
# Minnesota Closed Landfill Program

## 2004 Annual Report to the Legislature

December 2004

Minnesota Pollution Control Agency

# *2004 Annual Report to the Minnesota Legislature on the Minnesota Closed Landfill Program*

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*December 2004*


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*MPCA Staff Photo*

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Ironwood Landfill, 2002

# *2004 Minnesota Closed Landfill Program Annual Report to the Legislature*

## Executive Summary

The 1994 Landfill Cleanup Act (LCA) created Minnesota's Closed Landfill Program (CLP). The CLP is an alternative to Superfund for closed landfills. It is the first such program in the nation.

The LCA (Minn. Stat. § 115B.412, subd. 10) requires the Minnesota Pollution Control Agency (MPCA) to provide a report to the legislature on past fiscal-year activities and anticipated future work. This report fulfills the requirement and covers state fiscal year 2004 (FY04) — July 1, 2003, to June 30, 2004 — activities and looks ahead to FY05 priorities.

The MPCA estimates that an additional $31 million in general obligation bonding will be needed during the next four years to successfully complete remedial construction at 14 closed landfill sites.

## Program Overview

The MPCA is authorized under the LCA to initiate cleanup actions, complete closures and take over long-term operation and maintenance at 108 qualified closed state-permitted landfills. LCA also authorized the MPCA to reimburse eligible parties for past cleanup costs, which has been completed. Before the landfills are accepted into the CLP, the requirements of a Binding Agreement (BA) must be met.

In 1999 and again in 2000, the legislature enacted amendments to the LCA which changed entry qualifications to allow for additional landfills to enter the CLP. Based in part on these legislative changes, one additional landfill entered the CLP in FY04, with three more expected to enter the program in the next year or two.

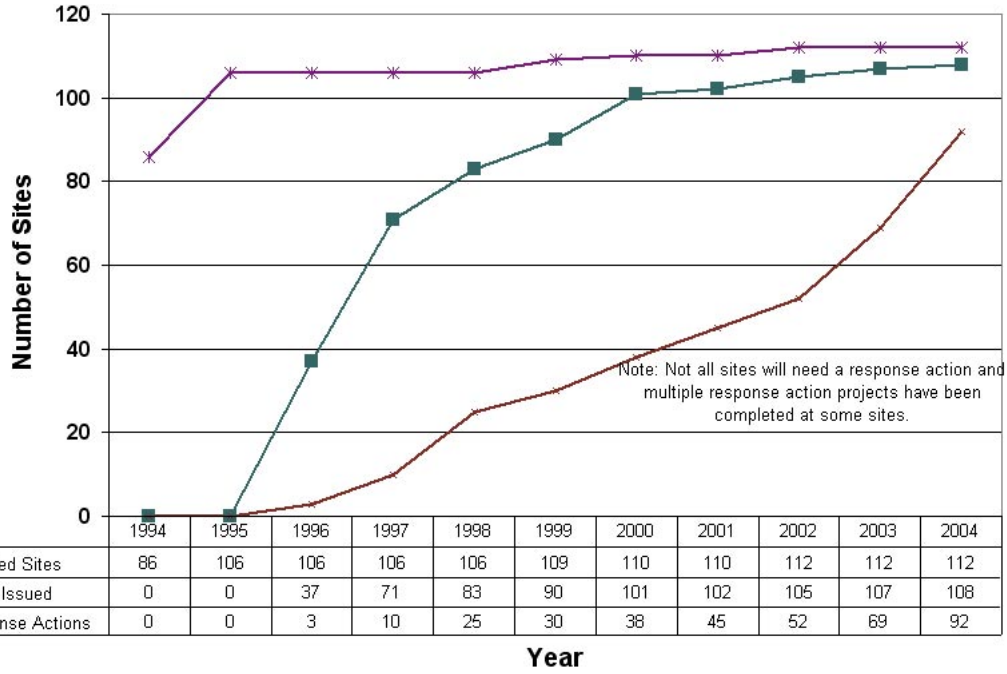
Through June 30, 2004, 108 landfill owners/operators had a signed BA and had received a Notice of Compliance (NOC), the final administrative step before the state typically takes over landfill operations and maintenance.

The CLP is in its tenth year and a significant amount of construction has taken place through FY04. One of the main goals of the CLP is to bring each landfill in the program up to standards that are protective of public health and the environment. The CLP is close to reaching this goal.

