site. The Harbor was contaminated with PCBs from years of industrial activity in the area. Harbor sediments were highly contaminated and bioaccumulation resulted in contamination of fish residing in the Harbor. Special signs were placed warning the public not to consume fish taken from the Harbor. Subsequent to a settlement of Superfund litigation, including a major cleanup commitment from the primary source of PCB contamination, over one million pounds of PCB contaminated sediments were dredged from the Harbor. A Citizens Advisory Group was formed and a Remedial Action Plan has been developed to restore the Harbor to full attainment of all uses. The Remedial Action Plan has been fully implemented.

The project is now in a monitoring stage to document the adequacy of the clean up and elimination of any residual use impairment in preparation for formal delisting as an Area of Concern. In February 1997, the special public advisory against human consumption of fish taken from the Harbor was lifted based on two years worth of post clean up monitoring data. Other monitoring programs continue as the Agency is developing both data and criteria for formal declassification as a Great Lakes Area of Concern.

The stage 3 report was submitted to the International Joint Commission (IJC) in December, 1999. The Corps is preparing to dredge the federal channel and deepen portions of the harbor that currently restrict commercial shipping due to shallow depths. A critical component of the CDMP is securing an acceptable site for the confined disposal facility. Currently the schedule calls for dredging to be underway by 2002.

Municipal Sludge Production

Approximately 403,254 dry tons (DT) of sludge was produced in 2001 by 521 publicly owned treatment facilities or private utility companies. Of these 521 facilities 12 are lagoon type facilities, which are removing accumulated sludge on a one-time basis (4065 DT permitted). The remaining facilities are mechanical plants, which produce sludge on a regular basis. This represents an increase of 5 facilities from last years figure. This increase represents 5 lagoon facilities, which were preceded by Imhoff tanks. Although they were listed as lagoons the presence of the Imhoff tank requires that they be treated as mechanical facilities in for purposes of this sludge production report.

The largest single generator in the state of Illinois is the Metropolitan Water Reclamation District of Greater Chicago (MWRD). MWRD was responsible for 61 % of the sludge generated in the state of Illinois (245,010 DT). The application method, final cover, reflects the use of MWRD sludge as daily cover at the CID and Land & Lakes landfills. 87% of this category is MWRD sludge. MWRD sludge used at the Fulton County coalmine reclamation site composes the bulk of the sewage sludge used for land reclamation purposes (22000). MMWRD sludge comprised 96.6% of the sludge handled under the other category. This represents the transfer of sludge from the smaller MMWRD facilities to the Stickney and Calumet water reclamation plants.

Of the 521 facilities generating sludge in Illinois in 2001, 349 had active state permits for the land application of sewage sludge to land. The remaining 161 facilities include facilities, which landfill their sludge, hold their sludge in storage on a long term basis, or discharge to another treatment plant.

Figure 58 shows the sludge produced and applied in Chicago for 2001 and sludge produced in previous years which was held in storage and applied in 2001 (442,568 tons). The data shows that since 1998 the total amount of sludge being produced has decreased and that more sludge is used as final cover and applied to agricultural land rather than being land-filled.

Figure 58

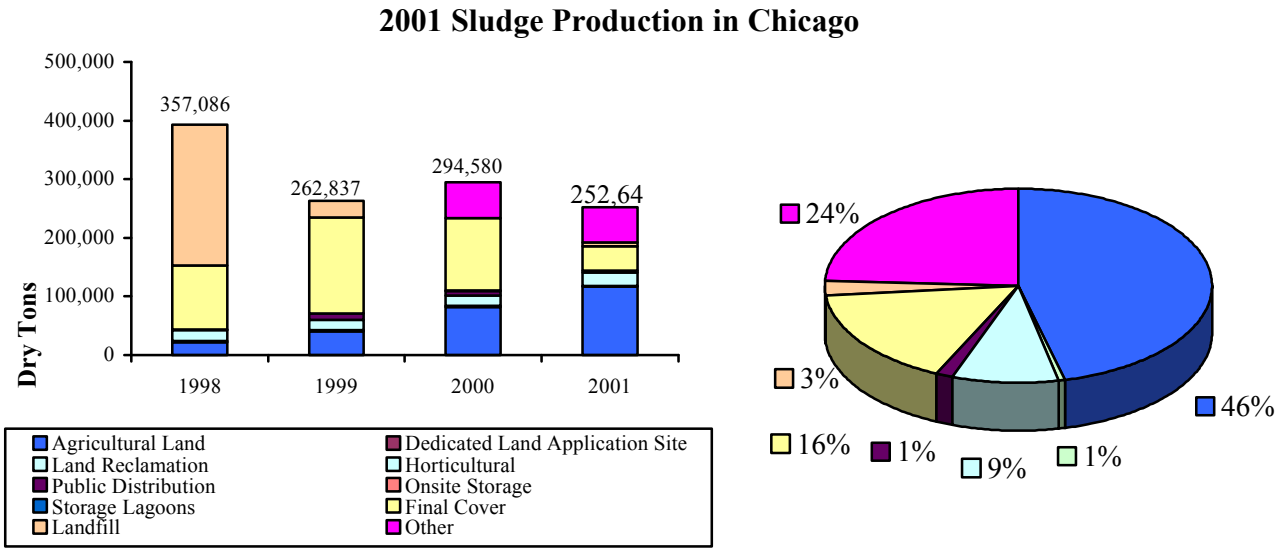
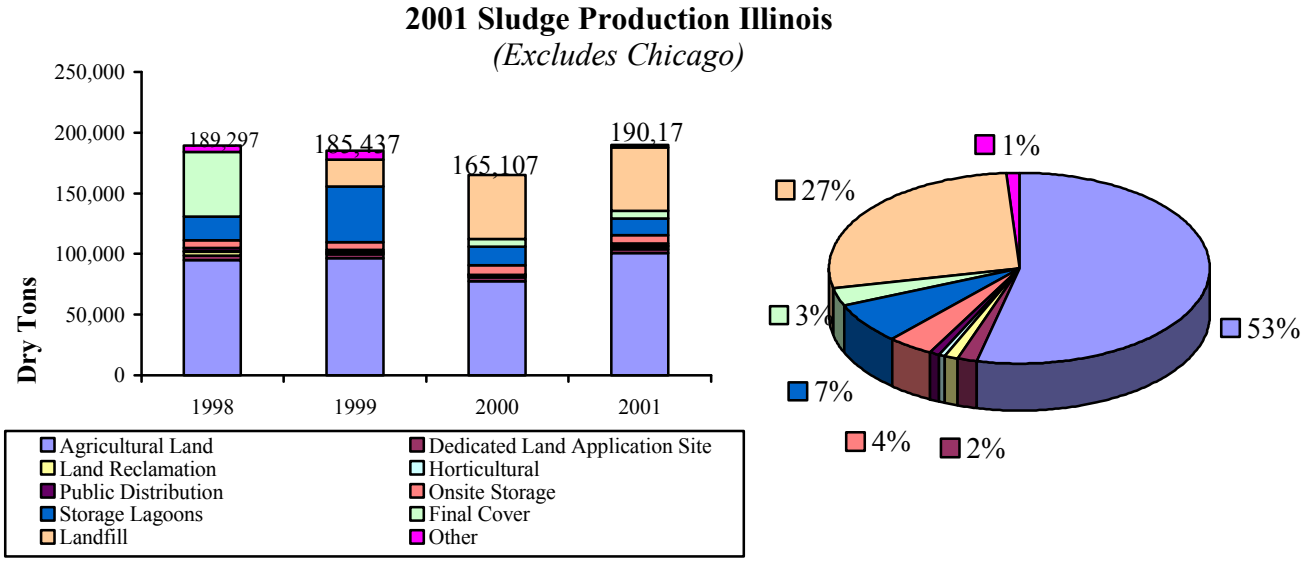


Figure 59 shows the same data but excludes Chicago (190,170 tons in 2001). While there is an increase in sludge being produced, the manner of sludge disposal is somewhat consistent during the past three years.

Figure 59



SLUDGE USERS

There are 15 active permits issued to sludge users in Illinois at this time. Peabody Coal-Will Scarlet Mine is a coalmine reclamation project, which applies sludge to property the company owns rather than transporting sludge to fields owned by third parties. Synagro is the largest sludge hauler in the state, has two operating permits. The first permit governs the land application of stabilized sludge from various generators within Illinois, and the second permit covers material treated by Synagro, using a pelletization process, which is distributed as a bagged product under the trade name Granulite.

SEMI-PUBLIC FACILITES

Also producing sludge in Illinois are 97 semi-public facilities, which have either state operating permits or reported generating more than one ton of sludge per year. Five of these facilities are lagoons, which are being cleaned out on a one-time basis. The remaining 92 facilities are schools, mobile home parks, private campgrounds, retirement homes and other facilities, which were not included under previous categories.

MULTIMEDIA MANAGEMENT

Goals: Adverse consequences resulting from toxic chemical releases are avoided, where possible, or otherwise minimized.

Environmental improvements will result from voluntary actions being taken by businesses, communities and the public.

Environmental Objectives:

1. Toxic chemical hazards will be reduced over the next five years.
2. Better environmental performance is demonstrated over the next four years by participants in non-regulatory, structured situations.

Asphalt plant fire.

PROGRAM PERFORMANCE

Program Objectives:

1. Emergency incidents will be timely controlled and fully resolved within 180 days.
2. Annual toxic chemical releases will show a downward trend due to various forces and actions.
3. Majority of pilot innovation projects undertaken are fully or partially successful.
4. More than 50 percent of the facilities receiving assistance from IEPA –trained college intern students are implementing new P2 projects.
5. Effective on-site P2 assistance offered by IEPA non-regulatory engineers and technical specialists increases by 10 percent each year.
6. One or more quality P2 recommendations are provided in 35 percent of the regulatory field inspections by 2002.
7. More comprehensive facility P2 efforts are generated by 2002 from a revitalized voluntary P2 program sponsored by the Agency.
8. Small businesses are making changes or improving performance as a result of IEPA compliance assistance activities.
9. Small business awareness and use of IEPA telephone Helpline increases by 10 percent each year.
10. Use of Agency educational materials increases by 10 percent each year.