The following list summarizes accomplishments from the establishment of the CLP through FY04:

- 108 Binding Agreements signed (Freeway Sanitary Landfill's Binding Agreement is no longer in effect);
- 108 Notices of Compliance issued;
- All reimbursements to landfill owners/operators and responsible parties completed, totaling $37,883,128;
- U.S. Environmental Protection Agency (EPA) reimbursements issued, totaling $4,014,550;
- 92 major response actions have been completed;

**Figure 1: Closed Landfill Program Progress Report**




| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Qualified Sites | 86 | 106 | 106 | 106 | 106 | 109 | 110 | 110 | 112 | 112 | 112 |
| NOCs Issued | 0 | 0 | 37 | 71 | 83 | 90 | 101 | 102 | 105 | 107 | 108 |
| Response Actions | 0 | 0 | 3 | 10 | 25 | 30 | 38 | 45 | 52 | 69 | 92 |

Year

- 79 percent of the program's goal has been achieved of limiting to the greatest extent possible leachate being generated and infiltrating to ground water; and
- 79 percent of the landfill gas generated by CLP landfills that was economically feasible to be captured was destroyed prior to being released into the atmosphere.

The graph on this page shows the progress achieved by the CLP during the past 10 years. The MPCA will need to complete response actions such as construction of final covers, leachate collection and gas-extraction systems at a few remaining landfills, but a majority of that work has been completed. When adequate funding for all remaining response actions becomes available and the funded work is completed, the CLP will move into an operation and maintenance (O&M) mode. It is anticipated that the CLP will be in an O&M mode in the next three to four years.

## FY04 Program Accomplishments

***During FY04, the CLP realized the following accomplishments:***

- 23 response actions were completed, totaling $14,662,262;
- five percent further reduction in the total amount of leachate that can reach ground water was achieved through placement of adequate covers and reduction of waste footprints;
- an additional 14 percent of landfill gas generated by CLP landfills that was economically feasible to be captured was destroyed prior to being released into the atmosphere;
- a Binding Agreement and Notice of Compliance were issued for the Cook County Landfill.

# Funding

In FY04, funding for the program came from four sources of revenue:

- The Solid Waste Management Tax (SWMT) and associated fees (which also fund other groundwater and solid-waste-related activities).
- General obligation bonds.
- Funds transferred from financial assurance accounts of closed landfills entering the program.
- Settlements from landfill-related insurance coverage.

The 2003 Legislature substantially changed future funding for MPCA programs, including the CLP. Beginning in FY04, the CLP receives funding for non-bond activities from the MPCA's Remediation Fund.

## Solid Waste Management Tax and Associated Fees

Revenues from the SWMT now go into the Environmental Fund. The tax is composed of a 9.75-percent charge on residential-waste-collection bills; a 17-percent charge on commercial-municipal-waste-collection bills; and 60 cents per cubic yard of container capacity on industrial, demolition/construction and medical waste. Half of the SWMT and solid waste assessment (as it was called prior to January 1, 1998) collections going into the Environmental Fund in FY04 totaled approximately $28,951,000. A portion of these funds are then transferred into the MPCA's Remediation Fund for use at CLP sites and other remediation programs.

## Bond Dollars

The original legislative authorization for the CLP was $90 million to be appropriated over a 10-year timeframe, beginning in 1994. These monies were to be used for construction of remedial systems at publicly owned closed landfills. However, Minn. Stat. 16A.642 revoked all state bonding authorizations more than four years old, regardless of program need or original legislative intent. This resulted in approximately $56 million of bonding authority being canceled.

In 2001, the legislature reauthorized $20.5 million and in the 2002 session, the legislature authorized an additional $10 million in general obligation bonds. During the 2004 legislative session, the Governor recommended $14 million of bond authorization for the CLP. However, a bonding bill was not passed by the legislature. As a result, construction activities at seven closed landfills have been put on hold. The MPCA estimates that an additional $31 million in bonding authorization will be needed to complete the remaining construction projects at the publicly-owned facilities.

## Financial Assurance

Since the inception of the CLP, including FY04, the state has received a total of $11,068,090 in financial assurance payments from owners or operators of 24 closed landfills. In FY04, $644,726 in financial assurance was received for the Cook County Landfill. In past fiscal years, an additional $1,781,489 that would have been collected from Waste Management of Minnesota, Inc. (Anoka-Ramsey Municipal Sanitary Landfill) was waived because Waste Management of Minnesota, Inc., agreed to waive its reimbursement claim by an equal amount.