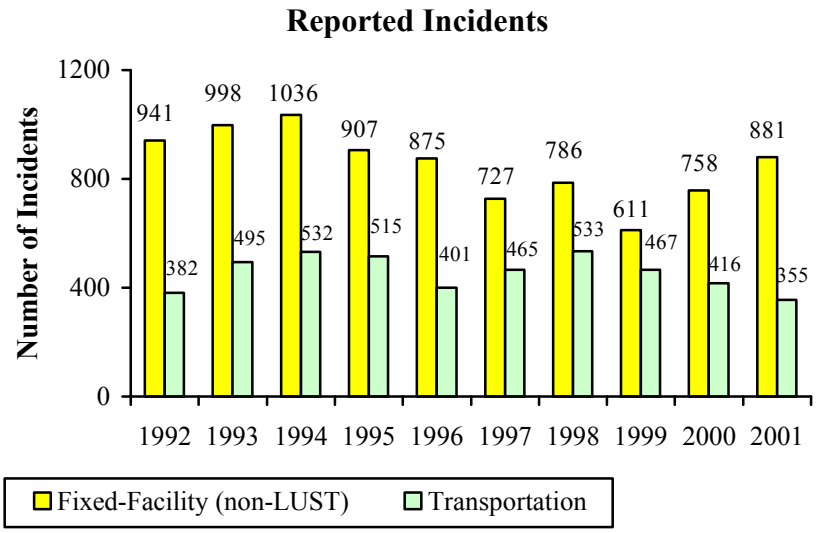
Release from storage containers.

Crude oil release from pipeline into creek .

Emergency Incidents

The first response by governmental entities to an environmental emergency is usually by local public safety agencies. This is a function of time and distance of responders to the incident. State agencies support and augment local responders as they arrive during the immediate phase of the emergency with specialized technical expertise, equipment and capabilities not usually available at the local level. After the immediate dangers are controlled, Illinois EPA usually takes the lead in assuring: that residual risks are abated to acceptable levels in a timely manner, that an appropriate evaluation is conducted of the cause of the incident and that efficient preventive measures are implemented. While recognizing that each incident has many characteristics that contribute to how serious the consequences are, the trend in total incidents reported has been gradually declining since 1994, as shown in **Figure 60**, which suggests that prevention efforts may be succeeding.

Figure 60



Leaking underground storage tank (LUST) incidents have been subtracted from the totals as these incidents are addressed through the Bureau of Land. We have also provided a breakout for fixed facilities and transportation incidents so that relative trends can be tracked since the focus of preventive efforts differs for these two categories of incidents.

Certain reported emergency incidents require on-scene involvement from the Illinois EPA. In 2001, a total of 716 site visits were made by Illinois EPA emergency response staff.

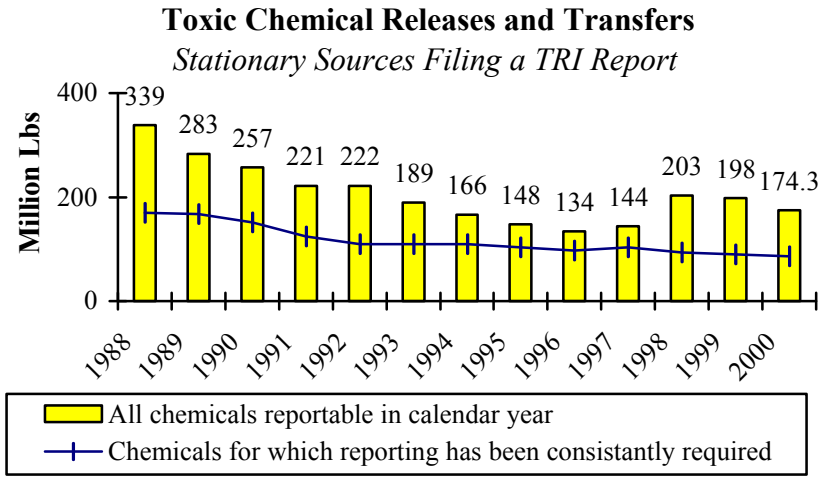
Terrorism response is a specific function of IEPA Emergency Response staff that serve in the technical component of the interagency State Weapons of Mass Destruction (SWMD) teams. Three such state teams exist, each consisting of tactical (law enforcement) and technical (chemical, biological and radiological) experts. These teams are specially equipped and trained in order to provide reliable state government capability to rapidly respond to any terrorism incident anywhere in the State. During 2001 each team received 163 hours of high-level hazardous materials training.

Toxic Chemical Releases

Over 60,000 chemicals are in commercial use in the United States. Many of the substances have toxic effects on humans and the environment. Unwanted exposure situations can occur in a myriad of ways from transportation accidents to spills at facilities, unsafe handling of certain hazardous paints, or bioaccumulation in sport fish that are caught and consumed. The Illinois EPA plans on identifying these toxic chemical risks and managing them proactively. These hazards can be reduced through enhanced chemical emergency response (respond promptly, oversee cleanup and prevent future environmental emergencies by cooperatively working with other involved parties), and other management approaches, such as performance-based regulations, public advisories, and integrated toxics information.

Toxic Release Inventory

Figure 61



The release and transfer of toxic chemicals is tracked by the Illinois EPA. This information is maintained in the Toxic Release Inventory (TRI). In 1995, a total of 282 new toxic chemicals and chemical categories were added to the TRI reporting requirements. In 1998, seven new industrial categories were added. After 2000, certain Persistent Bioaccumulative Toxic (PBT) chemicals and chemical categories were added and reporting exemptions and thresholds modified. TRI data shows that in 2000, 1,321 facilities filed reports for 254 different chemicals, as indicated in **Figure 61**.

Risk-Based Remediation Objectives

Environmental risk assessment has become an integral part of various programs across the Illinois EPA. For instance, our clean-up regulations utilize a tiered approach for corrective action objectives that is based on risk analysis. Under this approach, the Illinois EPA ensures that appropriate data, methodologies, and criteria are being used by the regulated entities.

Regulatory Innovation Pilot Projects

Illinois EPA is helping create opportunities for progressive companies and local governments to demonstrate environmental performance. Specific projects are generated by sponsors that want to try innovative ways of achieving continuous environmental improvement. In particular, environmental management systems (e.g., ISO 14001) are often utilized by project sponsors as the driving mechanism for innovation projects.

There are two approaches for generating innovation projects. First, under state law, we may enter into environmental management system agreements (EMSAs) with regulated entities that want to pilot test specific innovations. Second, we may participate as a party to a facility project agreement (FPA) under the USEPA's XL program. Both types of agreements typically provide for multi-year (e.g., three to five) projects.

There are currently two signed EMSA project agreements under the Illinois pilot program. The first facility to sign a project agreement was the 3M Corporation located in Bedford Park, IL. This agreement was signed in March 2000; unfortunately, 3M expects to close their Bedford Park plant due to business reasons in late 2002. The second project agreement was for Nestle USA, located in Jacksonville, IL. Both of these agreements require that the facilities reduce emissions while providing them with the flexibility to alter their processes in a more timely fashion then would otherwise happen.

The Illinois EPA is participating in two projects being implemented under the XL program. These projects are the Metropolitan Water Reclamation District project in Chicago, and the United Egg Producers project (which is a national project for egg producers being implemented throughout the country).

ECOS Agreements

In 1998, the Illinois EPA and the Environmental Council of States (ECOS) signed the "Joint EPA/State Agreement to pursue Regulatory Innovation." The purpose of this agreement was to encourage states to experiment with innovative regulatory approaches to environmental management. All innovations must provide equal or better environmental performance than currently being achieved. The agreement does not change any existing laws, but encourages state environmental agencies and USEPA to work together to identify the necessary regulatory flexibility within current environmental statutes.

In 2001, three ECOS agreements were finalized, as follows:

1. The Illinois EPA, in partnership with USEPA entered into an agreement in which EPA would share information gathered through the Toxic Substance Control Acct (TSCA). Under TSCA, data is reported to USEPA from companies concerning the chemicals that are used in their facilities. With this information, the Agency plans to increase awareness of toxic chemical data gaps, determine the potential impact of toxic chemicals on sensitive receptor sites, such as school sites, and improve handling of environmental emergency situations.

2. A second agreement provides certain NPDES facilities that have demonstrated sustained compliance an opportunity to reduce the frequency of submission of the NPDES Discharge Monitoring Reports (DMRs). Implementation of this program would not compromise the requirements for the number of sampling events, compliance monitoring or program accountability.

3. Injection wells are regulated by the Underground Injection Control (UIC) program and recently, additional sub-categories of wells have been added. The Illinois EPA anticipates an increased workload to address the existing and new categories. While the lack of funding for UIC programs affects all states, it places a special burden to Illinois due to the potential numbers of affected wells. In order that Illinois EPA can continue to implement all portions of its UIC program in the most effective manner possible, the Agency and USEPA entered into an agreement to explore an innovative implementation approach.

A fourth project has been submitted to USEPA concerning a regulatory innovation proposal involving very small community water supplies (CWS) in Illinois. This project would allow the small CWSs to adopt an alternative affordable compliance monitoring program for radionuclides.