## Insurance Recovery

The state, along with Special Attorneys representing the state, continued its pursuit of financial settlements with insurance carriers. For a complete description of this funding source, see page 4.

| Table 1: FY04 CLP Expenditures | | |
|---|---|---|
| **Expenditures** | **FY04** | **Cumulative** |
| Closed Landfill Program Administration | $2,538,319 | $14,440,162 |
| Design, Construction, Investigations(1)* | $14,662,262 | $90,832,644 |
| Operation and Maintenance | $4,248,574 | $26,101,128 |
| Attorney General CLP Legal Counsel | $137,594 | $2,238,881 |
| Insurance Recovery (AGO) | $0 | $3,384,314 |
| EPA Reimbursement | $0 | $4,014,550 |
| Responsible Party Reimbursements | $0 | $37,883,128 |
| **Total** | $21,586,749 | $178,894,808 |
| Expenditure information is based on MAPS data dated 8/30/04 for the time period of July 1, 2003 to June 30, 2004. | | |
| (1) These activities include both Bond and non-Bond expenditures through 6/30/04. | | |
| *$163,200 were spent on a disputed claim from FY98. | | |

# Expenditures

## General CLP Expenditures

CLP expenditures are primarily for investigation, design, construction, operation and maintenance of landfills; reimbursements; and administration (see Table 1 above for a summary). Expenditures for each landfill are itemized in *Appendix B: FY04 Financial Summary* on page 16.

*MPCA Staff Photo*

Pine Lane SLF

# Insurance Recovery Effort

## Background

The Landfill Cleanup Act authorizes the MPCA and the Attorney General's Office to seek to recover a fair share of the state's landfill cleanup costs from insurance carriers based upon insurance policies issued to responsible persons who are liable for cleanup costs under the state Superfund law. This would include insurance policyholders who owned or operated the landfills, hauled waste containing hazardous substances to the landfills, or arranged for the disposal of waste containing hazardous substances at the landfills. Under the LCA, the MPCA and Attorney General may negotiate coverage settlements directly with insurance carriers. If a carrier has had an opportunity to settle with the state and fails to do so, the state may sue the carrier directly to recover cleanup costs to the extent of the insurance coverage issued to responsible persons.

So far, the state has commenced three lawsuits against insurance companies that have failed to settle the state's landfill cost-recovery claims. The first lawsuit, involving approximately 17 carriers, was fully settled in early 2003. In the course of that case, the Minnesota Court of Appeals ruled in favor of the state on the statute of limitations for the state's claims and on the constitutionality of the Landfill Cleanup Act's insurance-recovery provisions. A second lawsuit was filed in Hennepin County in 2002, involving approximately 13 insurance carriers. This lawsuit was scheduled to go to trial in September 2004.

## FY04 Activities

In FY04, the state continued to pursue its landfill insurance claims in two lawsuits. In the Hennepin County lawsuit filed in 2002, the insurance companies brought twenty summary judgment motions, raising legal arguments under the state Superfund law, the LCA and insurance law. In July 2004, the District Court ruled against the carriers on all Superfund issues and again upheld the constitutionality of the LCA. The state agreed to settlement mediation with several carriers in

the summer of 2004. As of August 2004, all of the carriers in the Hennepin County lawsuit had agreed to settle the state's claims. In addition, in September 2003, the state filed its third landfill insurance-coverage lawsuit. This lawsuit is pending in Anoka County District Court, with trial scheduled for October 2005. There are five insurance carrier defendants in this lawsuit.

The state's settlement efforts continue to focus on negotiating global settlements with insurance carriers. Global settlements resolve all of an insurance carrier's liability for all 106 originally qualified landfills covered by the landfill insurance-recovery law. The state reached global settlements with a total of three insurance carriers in FY04. The state's global settlements with insurance carriers last year resulted in a deposit of $4,547,000 that was split equally between the MPCA's Remediation Fund and Closed Landfill Investment Fund.

The state is represented in all landfill insurance coverage litigation and in the settlement process by Covington & Burling, Special Attorneys appointed by the Attorney General. The state, along with Special Attorneys representing the state, continues pursuit of financial settlements with insurance carriers, with two insurance coverage lawsuits underway.

## Future Activities

In FY05, the state will continue to negotiate settlements with eight additional carriers. The MPCA anticipates additional settlements with insurance companies later in FY05, as the third coverage lawsuit moves toward trial. Following this resolution, the MPCA foresees only limited further insurance recovery actions undertaken for this program.

## Natural Resource Damages

Under the LCA, insurance carriers may request that the state's claims for natural resource damages (NRD) at any of the landfills in the CLP be included in settlements with the state. State statute defines NRD as damages to the following: *"Natural resources" shall include, but not be limited to, all mineral, animal, botanical, air, water, land, timber, soil, quietude, recreational and historical resources. Scenic and aesthetic resources shall also be considered natural resources when owned by any governmental unit or agency*. NRD payments received in FY04 as a result of settlements amounted to $434,875. Total NRD settlements received through June 30, 2004, equal $5,333,684.

The MPCA and the Minnesota Department of Natural Resources (DNR) are the state's co-trustees regarding the state's NRD claims. It is the DNR Commissioner's responsibility to rehabilitate, restore or acquire natural resources to remedy injuries or losses to natural resources resulting from a release of a hazardous substance. The DNR must, however, provide written notice to the legislature on how it plans to spend this money. In FY04, the DNR created a Remediation Fund Grants Program from which $707,740 was awarded to four restoration projects throughout Minnesota. DNR provided local units of government with funding for property purchases to protect and restore natural resources that are to remain in public conservation use in perpetuity. DNR anticipates that an additional series of grants estimated at $2 million will be awarded for similar projects in FY05.