Pollution Prevention

Illinois EPA's pollution prevention (P2) program is designed to promote P2 as the preferred strategy for environmental protection. The Agency's Office of Pollution Prevention (OPP) fosters and supports P2 efforts at businesses and other facilities through educational, technical assistance and voluntary recognition programs. OPP sponsors informational seminars and provides on-site assistance to help facilities identify and implement P2 projects. OPP also works with the Agency's regulatory programs to promote voluntary P2 during compliance assurance activities.

Data on the effectiveness of the Agency's P2 assistance efforts is provided below:

P2 Assistance by OPP Technical Staff	**1999**	**2000**	**2001**
Number of facility visits by OPP technical staff.	108	122	117
Percent of surveyed facilities that implemented at least one P2 project recommended by OPP.	67%	55%	N/A

P2 Assistance by Agency Field Inspectors	**1999**	**2000**	**2001**
Percent of Agency field inspections that included one or more P2 recommendations.	12%	9%	15%
Percent of surveyed facilities that implemented at least one P2 recommendation offered by field staff.	58%	57%	28%

P2 Internship Program

Every year, OPP recruits and trains upper-level college students to work on P2 and energy efficiency projects over the summer. The purpose of the program is to help Illinois facilities reduce waste while saving money. In 2000, eighty-two (82) percent of the 22 facilities that hosted a P2 intern implemented at least one of the student recommended projects. Fourteen facilities reported either environmental benefits or cost savings as a result of the project. The total benefits are summarized below:

- Reduction in waste generation - 1.2 million pounds
- Reduction in water use - 9.8 million gallons
- Savings in energy costs -- $6,000
- Savings in operating/disposal costs -- $169,775

Assistance to Small Businesses

The Illinois EPA's Office of Small Business provides resources and assistance to help small businesses better understand their regulatory responsibilities and find answers to their compliance questions through the toll free and online helplines and "plain language" environmental fact sheets. In 2001, fourteen (14) percent of small businesses made changes in response to the assistance provided, and forty-one (41) percent became aware of the helpline.

Figure 62 illustrates the geographic location of the callers using the helpline.
Figure 63 shows the different types of assistance that was provided to media programs.

Figure 62

Types of Assistance

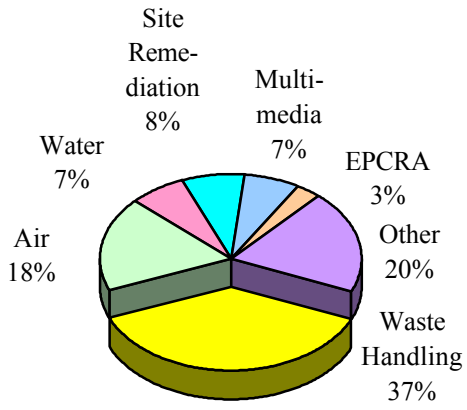
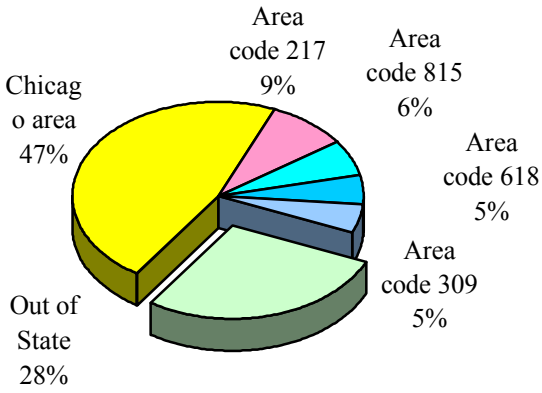


Figure 63

Helpline Calls



Environmental Education

The Illinois EPA looks to improve awareness and understanding of environmental issues through education and outreach activities. The Agency's environmental education program, working in partnership with non-profit organizations and other governmental agencies, sponsors educational programs and exhibits; conducts educator training workshops; provides summer internships for students; and hosts an interactive Internet site to educate children about environmental protection.

Environmental Education	**2001**
Number of educators requesting educational materials	1,265

APPENDIX A
MASTER LIST FOR REFERENCE MATERIALS*

AIR QUALITY MANAGEMENT

1. 2001 Illinois Annual Air Quality Report (June 2002)
2. Illinois Air Quality Data Acquisition Network
3. Annual Emission Trends
4. Partners for Clean Air
5. Annual Performance Review Report for the Emissions Reductions Market System (May 2002)

WATER QUALITY MANAGEMENT

1. Illinois Water Quality Report (April 2000)
2. The Condition of Illinois Water Resources (August 2000)
3. Lake Michigan Water Quality Report 1992-1993 (June 2001)
4. Annual Compliance Report for Public Water Supplies (June 2001)
5. Illinois Groundwater Protection Program Biennial Comprehensive Status & Self-Assessment Report (January 2002)
6. Electronic submission of The Illinois Wellhead Protection Program Biennial Report (October 1999 - September 2001)

LAND QUALITY MANAGEMENT

1. Leaking Underground Storage Tank Program, 2001 Annual Report (April 2002)
2. Response Action Program, 2001 Annual Report (June 2002)
3. Federal Sites Remediation Program, 2001 Annual Report (March 2002)
4. Site Remediation Program, 2001 Annual Report (April 2002)
5. Nonhazardous Solid Waste Management Landfill and Capacity in Illinois, 14th Annual Report (January 2002)

MULTIMEDIA MANAGEMENT

1. Fourteenth Annual Toxic Chemical Report (July 2002)
2. Office of Chemical Safety Annual Report (April 1998)

* These documents, as well as more information on these programs are available on the Internet at www.epa.state.il.us

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APPENDIX B

AIR QUALITY MANAGEMENT

1. Annual Emission Reports

The Clean Air Act, as amended in 1990, requires increased reporting and tracking of emissions. Under Section 182(a)(3)(B), stationary sources of emissions in ozone nonattainment areas are required to submit annual emission reports (Emission Statements) to the state in which they operate. The State of Illinois has had an annual emission reporting requirement for a number of years (since 1971) that applies to all sources required to have an operating permit pursuant to 35 Ill. Adm. Code Sections 201.302(a) and 201.302(b). The Illinois EPA has integrated the reporting requirements of Section 182(a)(3)(B) into its existing annual emission reporting requirement and codified this requirement in 35 Ill. Adm. Code Part 254.

The following stationary sources are required to file an annual report:

- Any source, regardless of geographical location, that is permitted to emit 25 tons per year or more of any combination of regulated air pollutants.
- Any source that has a potential to emit either VOM or NOx that meets or exceeds 25 tons per year for all emission units at the source and that is located in an ozone nonattainment area.
- In Illinois, the ozone nonattainment areas consist of Cook, DuPage, Kane, Lake, Madison, McHenry, Monroe, St. Clair, and Will Counties, Aux Sable Township in Grundy County, Goose Lake Township in Grundy County, and Oswego Township in Kendall County.
- Any source required to have a Title V operating permit.
- All other sources required to have an operating permit.

The Illinois EPA annually provides to each stationary source a Source Inventory Report. The report contains data fields that the source is required to verify or complete. Information to be provided include source identification information, emissions information, operating data, control device information, and exhaust point information for each regulated air pollutant emitted at the source.

Depending upon the size of the source, sources must submit emissions data on:

In addition to the above pollutants, certain categories of facilities regulated in accordance with Section 112 of the Clean Air Act are required to provide annual source totals of the hazardous air pollutants (HAPs) that have been emitted by those facilities.

• Carbon monoxide (CO) • Dioxin • Furan • Di-Benzo-P-dioxins • Fluorides • Hydrogen sulfide • Lead • Methylene Chloride • 111-Trichloroethane	• Nonvolatile organic material • Nitrogen oxides (NOx) • Course particulate matter (PM_{10}) • Fine particulate matter ($PM_{2.5}$) • Sulfuric acid mist • Sulfur dioxide (SO_2) • Total reduced sulfur • Volatile organic material (VOM)

Stationary sources are required to provide the emissions data annually by May 1 of each year to the Illinois EPA. The reporting period is for the previous calendar year.

2. Description of the Air Monitoring Network

The Illinois air monitoring network is comprised of instrumentation owned and operated by both the Illinois EPA and cooperating local agencies. This network has been designed to measure ambient air quality levels in the various Illinois Air Quality Control Regions (AQCR). Historically, each AQCR was classified on the basis of known air pollutant concentrations or, where these were not known, estimated air quality. The network contains both continuous and intermittent instruments. The continuous instruments operate throughout the year, while intermittent instruments operate on a staggered schedule.

The Illinois network is deployed as described in the Illinois State Implementation Plan. An updated air monitoring plan is submitted to U.S. EPA each year for review. In accordance with U.S. EPA air quality monitoring requirements as set forth in Title 40 of the *Code of Federal Regulations*, Part 58 (40 CFR 58), four types of monitoring stations are used to collect ambient air data. The types of stations are distinguished from one another on the basis of the general monitoring objectives they are designed to meet.

(1) State/Local Air Monitoring Station (SLAMS) Network - The SLAMS network is designed to meet a minimum of four basic monitoring objectives:

   a. To determine the highest concentrations expected to occur in the area covered by the network.
   b. To determine representative concentrations in areas of high population density.
   c. To determine the air quality impact of significant sources or source categories.
   d. To determine general background concentration levels.

(2) National Air Monitoring Station (NAMS) Network - The NAMS network is a subset of stations selected from the SLAMS network with emphasis given to urban and multi-source areas. The primary objectives of the NAMS network are:

   a. To measure expected maximum concentrations.
   b. To measure concentrations in areas where poor air quality is combined with high population exposure.
   c. To provide data useful for the determination of national trends.
   d. To provide data necessary to allow the development of nationwide control strategies.