*MPCA Staff Photo*

Hopkins SLF

## Information Dissemination

The MPCA continues to include information concerning the insurance recovery effort on its Web site at **www.pca.state.mn.us/cleanup/landfill-closed.html**. This allows for information to be reviewed quickly by various interested parties, including insurance carriers from around the world, consultants, attorneys and the general public.

Staff updated the CLP Web site during FY04. The most important improvements to the CLP Web site are upgrading maps showing landfill locations, several updated site annual reports, the addition of more reports, and streamlined access to related materials. Staff continues to upgrade the material contained on the Web site, provide the user with more information about the CLP, and add additional site annual reports.

The MPCA is convinced that providing information is critical to enabling the business community and local governments to realize the benefits the LCA provides. The dissemination of information also keeps insurance carriers informed of activities conducted by the MPCA and the Attorney General's Office.

# Program Activities

## Binding Agreements/ Notices of Compliance

Through June 30, 2004, the program has successfully signed 108 Binding Agreements (BA) and issued 108 Notices of Compliance (NOC). The Cook County Landfill was the only additional landfill, which had both a BA and a NOC executed during FY04.

## Priority List Rescoring

According to the LCA, the MPCA must update the priority list each fiscal year to reflect any changes due to monitoring and remediation activities. The classification and score for each landfill in the program can be found in *Appendix B: FY04 Financial*

**Table 2: FY04 Scored and Revised Scores for Landfills**

| Site Name | Class/Score | Revised Class/ Score | Comments |
|---|---|---|---|
| Cook County | New | D/03 | New Site |
| Geisler | D/02 | D/00 | Improved ground water quality |
| Grand Rapids | B/36 | D/17 | Improved ground water quality and gas control |
| Killian | B/05 | D/05 | Construction remedy completed |
| LaGrande | C/06 | B/16 | Negative ground water impacts, erosion |
| Leech Lake | D/10 | D/04 | Monitoring data improvements |
| Lindenfelser | A/38 | D/07 | Construction remedy completed |
| Louisville | B/40 | D/04 | Construction remedy completed |
| Oak Grove | B/16 | D/11 | Construction remedy completed |
| Olmsted County | C/13 | D/13 | Ground water contamination |
| Pine Lane | A/20 | D/06 | Ground water contamination |
| Redwood County | C/08 | D/08 | Ground water contamination |
| St. Augusta | B/21 | C/21 | Ground water contamination |
| Sauk Centre | B/22 | D/22 | Ground water contamination |
| Washington County | D/05 | B/06 | Drinking water aquifer impacts |
| WLLSD Rice Lake | New | B/48 | New Site |

*Summary* on page 17.

In FY04, 13 landfills were downgraded to a lower classification, while two landfills were upgraded to a higher classification. The 13 landfills had their classifications lowered and/or their scores reduced because construction had been substantially completed or monitoring results warranted such a change. LaGrande was upgraded to a higher classification because ground-water quality deteriorated, leachate seeps developed, and areas of significant erosion of the cover were discovered. The Washington County Landfill was upgraded on the priority list because negative impacts to a drinking water aquifer were identified. Whenever public health and/or

**Table 3: Annual Changes to the Closed Landfill Priority List**

| Classification | 1994 | Classification | 2004 |
|---|---|---|---|
| A | 9 | A | 1 |
| B | 34 | B | 19 |
| C | 29 | C | 28 |
| D | 22 | D | 62 |
| Total Landfills | 94 | Total Landfills | 110 |

**Figure 2: 1994 Landfill Classifications**

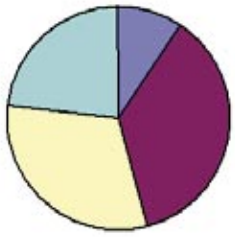



**Figure 3: 2004 Landfill Classifications**

environmental issues arise, sites are upgraded to a higher classification and/or score to allow staff to move those sites up in the funding priorities to speed up remedies. Table 2 shows the rationale for classification and/or scoring changes in FY04. Table 3 and Figures 2 and 3 (previous page) illustrate how CLP activities have resulted in an overall reduction in relative risk to human health and the environment during the past 10 years.

## FY04 CLP Design, Oversight and Construction Activity

Table 4 (page 8) is a summary of FY04 CLP design, oversight, and construction activity. This table explains the types of resonse actions completed and in process at 30 landfills.