(3) Photochemical Assessment Monitoring Station (PAMS) Network - The PAMS network is required in serious, severe, and extreme ozone nonattainment areas to obtain detailed data for ozone, ozone precursors (NOx and VOM), and meteorology. VOM and NOx sampling is required during June through August each year. Ozone sampling occurs during the ozone season, April through October. In Illinois, PAMS is required in the Chicago metropolitan area only. Network design is based on four monitoring types:

   a. Type 1 sites are located upwind of the nonattainment area and are located to measure background levels of ozone and precursors coming into the area.
   b. Type 2 sites are located slightly downwind of the major source areas of ozone precursors.
   c. Type 3 sites are located at the area of maximum ozone concentrations.
   d. Type 4 sites are located at the domain edge of the nonattainment area and measure ozone and precursors leaving the area.

(4) Special Purpose Monitoring Station (SPMS) Network - Any monitoring site that is not a designated SLAMS or NAMS is considered a special purpose monitoring station. Some of the SPMS network objectives are:
   a. To provide data as a supplement to stations used in developing local control strategies, including enforcement actions.
   b. To verify the maintenance of ambient standards in areas not covered by the SLAMS/NAMS network.
   c. To provide data on noncriteria pollutants.

3. Air Quality Index

The Air Quality Index (AQI) is a means of determining the air quality in a region by evaluating the levels of each of six pollutants: ozone, PM, NO_2, SO_2, and CO. The concentrations of two or more of these pollutants are typically expressed in different forms of measurement. In order to create a single index for all of these pollutants, there is an AQI value expressed in nomograms for each pollutant. The AQI value of each pollutant monitored in a region is calculated on a daily basis. Considering all of the pollutants monitored at a site, the highest index value is reported as the area's AQI. The major changes from the previous Pollutant Standards Index (PSI) are the addition of a new category (unhealthy for sensitive groups) and the inclusion of 8-hour ozone and $PM_{2.5}$.

The percentage of time that an area's air quality is as good or moderate can aid in understanding whether or not an individual needs to worry about the health effects of the air in his or her locale. The index also allows tracking of general air quality over time to determine whether it is improving or declining in an area. The Bureau of Air maintains records on the air quality index from 13 sectors in the state considered to be major metropolitan areas.

This table provides an example of how the AQI would be calculated for the Metro-East area.

Monitoring Site	$PM_{2.5}$	Ozone	SO2	CO	PM_{10}
Alton		73 ppb 72 AQI	7 ppb 10 AQI		
Wood River			3 ppb 4 AQI		
Edwardsville		83 ppb 97 AQI			
Granite City			6 ppb 19 AQI	1.1 ppm 13 AQI	77 ug/m^3 62 AQI
Maryville		76 ppb 79 AQI			
South Roxana			3 ppb 4 AQI		
Wood River-WTP		76 ppb 79 AQI	7 ppb 10 AQI		
East St. Louis	24.5ug/m^3 69 AQI	56 ppb 44 AQI	25 ppb 37 AQI		
Sauget			3 ppb 4 AQI		

[3]The AQI for this day was 97 because of the ozone levels and is in the moderate range.

4. Key Features of ERMS

ERMS contains a number of features that distinguish it from traditional command and control programs and other market systems:

1. Most command and control rules are in force year-round. However, since ozone is a problem in Illinois only during the summer season, and this program goes beyond the traditional "Reasonably Available Control Technology" (RACT) rules, the ERMS program is seasonal, and restricts emissions during May 1 through September 30, when the ozone problem exists.

2. Many regulations limit emission rates rather than actual emissions. The ERMS program puts a cap on sources based on their actual emissions, which provides certainty that it will reduce VOM emissions in the nonattainment area.

3. The ERMS program, as noted above, goes beyond RACT. Unlike other emissions trading systems across the country, Illinois does not allow sources to avoid other emissions limits by participating in the ERMS program. Sources must comply with the ERMS rule *and* all other applicable limits.

4. Some trading programs have created trading units with an unlimited life, which allow them to be accumulated for long periods of time. The ERMS rule provides that ATUs have a limited two-year life. This helps to ensure a robust market, allows some savings for companies, but prevents excessive accumulation of active trading units with unlimited life.

5. Because the ERMS rule is associated with the Clean Air Act Permit Program (CAAPP), monitoring and recordkeeping provisions are linked to avoid duplicative efforts for companies and to ensure the use of standardized methods for determining emissions.

6. Illinois has created a specific reduction requirement in the ERMS rule, requiring most units to reduce VOM emissions by at least 12%. This provides Illinois with a specific, creditable VOM emissions reduction in the Chicago nonattainment area.

Sources that fail to reduce their emissions or obtain the proper number of ATUs are held accountable for their actions as part of the ERMS rule itself. Indeed, such sources are penalized at a higher rate for repeated failure to hold the required ATUs. This discourages noncompliance on the part of the participating sources and provides assurance that VOM emissions reductions will be achieved.

LAND QUALITY MANAGEMENT

1. Sites remediated

Remediated sites are contaminated properties at which health risks are successfully reduced, controlled, or eliminated. The acres of land remediated is the indicator used to measure progress toward achieving the first environmental objective for the Clean Land Program. Our objective, by 2005, to reduce or control risk to human health and the environment at 90,000 acres with contaminated soil, contaminated groundwater, or unmanaged waste. The reported acres remediated are based on Illinois EPA determinations that the investigation and remedial/corrective actions are completed.

Although the performance measure of acres of land remediated is common to six types of Clean Land Program sites, different Federal and state statutes, regulations or guidance directs the remediation process.

Below is a list of Illinois EPA clean land programs, the statutory and regulatory authority, and acres remediated in 2001.

Cleanup Program	Authority	Acres Remediated (In 2001)	Cumulative Acres
Leaking Underground Storage Tank (LUST)	RCRA Subtitle I; 415 ILCS 5/57 35 Ill. Adm. Code 731, 732	1463	15,798
National Priorities List (Superfund)	Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)	251	1,920
Response Action	415 ILCS 5/4 35 Ill. Adm. Code 750	99	593
Site Remediation Program	415 ILCS 5/58 35 Ill. Adm. Code 750	794	6,323
Federal Facilities	42 U.S.C. 9601 et seq. 40 CFR 300 et seq.	8,133	26,779
Resource Conservation and Recovery Act (RCRA)	RCRA Subtitle C 35 Ill. Adm. Code 724, 725	866	8972

2. Classification of groundwater conditions at operating waste disposal sites are listed below as (D) detection monitoring, (A) assessment monitoring, and (C) corrective action.

Name	ID Number	00 Tons	Code
Facilities in detection monitoring (D)			
AFA - Renwick Road	1970500011		D
American Disposal Servs /McClean Co Landfill	1130200042	57,558	D
Brickyard Disposal and Recycling	1838040029	288,976	D
CDT Landfill (closed)	1978170006	93,348	D
CID Recycling and Disposal Facility #4	0310390001	110,184	D
CIPS Coffeen Power Station	0135800005		D
Clinton Landfill #2	0398080007	275,324	D
Sexton #2	0318170002	49,050	D
Cottonwood Hills RDF	1630755017	4,220	D
Envirotech Landfill	0638140002	631,260	D
FGDS - Springfield	1678250020	0	D
Knox County Landfill #3	0958160003	81,382	D
LandComp Landfill	0990808103	199,774	D
Landfill 33	0498100007	46,236	D
Laraway Recycling and Disposal Facility	1970450002	21,207	D
Lawrence County Regional Landfill	1010100002	78,044	D
Lee County Landfill	1030205110	924,931	D
Livingston Landfill	1058210002	2,506,794	D
NSSD - Newport Harbor	0978100002		D
Onyx Orchard Hills Landfill	1410175005	787,879	D
Peoria Disposal Co. #1 (PDC)	1438120003	47,699	D
Peoria City/County Landfill #2	1438165003	160,460	D
Pike County Landfill	1498160001	98,835	D
Prairie Hill Recycling and Disposal Facility	1950350014	172,617	D
Quad Cities Landfill #4*	1610400007	248,428	D
RCS Landfill	0830250012	14,368	D
Rochelle Municipal Landfill #2	1418030020	87,273	D
Saline County Landfill	1658080001	76,763	D
South Chain of Rocks RDF - Phase2	1198010002	500,377	D
Streator Area Landfill #3	1054900003	204,440	D
Upper Rock Island County Landfill	1618100014	326,979	D
Wayne County Landfill, Inc.	1918040003	96,,427	D
**Quad Cities III and BFI - Quad Cities IV report together*	**Total:**	**8,190,833**	**32**

Name	ID Number	01 Tons	Code
Facilities in assessment monitoring (A)			
American/CIPS #2	0798080002		A
Countryside Landfill	970250003	463,399	A
D & L Landfill	0050050001	122,779	A
Five Oaks Recycling and Disposal Facility	0218160006	317,379	A
Freeport Municipal Landfill #4	1770200015	11,245	A
Granite City Steel	1190400001		A
Indian Creek LF/Mineral Solutions	1798090002	0	A
Kankakee Recycling and Disposal Facility	0910550006	142,950	A
Lincoln Stone Quarry	1978090001		A
Salem Municipal Landfill #2	1218130007	20,781	A
Settler's Hill Recycling and Disposal Facility	0890100009	1,187,904	A
St. Louis Auto Shredding	1631000003	229084	A
Wheatland Prairie Recycling/Disposal Facility (closed)	1978200004	225,019	A
Woodland Recycling and Disposal Facility	0894830005	260,127	A
Onyx Zion Landfill	0978020002	609,877	A
	Total:	**3,590,544**	**16**

Name	ID Number	01 Tons	Code
Facilities in corrective action (C)			
CID Recycling and Disposal Facility #3	0316000030	60,802	C
Coles County Landfill	0298050007	100,797	C
DeKalb County landfill	0378020001	74,453	C
Envirofil of Illinois Landfill	1098100003	124,011	C
Illinois Landfill	1830450009	118,364	C
Litchfield-Hillsboro Landfill	1358150007	106,061	C
Macon County Landfill	1158040008	272,052	C
Milam Recycling and Disposal Facility	1630450001	1,064,288	C
Morris Community, Parcels A & B	0630600001	62,334	C
River Bend Prairie Landfill	0310690003	153,884	C
Roxana Landfill Authority	1190900002	282,018	C
Southern Ill Regional Landfill	0770200002	336,061	C
Tazewell Recycling and Disposal Facility	1798060004	360,903	C
Winnebago Reclamation Service	2018080001	332,926	C
	Total:	**3,448,954**	**14**

3. Municipal Solid Waste

A municipal solid waste landfill is a sanitary landfill permitted by the Illinois EPA to receive solid waste generated at households, businesses and industry. A municipal solid waste landfill may also be permitted to receive nonhazardous commercial or industrial special waste. Landfill owners and operators are required to

obtain permits from Illinois EPA to develop and operate a landfill. The permitting process ensures the landfill is designed, constructed, and operated in a manner that does not pose a threat to human health or the environment. Owners and operators of permitted sanitary landfills are required to report the total quantity of solid waste received on a quarterly basis. The reporting and monitoring requirements enable the Illinois EPA to track the operations of the landfill, as well as identify statewide solid waste disposal trends.

The amount of municipal solid waste disposed in Illinois landfills is on a downward trend. This trend may be influenced by recycling, waste minimization and pollution prevention practices, lower volumes of out-of-state waste disposed in Illinois, and more Illinois waste being disposed out-of-state. The Illinois EPA tracks the amount of municipal solid waste generated and disposed in Illinois to evaluate its impact on municipal solid waste disposal capacity in Illinois. This indicator and the total annual amounts of municipal solid waste disposed in Illinois will be used to estimate the amount of municipal solid waste generated in Illinois.

Some material is banned from being disposed of in Illinois Landfills. The type of material banned is indicated below and the date of its legislative ban is noted.

Landscape Waste was banned from disposal in Illinois landfills on July 1,1990
Lead Acid Batteries were banned on Sept. 1, 1990
White Goods Components were banned on July 1, 1994
Whole Used Tires were banned on Jan. 1, 1995
and Used Motor Oil was banned on July 1, 1996.

Landfill operators and owners are responsible for determining that these wastes are not accepted at their facilities. Agency and delegated agencies inspectors note the log sheets that indicate items which were not accepted at the gate and that they were returned to the generator or transporter for alternative means of disposal.

Section 22.22 of the Illinois Environmental Protection Act (415 ILCS 5/22.22) prohibits persons from mixing landscape waste intended for collection or for disposal at a landfill with any other municipal waste. Landscape waste may be processed at landscape waste compost facilities. Owners and operators of Illinois compost facilities must meet the operating, permitting, and reporting requirements in 35 Ill. Adm. Code 830.832. The data does not reflect farming, composting, land-applications sites, nor households engaged in backyard composting efforts.

4. Materials Recovery

Illinois EPA-sponsored environmental programs that encourage voluntary waste segregation include: (1) household hazardous waste collections administered by the Illinois EPA's Household Hazardous Waste Collection Program; (2) paint collections administered by the Partners for Waste Paint Solutions; (3) hazardous educational waste collections from high schools administered by the Illinois EPA's Household Hazardous Waste Program; and (4) materials transferred through the Industrial Material Exchange Service. Municipal waste materials that are banned from landfill disposal due to their volume and/or toxicity include: (1) used and waste tires; (2) landscape waste; (3) white goods components (i.e., domestic and commercial large appliances); (4) lead-acid batteries; and (5) motor oil.

Illinois EPA coordinates one-day Household Hazardous Waste Collections each spring and fall, where citizens can bring chemical cleaners, paints, thinners, antifreeze, weed killers, pesticides, and similar household hazardous products. These collections began in November 1989. Through the end of 2001, the Illinois EPA orchestrated 261 Household Hazardous Waste Collections funded by statewide fees on landfilled nonhazardous solid waste. The Illinois EPA and the local community sponsor these collection events. The Illinois EPA provides contractor oversight and assumes waste generator status, while the local community provides promotion and advertising, site location, and volunteers who supervise traffic control of incoming and departing vehicles, greet and survey participants, and distribute brochures for the event.

Twenty nine collection events were held in 2001 with the following local sponsors:

CDOE = Chicago Department of Environment
MWDGC = Metropolitan Water Reclamation District of Greater Chicago
SSMMA = South Suburban Mayors and Managers Association
SWANCC = Solid Waste Agency of Northern Cook County
SWALCO = Solid Waste Agency of Lake County

Date	Site	Cosponsor/Cosponsor Contributions	Drums Total
04/21/01	Glen Carbon / Madison County	Madison County Solid Waste Village of Glen Carbon - $17,000	112.81
04/28/02	Lewiston	Fulton County Farm Bureau Fulton County Health Department - $0.00	126.94
05/05/01	Springfield / Sangamon County	Sangamon County City of Springfield - $25,000	545.21
05/19/01	St. Charles /Kane County	Kane County $25,000	263.25
05/19/01	Newton	Jasper County Health Dept. - $0.00	74.11
06/02/01	Chicago - CDOE	Chicago DOE - $26,085	197.11
06/21/01	Jacksonville Industrial Alliance	Industrial Alliance Jacksonville Morgan Co. ESDA - $10,000	254.35
06/09/01	Carbondale Jackson County	Jackson County Health Dept. $5,000	154.65
06/16/01	Flossmore / MWRDGC	MWRDGC / SSMMA - $40,000	309.53
06/16/01	Toledo / Cumberland County	Cumberland County Health Dept. - $0.00	36.92
06/23/01	Belleville St. Clair County	St. Clair County / USEPA - $60,000	270.32
06/30/01	Galesburg City of Galesburg	City of Galesburg - $7,000	262.43
08/25/01	Woodridge Dupage County	Dupage Co. Solid Waste Section - $15,000	57.32
09/08/01	Hoffman Estates	Hoffman Estates and SWANCC - $25,000	51.77
09/08/01	Freeport	City of Freeport - $0.00	197.6
09/15/01	Wilmette	Wilmette and SWANCC - $25,000	128.49
09/15/01	Rantoul	Village of Rantoul - $0.00	195.57
09/22/01	Ottawa	County Dept of Environmental Services - $39,045.92	256.81
09/29/91	Morris	Grundy County Solid Waste - $0.00	40.18
10/06/01	Hoopeston	City of Hoopeston and Vermillion County - $5,000	126.4
10/13/01	Park Ridge	City of Des Plaines and MWRDGC - $40,000	459.9
10/20/01	Carmi	Egyptian Health - $0.00	29.98
10/20/01	Harrisburg	City of Harrisburg - $0.00	45.31
10/27/01	Charleston	Coles County - $0.00	63.05
10/27/01	Wood River	Wood River & Madison County - $0.00	155.96
11/03/01	Champaign/Urbana	Urbana & Champaign public Works - $0.00	243.57
1103/01	Salem	City of Salem - $0.00	57.32
11/03/01	Pinckneyville	Perry County Soil and Water Cons. - $0.00	39.54
11/17/01	Pana	City of Pana - $0.00	76.37
TOTAL			**4832.77**

The Illinois EPA assumes the costs to collect, transport, treat, and dispose of all wastes collected at these events. Over the last three state fiscal years (July 1st - June 30th), the Illinois EPA spent the following amounts for the wastes collected:

State Fiscal Year (SFY)	Volume Collected (55 gallon drums)	Illinois EPA Operating Costs[a]	Number of Participating Households	Cost to the IEPA for Drums Collected
SFY97: July 1, 1996 - June 30, 1997	6,777	$1,645,352	30,365	$243
SFY98: July 1, 1997 - June 30, 1998	6,223	$1,444,379	31,254	$232
SFY99: July 1, 1998 – June 30, 1999	2,116	$527,551	11,125	$249
SFY00: July 1, 1999 – June 30, 2000	2,980	$791,848	13.277	$309
SFY01: July 1, 2000 – June 30, 2001	4,325	$1,884,993	22,848	$435
TOTAL	**22,476**	**$6,294,123**	**95,605**	**$1468**

[a] Does not include Illinois EPA administrative expenses nor the costs to local cosponsors for publicity, traffic control, and other local services.

Long-term collection facilities operate in Naperville (since October 24, 1992) and Rockford (since April 1, 1995). These two facilities provide area residents with on-going locations to take their household hazardous waste. Operations at these locations require a permit from the Illinois EPA. Below is a breakdown of operational costs and the volumes of waste collected at these facilities during the previous state fiscal years:

Facility (county)	State Fiscal Year ("SFY")	Volume Collected (55 gallon drums)	Illinois EPA Operating Costs	Number of Participants	Cost to the Illinois EPA Per Drum Collected
Naperville (DuPage)	SFY96	809	$127,496	5,909	$158
	SFY97	989	$127,239	7,517	$129
	SFY98	1,156	$182,559	9,403	$158
	SFY99	1,686	$246,044	14,010	$146
	SFY00	1,985	$419,081	15,062	$211
	SFY01	1,860	373,643	15,821	201
Rockford (Winnebago)	SFY96	452	$57,631	2,246	$128
	SFY97	609	$69,216	2,788	$114
	SFY98	550	$93,521	2,884	$170
	SFY99	749	$118,265	3,235	$157
	SFY00	801	$177,421	3,591	$221
	SFY01	727	155,697	3,561	$214
TOTALS		**12,428**	**$2,147,813**	**86,027**	

The Illinois EPA incurs the major costs for one-day collection events. Long-term collection facilities provide a substantial savings to the Illinois EPA, because local governments assume a significant financial responsibility for operation and maintenance. Collection, transportation, treatment, and disposal costs incurred by the Illinois EPA at one-day collection events over the past three years has averaged approximately $258 per drum of wastes collected. During the same time period, the Illinois EPA spent 40% less (or approximately $159 per drum) at long-term collection facilities.