## Deletion of Qualified Landfills from the National Priority List (NPL) and Permanent List of Priorities (PLP)

The EPA, under an agreement with the MPCA, has removed eight closed landfills from the NPL (federal Superfund list). Only one closed landfill, Freeway, remains on the NPL. A Binding Agreement was signed for this site during FY01, but has since been revoked due to inactivity within the specified timeframe of the BA. Before the Freeway Landfill can be delisted from the NPL, it must once again have a valid BA and be issued a NOC. The MPCA will attempt to renegotiate a new BA for the Freeway Landfill during FY05.

Since its inception, the CLP has also cleared the way for the removal of 49 closed landfills from the PLP (state Superfund list). The Killian Landfill was removed from the PLP in FY04. At the close of FY04, only two closed landfills remain on the PLP: Freeway and Western Lake Superior Sanitary District (WLSSD). It is anticipated that the WLSSD landfill will enter the CLP in FY05.

## Site Annual Reports

Every year, the MPCA site teams (comprised of an assigned project leader, an engineer, a hydrologist and an on-site inspector) hold a forum to discuss various aspects of each site for which they have responsibility. If the team determines that significant changes have occurred or that conditions have changed, they will prepare a revised annual report discussing those changes for the landfill. Annual reports are divided into three major sections:

- Site Background contains basic information about the landfill;
- Site Engineering Summary discusses cover maintenance/construction, leachate management and monitoring, and landfill gas management and monitoring; and
- Site Environmental Monitoring Summary discusses ground-water monitoring, surface-water monitoring and ground-water remediation system management and maintenance.

Annual reports fulfill MPCA's requirement pursuant to Minn. Stat. §115B.412, Subd. 4(a) to provide affected local units of government with site information, including a description of the types, locations, and potential movement of hazardous substances, pollutants and contaminants, or decomposition gases related to the landfill. Further, Minn. Stat. §115B.412, Subd. 4(b) requires local units of government to notify persons applying for a permit to develop affected property of the existence of this information and, on request, to provide a copy.

In fulfillment of Minnesota statutes, the purpose of the landfill-specific annual report is to reflect current site characteristics, to describe landfill reclassification/rescoring up or down in priority, provide staff contacts, and make recommendations for the future. Also, these landfill reports are provided to local units of government, pursuant to state law, as a source

## Table 4: FY04 CLP Design, Oversight, Construction, and Other Activity*

| Landfill | Class | Design, Oversight, Construction, and Other Activities | Costs | Completion Date |
|---|---|---|---|---|
| Albert Lea | B | Completed installation of an active gas extraction system, flare, and repaired settlement areas in the cover. | $ 1,611,109 | Mar-04 |
| Anoka/Ramsey | D | Replace the candlestick flare with an enclosed flare and removed old buildings on-site. | $ 258,285 | Jun-04 |
| Becker County | A | Completed installing ground water pumpout system. | $ 677,675 | Jul-04 |
| Benson | D | Completed installation of a passive gas venting system. | $ 52,245 | Mar-04 |
| Dakhue | B | Design and installation of an active gas extraction system and flare. | $ 511,979 | Jul-04 |
| East Bethel | B | Completed waste investigation; ongoing design of an active gas extraction system. | $ 99,174 | Jun-04 |
| East Mesaba | C | Ongoing investigation and design of a partial cover replacement and installation of a passive gas venting system. | $ 48,514 | Jun-05 |
| Eighty Acres | D | Complete installation of a new cover | $ 57,735 | Oct-03 |
| Gofer | C | Completed design of cover/passive gas system and begin construction. | $ 57,552 | Jun-05 |
| Grand Rapids | D | Completed construction of a new cover and flare. | $ 124,633 | Jun-04 |
| Hibbing | D | Completed design of cover improvements and an active gas extraction system. | $ 50,544 | Jun-04 |
| Karlstad | C | Ongoing work for a phytoremediation cover. | $ 4,567 | Jul-05 |
| Killian | D | Completed construction of a new cover system and passive gas venting system. | $ 691,898 | Nov-03 |
| Koochiching County | B | Ongoing installation of a new cover, active gas extraction system and flare. | $ 1,531,084 | Jun-05 |
| Leech Lake | D | Complete gas investigation and purchase buffer property. | $ 165,292 | Jun-04 |
| Leslie Benson | NS | Completed a property boundary survey. | $ 7,037 | Oct-03 |
| Lindala | D | Completed installation of a passive gas venting system. | $ 45,011 | Feb-04 |
| Lindenfelser | D | Completed installation of a new cover and active gas extraction system. | $ 65,406 | Oct-03 |
| Meeker County | C | Completed design and bid documents for waste consolidation, new cover, and upgrade passive gas venting system. | $ 30,000 | Jun-04 |
| Olmsted County | C | Completed installation of an active gas extraction system, flare, and slope improvements. | $ 1,903,990 | Mar-04 |
| Pine Lane | D | Installation of a new cover, active gas extraction system and flare. | $ 3,003,898 | Oct-03 |
| Redwood County | C | Completed installation of a new cover and a passive gas venting system. | $ 918,116 | Nov-03 |
| Rock County | D | Completed gas mitigation investigation. | $ 11,591 | Mar-04 |
| Sauk Centre | D | Completed installation of a new cover and a passive gas venting system. | $ 797,393 | Nov-03 |
| St. Augusta | C | Completed active gas system startup/shakedown. | $ 76,554 | Jul-03 |
| Stevens County | B | Completed installation of a passive gas venting system and drainage upgrade. | $ 151,484 | Apr-04 |
| Waseca County | B | Completed upgrade of cover and waste consolidation. | $ 971,761 | Jun-04 |
| Washington County | B | Ongoing design of an upgraded gw pumpout and treatment system and construction. | $ 76,111 | Jun-05 |
| WDE | B | Ongoing installation of a new recovery well, new basin, and improvements to the ground water system. | $ 150,970 | Nov-04 |
| Woodlake | C | Completed gw and cover upgrade investigation. Begin cover design and upgrade of active gas extraction system. | $ 139,874 | Jun-04 |
| | | **TOTALS** | **$14,291,481** | **30** |