Since August 1995, the Illinois EPA has coordinated with paint retailers to collect unused or unwanted paint from local area residents for reformulation and reuse. This partnership, Partners for Waste Paint Solutions, allows paint retailers to consolidate and reprocess the unused/unwanted paint. The retailer can either sell or donate the paint recovered. An Illinois EPA contractor pours unusable or waste paint into drums for pickup and disposal.

Success and interest in the Partners for Waste Paint Solutions program increases with each new participating partner as local residents have a solution for properly managing their unwanted or unused paint products. Since 1996, the Illinois EPA has conducted hazardous education waste collections at 89 high schools in 53 communities.

Date	School	Community
1996	Carlinville HS, Thornwood HS, Peoria and East Peoria high and middle schools (22), St. Charles HS, Sycamore HS, Frankfort Community HS	Carlinville, Homewood, Peoria and East Peoria, St. Charles, Sycamore, West Frankfort
1997	Cary HS, Metro East Lutheran HS, Amos Alonzo Staff HS, Highland HS, Hillsboro HS, Monmouth HS, Mundelein HS, Paris HS, Springfield high and middle schools (11), Taylorville HS	Cary, Belleville, East Hazel Crest, Highland, Hillsboro, Monmouth, Mundelein, Paris, Springfield, Taylorville
1998	Batavia HS, Griggsville HS, York HS, Rushville HS	Batavia, Elmhurst, Oak Lawn, Rushville
1999	Schaumburg, St. Jacob, Jacksonville Routt, Porta, Piasa, Brookfield	Schaumburg, Troy, Jacksonville, Petersburg, Greenfield, Brookfield
2000	Ten schools in 12 communities	Dixon, Rochelle, Clinton, Palos Hills (Carl Sandburg), Deerfield, Robinson, Bridgeport (Red Hill School), Decatur, Effingham, Greenville
2001	22 Schools in 16 communities	Edwardsville, Lewiston – Canton Spoon River V.I.T., Newton, Campbell Hill, - Trico, Neoga, Homewood – Flosssmoor & St. Mary, Galesburg, Wilmette-Eagle Wings - Chicago, Gardner - South, Hoopston, Maine Township Park Ridge, Harrisburg, Oakland, Alton Marquette & E Alton Wood River, Urbana/ Champaign Central, Taylorville

The Illinois EPA's Industrial Material Exchange Service (IMES) lists both materials that are available and materials industries are seeking. Request forms are included in the front of each IMES directory. To respond, or to list a material, firms can send phone or fax requests to the IMES office. After a firm responds to a listing, IMES puts a potential user in contact with the generator, with the final transaction and transportation of materials left to the companies involved. A materials listing stays in the directory for a minimum of one year, unless the listing is withdrawn. If firms prefer to list their materials confidentially, IMES will not release a company name or phone number without permission. IMES participants voluntarily provide information on annual cost savings and the amount of material exchanged. Annual cost savings are based on: (1) avoided disposal costs (cost savings estimated by generators); and (2) cost difference between IMES material and feedstock (costs savings estimated by users). A conversion ratio of 8.33 pounds per gallon was used.

	Number of Listings	Number of Transfers	Cost Savings	Volume (Gallon Equivalents)
1983	138	29	$442,333	689,955
1984	162	25	$509,672	4,250,110
1985	211	43	$1,213,230	943,628
1986	335	69	$7,055,519	3,525,283
1987	600	74	$7,208,556	16,972,317
1988	429	40	$4,516,441	5,313,981
1989	382	43	$2,113,966	2,572,855

	Number of Listings	Number of Transfers	Cost Savings	Volume (Gallon Equivalents)
1990	483	79	$4,400,937	10,334,603
1991	476	101	$10,746,059	10,076,185
1992	486	98	$13,092,444	7,619,700
1993	439	120	$8,635,199	19,322,968
1994	453	105	$33,405,328	187,248,642
1995	320	89	$12,137,428	7,720,075
1996	359	92	$14,136,627	37,721,075
1997	420	95	$19,893,128	17,686,950
1998	432	100	$17,641,542	53,939,938
1999	430	98	$14,898,744	39,074,460
2000	472	109	$16,686,593	43,763,395
2001	426	102	$15,668,914	25,264508
Total	**7,453**	**1,511**	**$204,402,660**	**494,040,628**

The Used Tire Program offers free county-wide used and waste tire collections. Residents of the county where the collection is being held can bring their used and waste tires to the designated collection point during specified dates. Although there is no fee, participants must sign agreements stating they will not accumulate used and waste tires, and they have no used and waste tires stored on their property.

The weight or volume of whole or shredded tires received were converted to units of passenger tire equivalent (PTE) using the conversion ratios prescribed by 35 Ill. Adm. Code 848:

One PTE is 25 pounds, the approximate weight of one car/light truck tire.

Twenty-seven county-wide collection events were conducted in 2001. An average of 169 tons (approximately 13,562 PTEs) were collected per county. Below is a list of the participating counties, sponsors and tons collected at each event:

County	RP/Owner	Bill Cost	Bill Weight	PTE
Bond	Bond Co. Health Dept.	$26,630.75	195.01	15,600.80
Boone	Boone Co. Farm Bureau	$23,746.73	121.81	9,744.80
Carroll	Carroll Co. Farm Bureau	$33,175.80	235.75	18,860.00
Coles	Coles Co. Soil & Water Conserv. Dist.	$17,501.64	99.09	7,927.20
DeKalb	DeKalb Co. Farm Bureau	$27,089.25	213.75	17,100.00
DuPage	DuPage Co. Solid Waste Dept.	$9,226.54	15.57	1,245.60
Edgar	Edgar Co. Farm Bureau	$22,230.29	156.08	12,486.40
Gallatin	Gallatin Co. Egyptian Health Dept.	$5,457.30	21.35	1,708.00
Greene	Greene Co. Health Dept.	$20,472.85	136.12	10,889.60
Henry	Henry Co. Farm Bureau	$35,222.05	262.75	21,020.00
Jackson	Jackson Co. Health Dept.	$27,301.00	194.03	15,522.40
Jefferson	Jefferson Co./City of Mt. Vernon	$21,040.70	142.43	11,394.40
Kendall	Will Co. Land Use Dept.	$34,172.14	210.46	16,836.80
LaSalle	LaSalle Co. Envir. Serv. & Land Use	$20,904.74	183.85	14,708.00
Lawrence	Lawrence Co./Ambraw Valley SWMA	$31,353.30	196.46	15,716.80
Lee	Lee Co. Office of Solid Waste Mgmt.	$15,407.84	125.07	10,005.60

County	RP/Owner	Bill Cost	Bill Weight	PTE
Macoupin	Macoupin Co. Public Health Dept.	$42,870.20	268.98	21,518.40
Madison	Madison Co. Building, Zonning& Env. Dept.	$47,580.76	13.71	1,096.80
Marion	Centralia Clean & Green	$46,499.84	301.87	24,149.60
Massac	Massac Co. Farm Bureau	$15,790.57	81.81	6,544.80
Mercer	Mercer/Tri-Co. Resource & Waste Mgnt Council	$32,777.70	235.50	18,840.00
Montgomery	Montgomery Co. Coordinated Services	$22,117.79	156.85	12,548.00
Ogle	Ogle Co. Solid Waste Mgmt. Dept.	$36,747.84	273.03	21,842.40
Peoria	Peoria Co./City of Peoria	$27,646.62	227.38	18,190.40
St. Clair	St. Clair Co. Health Dept.	$21,302.10	172.48	13,798.40
Stephenson	Stephenson Co HD, FB & FOR	$32,803.87	317.17	25,373.60
White	White Co. Egyptian Health Dept.	$6,748.44	28.12	2,249.60
Woodford	Woodford Co./Evergreen FS, Inc.	$18,490.32	112.35	8,988.00
Totals		**$722,308.97**	**4698.83**	**375,906.40**

To clean up tire dumps around the state, the Illinois EPA has two contractors. Since 1990, the Illinois EPA tracked the amount of tires collected or cleaned up through the Used Tire Program:

Year	Amount of Used and Waste Tires Collected or Cleaned Up (tons)	Year	Amount of Used and Waste Tires Collected or Cleaned Up (tons)
1990	3,476	1996	14,551
1991	6,927	1997	8,871
1992	2,623	1998	6,853
1993	6,468	1999	4,728
1994	8,308	2000	9042.89
1995	19,815	2001	14,011.67
TOTAL TIRES	**105,674.56 tires (8.47 million passenger tire equivalents)**		

5. Open Dumping

Section 21 of the Illinois Environmental Protection Act (415 ILCS 5/21) prohibits open dumping. Open dumping is the consolidation of garbage from one or more sources that is not disposed at a permitted landfill (e.g., bottom of ravines, empty lots, along roadsides).