*The costs shown in this Table are for invoices paid in FY04, not total project costs. Invoices paid in FY04 for work completed in FY03 are not included in this table.

Class A = immediate public health and/or environmental concerns.

Class B = pose no immediate public health and/or environmental threat, but require remediation to control gas migration, ground water contamination, and/or to correct a severely inadequate or nonexistent cover.

Class C = pose no immediate public health and/or environmental threat, but lack a cover that meets current MPCA standards.

Class D = pose no threat to public health or the environment and, in most cases, meet current standards for closure.

Class NS = Not Scored.

of information by which local governments can prudently plan land use in the vicinity of the landfill. The local units of government, per statute, must, in turn, provide prospective developers of property near the landfill with information about landfill gas and ground-water problems. Depending on the extent and magnitude of these problems, the MPCA will, in the site annual report, recommend to local units of government that they consider these conditions in their land-use planning efforts, particularly for off-site properties that may be affected.

When a revised site annual report is provided to local units of government, it is their responsibility to review the Land Use Plan developed for the site in their jurisdiction and decide if any changes need to be made to local land-use plans to the adjacent property in order to adequately protect public health and the environment. The site annual reports for the 17 landfills located in the Metro area and 54 of the larger Greater Minnesota sites are available on the MPCA's Web site at **www.pca.state.mn.us/cleanup/landfill-closed.html**. Staff will be posting the most recent annual reports for all of the remaining sites on the CLP Web site in FY05.

## State Ownership of Landfills and Adjacent Property

The MPCA has accepted ownership of 27 landfills across the state as part of the site's entry into the CLP or via tax forfeiture. (See *Appendix C,* page 20, for a complete list.) This has been done in those cases where state ownership provided the best method of controlling access, managing the facility, and providing the greatest possible environmental protection and safety for the citizens living near the facility. The MPCA accepts ownership of landfills in situations in which the landfill's past owners do not have the resources to adequately maintain the landfill.

## Property Purchases

In addition to the landfill property itself, the MPCA has acquired a total of 21 additional adjacent properties to provide adequate protections for human health and safety. In FY04, the CLP spent $162,033 to acquire adjacent property at the Leech Lake, Long Prairie, and Sauk Centre landfills due to ground water and/or landfill gas concerns. The CLP has spent more than three million dollars on these activities during the past 10 years (see *Appendix C* for details).

## Environmental Indicators

There are two environmental indicators that are measured for the CLP: the reduction of leachate generation and the reduction of landfill gas emissions. Both have the potential to cause significant risk to public health, as well as environmental damage. The MPCA staff uses environmental indicators to measure the progress of the CLP and better manage the program.

Each year, staff determines the reduction of leachate generation for program landfills using an enhanced Hydrologic Evaluation of Landfill Performance (HELP) model. Totally eliminating leachate generation is impossible given current technology, knowledge and economics. However, there are several things that can be done to reduce the amount of leachate each landfill generates and thereby minimize the potential damage leachate can cause to the state's ground water. Similarly, the total elimination of landfill gas escaping to the environment is not currently possible. However, by installing active gas-collection systems and flares at larger sites, significant reduction in landfill gas emissions directly to the atmosphere has been achieved.

*MPCA Staff Photo*

Anoka Municipal SLF

## Leachate Reduction

Work completed at closed landfills has resulted in significant reductions each year in the amount of contaminated leachate reaching the ground water. Since the inception of the program, 1,651 acres of the 2,123 total acres of waste currently managed by the CLP are protected by covers that meet or exceed current standards. Improved or synthetic covers greatly reduce the infiltration rate of surface water to ground water.

Infiltration of surface water at landfills with poor covers can generate leachate at a rate of 53,530 gallons per acre per year. With improved covers, leachate generation can be reduced to 6,224 gallons per acre per year or less. That is an eightfold reduction in the amount of water potentially able to leach through the waste, become contaminated, and move into the ground water.

Since the CLP began in 1995, a total of 163 acres of waste have been consolidated onto existing waste, and a total of 751 acres at 40 landfills have had new improved covers installed, bringing them up to current MPCA standards. In FY04, the CLP reduced the footprint of landfills in the program by 35 acres and placed 62 acres of new improved covers on existing landfills. Both of those efforts will reduce by almost five million gallons the amount of leachate being generated each year at those landfills.

The CLP also re-contours the surfaces, establishes vegetative growth on the covers, and engineers holding basins which further reduce the amount of surface water likely to come into contact with waste and form leachate. The CLP also operates six leachate-collection systems and seven ground-water pump-out systems in place at 13 sites, preventing another two million gallons per year of leachate from reaching the ground water.

## Landfill Gas Reduction

Landfill gas was discussed in the 1997 legislative report as an emerging issue for the CLP. Currently, most landfills in the CLP have some type of passive gas-extraction system. Eighteen landfills currently have an active gas-extraction system. Another twelve landfills have been identified as having a large enough volume of waste to support an active gas-extraction system.

Active landfill gas extraction systems are increasingly being considered for the following beneficial uses:

- reduction in methane migration and vegetative loss,
- greenhouse gas reduction,
- reduction of volatile organic compounds migrating to ground water, and
- gas-to-energy use.

Active gas-extraction systems and flares were completed and went on-line during FY04 at Albert Lea, Grand Rapids, Koochiching County, Olmsted County, Pine Lane and St. Augusta Landfills. In FY04, more than 28 million pounds of methane and 730 pounds of volatile organic compounds were destroyed by 16 flares operated at CLP landfills. See Table 5, page 11, for details. The CLP contracted to test 13 flares for methane and other contaminant destruction efficiency in FY04. These stack tests showed a greater than 99 percent destruction of contaminants in all but one of the enclosed flares.

## Landfill Gas-to-Energy

With advances in electrical generation technology capable of using landfill gas as fuel (such as microturbines and Stirling cycle engines), it has become evident that direct use of landfill gas as a boiler fuel or for production of electricity may provide a beneficial use for this renewable energy source.

Currently, it is estimated that if all closed landfills where active gas extraction systems are either completed or planned were developed for electrical generation, these landfills would have the capacity

## Table 5: FY04 Landfill Gas Data for the CLP

| Landfills | Gas Flow (cfm) | %Methane in LF Gas | Operation Hours | Methane Destroyed (Pounds) | NMOC Conc (ppm) | Pounds NMOC destroyed (assumes MW = 120) |
|---|---|---|---|---|---|---|
| Albert Lea | 200 | 40% | 3,960 | **846,850** | 982 | **15,555** |
| Anoka | 402 | 55% | 8,400 | **4,928,551** | 2,590 | **87,024** |
| Becker Co | 55 | 35% | 6,804 | **341,980** | *1000** | ***27,216*** |
| Grand Rapids | 84 | 37% | 7,000 | **578,424** | 1,157 | **32,396** |
| Hopkins | 68 | 30% | 6,097 | **332,729** | 1,287 | **31,387** |
| Lindenfelser | 98 | 52% | 7,916 | **1,064,704** | 1,970 | **62,378** |
| Louisville | 463 | 49% | 8,677 | **5,219,250** | 3,847 | **133,522** |
| Oak Grove | 97 | 62% | 7,625 | **1,229,605** | 2,253 | **68,717** |
| Olmsted | 250 | 40% | 2,880 | **769,863** | 1,023 | **11,785** |
| Pine Lane | 199 | 55% | 6,985 | **2,055,395** | 618 | **17,267** |
| St. Augusta | 76 | 50% | assume all year | **886,275** | 803 | **28,137** |
| Tellijohn | 102 | 33% | 8,191 | **725,841** | *1000** | ***35,040*** |
| WashCo | 150 | 35% | 8,430 | **1,183,064** | 2,853 | **96,203** |
| Watonwan | 60 | 45% | assume all year | **632,250** | *1000** | ***35,040*** |
| WDE | 158 | 46% | 8,670 | **1,684,439** | 3,247 | **112,606** |
| Woodlake | 642 | 46% | 8,104 | **6,341,917** | 1,020 | **33,064** |
| **TOTAL** | | | | **28,821,137** | | **827,337** |

*Note: Italicized values use an assumed NMOC concentration of 1,000 ppm

to produce as much as 8-10 MW of baseload (steady state) electricity. This would provide sufficient electricity for the annual needs of more than 9,300 homes.