In 2000, Illinois EPA had delegation agreements with 20 units of local government to conduct inspections, investigations, and enforcement activities at open dumps, including those containing tires, transfer stations, landscape waste compost facilities, municipal solid waste landfills, and other nonhazardous waste management activities (415 ILCS 5/4(r)):

Delegated Local Governments	
Ambraw Valley Solid Waste Agency (Crawford, Lawrence and Richland Counties)	McHenry County Health Department
Chicago Department of Environment	Montgomery County Coordinated Services Office
Christian County Solid Waste Management Dept.	Ogle County Solid Waste Management Department
DuPage County Solid Waste Division	Perry County Health Department
Jackson County Health Department	St. Clair County Health Department

Delegated Local Governments	
Kankakee County Health Department	Sangamon County Department of Public Health
Lake County Health Department	Tazewell County Health Department
LaSalle Department of Environmental Services and Land Use	Vermilion County Health Department
Macon County Solid Waste Management Department	Wayne County Health Department
Madison County Planning and Development	Will County Land Use Department Waste Services Division

Littering, scavenging, open burning, deposition of waste in standing or flowing waters, proliferation of disease vectors, and allowing standing or flowing liquid discharge from a dump site are prohibited by the Illinois Environmental Protection Act (415 ILCS 5/21(p)). The Illinois EPA or delegated units of local government may issue administrative citations for these violations (415 ILCS 5/31.1(b)). A civil penalty of $500 for each violation plus any hearing costs incurred by the Illinois EPA can be assessed (415 ILCS 5/42(b)(4)).

In 1997, the Illinois EPA and delegated counties established a goal of cleaning up all open dumps within three years of their discovery. The following tables identify the number of open dumps discovered in 2001 and the cleanup status. The Illinois EPA divides the state into seven regions with field offices located in Rockford, Des Plaines, Peoria, Champaign, Springfield, Collinsville, and Marion.

2001 Open Dumps								
Region	**Open Dump Sites Discovered in 2001**		**1997 – 2001 Open Dump Sites Cleaned up**		**1997 - 2001 Open Dump Sites Remaining to be Cleaned up**		**Cubic Yards of Waste Removed from open dump sites in 2001**	
	IEPA	County	IEPA	County	IEPA	County	IEPA	County
1	16	37	11	32	35	40	2827	4121
2	17	331	10	30	35	44	49,500	17,862
3	32	17	27	17	27	5	1,026	240
4	62	54	29	46	138	8	10395	374
5	47	105	175	234	19	86	4,983	15,515
6	12	86	20	91	16	70	2,049	3,980
7	42	66	24	64	28	4	8,160	36505
SUB TOTAL	228	696	296	514	298	257	78,940	78597
TOTAL	**924**		**810**		**555**		**157,537**	

Chicago figures were not available

Illinois EPA continued aggressive compliance and enforcement activities on open dump sites discovered prior to 1997; however, the status of these sites are not specifically included in this annual environmental conditions report.

6. Hazardous Waste

Hazardous wastes are those defined by the federal law known as the Resource Conservation Recovery Act (RCRA; 42 U.S.C. 6901 et. seq.). Hazardous wastes may include wastes listed under RCRA by definition or that are hazardous by the characteristics of ignitability, corrosivity, reactivity, or toxicity. Properly disposed

hazardous waste must meet both state and federal standards outlined in a site-specific operating permit. Owners and operators of hazardous waste management facilities report their activities annually to the Illinois EPA.

Hazardous waste disposal in Illinois has decreased as a result of: (1) land disposal restrictions; and (2) increased pollution prevention and waste minimization practices. Land disposal restrictions require that generated hazardous wastes to be placed on land ("land disposed") meet waste-specific treatment standards that substantially diminish the toxicity of wastes or reduce the likelihood that contaminants in such wastes would leach. Wastes that do not meet the treatment requirements are prohibited from land disposal. Pollution prevention and waste minimization practices reduce the use of hazardous and nonhazardous materials, energy, water, other resources as well as those that protect natural resources through conservation or more efficient use (see Multimedia Management section).

In 2000, the following facilities reported hazardous waste disposal in Illinois.

Facility	Illinois Identification Number	Location	Hazardous Waste Management Unit	Amount Disposed (tons)
Cabot Corporation	041808001	Tuscola	Underground Injection Well	436,364
LTV Steel	1558010006	Hennepin	Underground Injection Well	33,868
Peoria Disposal Corporation	1438120003	Peoria	Hazardous Waste Landfill	22,513
Marathon Oil	338080002	Robinson	Land Treatment	45,597
CWM CID	031039001	Calumet City	Hazardous Waste Landfill	3,741
TOTAL				**542,083**

Land treatment units incorporate the hazardous waste into the upper layers of the soil to allow soil microbes and sunlight to degrade, transform, or immobilize hazardous constituents present in hazardous waste. Treatment changes the nature of the hazardous waste so as: (1) to neutralize it, or render it non-hazardous or less hazardous; (2) to recover it; (3) to make it safer to transport, store or dispose of; or (4) to make it amendable for recovery, storage or volume reduction. Approximately 0.3 million tons of the hazardous waste was treated in 1999 by Illinois hazardous waste management facilities. The residuals were handled as pollution control wastes (415 ILCS 809). A pollution control waste is any liquid, solid, semi-solid or gaseous waste generated as a direct or indirect result of the removal of contaminants from the air, water, or land, and which pose a present or potential threat to human health or to the environment or with inherent properties which make the disposal of such waste in a landfill difficult to manage by normal means. Examples of pollution control wastes are waste water treatment plant sludges, baghouse dusts, landfill waste, scrubber sludges, and chemical spill cleanings (415 ILCS 5/3.27).

7. Underground Injection Control

Since 1984, landfill disposal of liquid hazardous waste has been banned in Illinois (415 ILCS 5/22.6). Liquid hazardous waste must be: (1) treated (e.g., render it so it meets sewer discharge criteria, render it non-liquid with sorbents, etc.) and disposed; or (2) incinerated; or (3) injected into underground injection control wells. The Illinois EPA and USEPA regulate underground injection of liquid waste into deep wells (i.e., underground injection control wells) to ensure that underground sources of drinking water are protected from contamination (Safe Drinking Water Act (42 U.S.C. 300 et seq.) and Resource Conservation Recovery Act (RCRA, 42 U. S.C. 6901 et seq.)).

Four deep underground injection control wells are permitted to dispose of liquid waste generated on-site. Three of these wells are permitted to dispose of liquid hazardous waste and one (Equistar in Tuscola) is permitted only to dispose of liquid nonhazardous waste.

Facility	Illinois Identification Number	Location
Cabot Corporation[a]	418080001	Tuscola
LTV Steel	1558010006	Hennepin
Equistar	418080002	Tuscola

[a] There are two underground injection wells at Cabot Corporation facility

These wells are tested at least annually to ensure that they maintain mechanical integrity (i.e., there is no significant leakage in the casing, tubing or packer or no significant fluid movement into an underground source of drinking water). If a well should fail a mechanical integrity demonstration, it will be shut down immediately until corrective actions are complete and the well has been brought back into compliance. The conditions of the permit limit the injection pressure to ensure safe operation of the well.

8. Contaminated Sites

Successful completion of cleanup program requirements results in a completion letter. The table below shows the type of completion letters issued by the Illinois EPA cleanup programs.

Program	Types of Completion Letters Issued in 2001	Authority
Leaking Underground Storage Tank (LUST)	• 835 No Further Remediation (NFR) Letters	• 415 ILCS 5/57.10
Site Remediation Program	• 4(y) Letter = none • 169 NFR Letters	• 415 ILCS 5/4 (y) • 415 ILCS 5/58.10
National Priorities List (Superfund)	• 3 Construction Completed	• CERCLA • SARA
Response Action	• Termination and Satisfaction Letter = none	• 415 ILCS 5/4 (q)
Federal Facilities	• 4 Finding of Suitability for Transfer Letters • 15 NFR Letters • 4(y) Letter = none	• 42 U.S.C. 9620(h)(3) • 415 ILCS 5/4 (y) • 415 ILCS 5/57.10
Resource Conservation and Recovery Act (RCRA)	• 12 Closure Letters • NFR Letters = none • 4(y) Letter = none	• 35 Ill. Adm. Code 725.215 • 415 ILCS 5/58.10 • 415 ILCS 5/4 (y)

9. Contaminated Areas Evaluated and Ready for Remediation

Contaminated areas are generally brought to the attention of the Illinois EPA through citizen complaints, notification of a release as required by permit or regulation, or referrals from other governmental agencies.

Before actions are taken at a site, the Illinois EPA considers many factors including (a) identified release or threatened release of a hazardous substance or pesticide; (b) risk to human health; (c) ecological concerns; (d) availability of funds; (e) releases or threatened releases at other sites requiring greater urgency; (f) public concern about the site; (g) benefits of the investigation or remediation (e.g., potential for redevelopment); and (h) potential costs recovery (i.e., responsible parties who are able to conduct the corrective action).

Remediation activities may include (a) investigation to determine the nature and extent of contamination; (b) removal of hazardous substances from the site (e.g., removal of hazardous waste drums or contaminated soil); (c) containment of hazardous substances (e.g., installing and maintaining a landfill cap and leachate collection system); (d) treatment of hazardous substances (e.g., incineration or bioremediation of contaminated soil); (e) post-remedial activities (e.g., groundwater monitoring); and (f) administrative activities (e.g., cost recovery).

10. Redevelopment of Abandoned Industrial and Commercial Properties

The Illinois EPA offers technical and financial support to communities through the services of its Brownfields representatives. They will travel to communities and sit down with city leaders upon request to (a) explain remediation options, regulatory program requirements, and environmental liability status; (b) help municipalities secure public and private financial assistance; and (c) guide potential grant and loan recipients through the brownfields cleanup and redevelopment process.

WATER QUALITY MANAGEMENT

1. Rivers and Streams

The rivers and streams in Illinois have been classified as either good, fair, or poor. This classification uses chemical, physical, and biological data, as well as, information from land use activities for an assessment of whether a waterbody can support activities for which it could be used. Specifically, the assessment combines several indices which measure how well hatwaterbodyan support aquatic life. "Good" indicates that it can fully support aquatic life, "Fair" indicates partial support, and "Poor" indicates that it cannot adequately support aquatic life. For rivers and streams, an assessment of how well a particular waterbody can support aquatic life is considered the single best indicator of overall stream conditions.

The Bureau of Water assesses rivers and streams on an annual 305(b) report cycle. This *2001 Annual Environmental Conditions Report* uses data from the most recently completed 01 Cycle 305(b) report which presented data collected through 1999. Close to eighteen (17.9) percent of the total stream miles in Illinois were assessed for that report.

As part of the 305(b) assessment of use support within Illinois rivers and streams, the Illinois EPA differentiates and reports the number of stream miles assessed with use impairments from point sources only, nonpoint sources only, and from both point and nonpoint sources. The number of assessed stream miles needing additional nonpoint source corrective actions to meet Clean Water Act goals and objectives is calculated by adding the number of stream miles with use impairments from both point and nonpoint sources to the number of stream miles with impairments from nonpoint sources only. The percentage of rivers and streams with impairments by nonpoint sources is the sum as a percent of the overall stream miles assessed in Illinois.

2. Fish Contamination

From 1985 through 2001, the Illinois Fish Contaminant Monitoring Program tested fish at 440 stations in Illinois. Fish consumption data was available for approximately 5% of the total stream miles and 41% of the total lake acres in Illinois. Fish have been tested and found to be safe for unlimited consumption in 80% of the stream miles and 74% of the lake acres for which there is fish consumption information available. Note, however, that beginning in 2002, consumption fish advisories have been issued state-wide for predator species as a result of a change in the Health Protection Values for methylmercury..

3. Lake Conditions

The overall use assessment methodology aggregates the use support attained for each of the five individual uses assessed (fish consumption, aquatic life, swimming, drinking water, and recreation). This aggregation is achieved by assigning "overall use support points" to each individual use assessed (0 pts. = full, 1 pt. = partial, 2 pts. = non support), then summing the points, generating an average, and assigning an overall use support. Lakes with average values of less than 0.5 were rated Good; lakes with values of between 0.5 and 1.5 are rated Fair; and lakes with average values of greater than 1.5 are rated Poor. Therefore, the good, fair, poor indicator of overall use support represents a particular lakes' overall ability to support activities such as aquatic life, fish consumption, swimming, drinking water supply, and other recreation.

The Bureau of Water assesses inland lakes on an annual 305(b) report cycle. This *2001 Annual Environmental Conditions Report* uses data from the most recent "01 Cycle" 305(b) assessment process which looks at data collected through 1999. For that cycle, 63.1% of the acreage of inland lakes in Illinois was assessed.

As part of the 305(b) assessment of use support within Illinois inland lakes, the Illinois EPA differentiates and reports the number of assessed lake acres with use impairments from point sources only, nonpoint sources only, and from both point and nonpoint sources. The assessed lake acres needing additional nonpoint source corrective actions to meet Clean Water Act goals and objectives is calculated by adding the number of lake acres with use impairments from both point and nonpoint sources to the number of lake acres with impairments from nonpoint sources only. The percentage of inland lakes with impairments by nonpoint sources is the sum as a percent of the overall lake acres assessed in Illinois.

Lake Michigan forms the Northeastern portion of Illinois' border. As the only Great Lake which borders Illinois, Lake Michigan must maintain standards that are stricter than other Illinois lakes. Furthermore, Illinois' largest population center exists near the shoreline of Lake Michigan. An overall use support assessment can indicate whether Lake Michigan meets its standards and is safe for human uses.

The Bureau of Water assesses Lake Michigan an annual 305(b) report cycle. This *2001 Annual Environmental Conditions Report* uses data from the 01 cycle 305(b) assessment which utilized data from 1999. All 63 shoreline miles of Lake Michigan in Illinois were assessed.

4. Groundwater Conditions

Groundwater quality at community water supply wells utilizing unconfined aquifers in the Ambient Network of Community Water Supply Wells (CWS Network) is being evaluated in relation to Illinois' groundwater quality standards regulations. The CWS Network is intended to represent the detection of pesticides, volatile organic chemicals and other chemical contamination in the population of CWS wells across Illinois. This in turn provides an overview of the groundwater conditions in the "principal aquifers" of Illinois.

The "principal aquifers" used in Illinois were classified by O'Hearn and Schock in 1984 into three basic categories: sand and gravel, shallow bedrock, and deep bedrock. A principal aquifer is defined as an aquifer with a potential yield of 100,000 gallons per day per square mile and has an area of at least 50 square miles (O'Hearn and Schock, 1984).

The CWS Network design was based upon the sampling of existing CWS wells and incorporates a random probability based scheme (95 percent confidence, plus or minus 5 percent precision and accuracy) which is randomly stratified by aquifer type, geologic susceptibility and well depth. Thus, to represent the entire population of community wells and associated principal aquifers a statistical approach has been utilized. The CWS Network was initiated in 1992. The network selections took into account spatial and temporal factors. To improve statistical accuracy, the CWS Network well selections were made by random selection and stratified by three variables to improve precision and accuracy. The stratification variables included well depth range (0-49, 50-99, 100-149, 200-299, 300-399, and >400 feet), uppermost aquifer material within 50 feet (yes or no), and aquifer type. Aquifer types were designated in six specific Systems: sand and gravel, Mississippian/Pennsylvanian, Silurian/Devonian, Camrian/Ordovician, and mixed.

In addition, during 1997 the Illinois EPA initiated a targeted rotational monitoring approach designed to further optimize Bureau of Water resources. The Groundwater Section will continue to maintain the Ambient Monitoring Network of Community Water Supply Wells, but will begin sampling this network every two years. This will allow the Bureau to target special studies every other year while maintaining the integrity of the resource assessment. The 1997 rotating monitoring network consisted of wells which were suspected of having groundwater impacts as a result of Safe Drinking Water Act compliance monitoring.

5. Excess Pollutant Load Discharged (Report text has complete explanation)

6. Watershed Plans (Report text has complete explanation**)**

7. Source Water Protection

The Illinois EPA, Bureau of Water has taken the following steps to implement a source water protection program in Illinois:

- established a Source Water Technical and Citizens Advisory Committee;
- contracted with four Illinois universities to delineate 110 community water supplies recharge areas (approximately 200 to 300 wells);
- developed a recharge area delineation procedure for newly permitted community water supply wells; formalized a contract with the Illinois Rural Water Association and continued the identification of potential contamination sources within wellhead protection areas;
- executed a contract with the Illinois Department of Public Health and continued mapping the locations of all public non-community water supply wells in the state and to conduct potential contamination source inventories within the source water protection areas of these wells;
- continued delineation of the watersheds for the community water supplies utilizing surface water as their source of drinking water;
- initiated a contract with the Illinois State Geological Survey (ISGS) to index the ISGS well numbers with the Illinois EPA field verified locations of community and non-community water supply wells; conducted prototypical modeling and analysis of both groundwater and surface water sources utilizing the Bureau's geographic information system and data base systems; and
- continued development of fact sheets and Internet information which can be utilized by the public at http://il.water.usgs.gov/proj/il_swap/index.html.

Implementation of a source water protection program is yielding the following benefits in Illinois: increased pollution prevention implementation; eligibility for up to three bonus points under the state revolving loan fund priority system; eligibility for monitoring waivers and reduced laboratory expenses; added protection under the new Tiered Approach for Corrective Action Objectives; and Conservation Reserve and Environmental Quality Incentives Program (EQIP) Eligibility Bonus Points.

8. Groundwater Recharge Area Protection (Report text has complete explanation)

9. Areas of Concern

Waukegan Harbor is listed as an Area of Concern (AOC) as defined by the U.S.-Canada Great Lakes Water Quality Agreement (Annex 2 of the 1987 Protocol). The evaluation of the environmental quality of Waukegan Harbor is based upon 14 individual use impairment indicators established by the International Joint Commission (IJC) as specified in the Great Lakes Water Quality Agreement. Currently five use impairments have been identified for the Waukegan AOC based on the listing/delisting criteria approved by the IJC. Following completion of Stage III of the Remedial Action Plan (RAP), an evaluation of the potential for delisting will be made.

MULTIMEDIA MANAGEMENT

1. Toxic Release Inventory

Many industrial facilities in Illinois must file an annual report that details the release of toxic materials. An inventory of these reports is maintained by the Illinois EPA. This inventory is known as the toxic release inventory or TRI. The TRI totals presented in this report are based on amounts submitted by all reporting facilities for each calendar year, and exclude those chemicals that have been removed from the list of toxic chemicals by U.S.EPA within the time period represented.

For purposes of long-term trend analysis of toxic chemical release amounts, Illinois EPA excludes chemicals that have been either added to or removed from the list of toxic chemicals by U.S. EPA, or for which reporting requirements have been significantly changed by U.S. EPA during that period. This method of analysis is

considered more desirable than using all reportable chemicals as an indicator because the previous years' totals may change significantly due to changing reporting requirements.

2. Emergency Incidents

State and Federal law require the immediate telephone notification to emergency agencies of the occurrence of spills. The frequency of reported emergencies is expected to reflect the degree of care, preventive planning and precautions taken during the manufacture, storage, use and transportation of hazardous chemicals. However, incident frequency can also be influenced by several other factors including changes over time in economic activity, reporting thresholds and awareness of reporting underground storage tanks (LUSTs) that are discovered during planned removals and renovations. Since most of these LUSTS are not immediate emergencies, we have subtracted them from the total of reported incidents for the purpose of this indicator.

3. Pollution Prevention

The Agency tracks progress in pollution prevention by looking at the statewide total quantity of hazardous waste that is reported to be reduced by hazardous waste generators through new source reduction activities. This data is reported on the Hazardous Waste Report Form GM that is required under RCRA. The Agency also evaluates the number of new and expanded pollution prevention activities reported in the toxic release inventory.