The CLP is currently exploring several options to maximize development of this renewable energy resource. The CLP, working with consultants, has defined the economic and technical feasibility of developing a landfill gas-to-electricity project using microturbines at the WDE Landfill in Andover. It now appears likely that the CLP will move forward with the installation of a Stirling cycle engine to generate 100-150 KW of electricity. Subsequent to this, and other site-specific feasibility studies, the CLP intends to develop several projects to demonstrate the technical and economic feasibility of landfill gas-to-energy in direct use applications as well as electric generation at additional landfills. It is obvious that private development of this renewable energy source is dependent on the price offered by utilities, which is a function of the utilities' avoided costs, grant and loan availability to help defray initial investment costs and the need for electricity.

The interest has increased in recent years in distributed generation of electricity using renewable energy sources such as landfill gas. Development of landfill-gas-to-energy not only affects the closed landfills, but the open landfills as well. It is evident that these landfill-gas-to-energy development efforts need to be coordinated with the Minnesota Department of Commerce, the Public Utility Commission and the Office of Environmental Assistance. To this end, the Closed Landfill Program has been working closely with these agencies to ensure that recent reports (such as the Department

of Commerce's recent 2004 Quad Report) reflect the MPCA's best information regarding landfill-gas-to-energy potential and activities.

## Environmental Data Management System (EDMS) Database

The Environmental Data Management System (EDMS) is a database designed specifically to store relevant data for all of the landfills currently in an active status in the CLP. Development of EDMS became crucial due to the enormous volume of data coming in to the staff and the need to ensure the integrity of environmental monitoring data.

The EDMS is an automated system that stores monitoring data, including analytical and field measurements of ground and surface water quality, leachate, landfill gas (LFG) condensate, LFG emissions, and flare information. EDMS can match analytical data with physical characteristics of the landfill. EDMS contains geologic data, monitoring well/gas vent location and construction information. Data are electronically submitted by contractors and are validated prior to integration into the system.

Staff uses both standardized reports and project-specific queries to define ground-water contaminant trends and hydrographs of ground-water levels. Contours of ground-water surfaces showing flow direction and contaminant concentrations are constructed by combining query outputs with contouring and GIS software packages. CLP staff uses the database to create sampling work plans, review data trends, create reports (site specific annual reports, MCES Special Discharge Reports, DNR Annual Water Use Reports, etc.) and respond to public inquiries in a timely and accurate manner.

## Gopher State One Call

As a property owner, the MPCA is required by law to respond to calls from Gopher State One Call to identify underground utilities. In order to respond to requests, the MPCA staff had property surveys conducted at the five sites where underground utilities are known to exist in public right-of-ways. Full service O&M contracts were amended in FY04 to provide for contractor assistance to respond to Gopher State One Call requests. In FY05, state contractors will be assigned to address Gopher State One Call requests on a 24-hour-a-day, seven-days-a-week basis. Staff is also investigating the possibility of removing underground utilities at two sites to eliminate the need to respond to location requests. In addition, MPCA staff will attempt to eliminate underground utilities located in public right-of-ways at any new construction projects.

## Land Use Plans

The LCA requires the MPCA to develop a Land Use Plan for each landfill qualified for the CLP. It also requires that local units of government make their local land-use plans consistent with the plan developed by the MPCA. Because the MPCA is responsible for the cleanup and long-term care of the landfills in the CLP, including installing and maintaining response action equipment, taking care of the landfill cover, monitoring ground water and landfill gas, and securing the site, the local units of government must make their land-use plans compatible with the MPCA's future responsibilities and obligations for each site.

The purpose, therefore, of each Land Use Plan is to:

- protect the integrity of the landfill's remediation systems;
- protect human health and public safety at each landfill; and
- accommodate local government needs and desires for land use with consideration for health and safety requirements.

This can be accomplished not only through the state's cleanup efforts but also through the adoption and implementation of a site-specific Land Use Plan through local zoning and other land-use measures that are consistent with public health and safety needs.

Essentially, the Land Use Plan will compare the MPCA's land-use expectations at the qualified facility to the land-use designations (zoning districts)

prescribed by the local unit of government. If these are in conflict, then the local government's land-use designations will need to be modified to become compatible with the MPCA's plans for the site.

In FY04, the MPCA completed a pilot Land Use Plan for the Dakhue Landfill. The local unit of government responsible for land-use zoning where the landfill is located adopted a new zoning district (Closed Landfill Restricted) and accompanying ordinance at the recommendation of the MPCA. Although the MPCA used a contractor to develop the initial Dakhue Landfill Land Use Plan, the MPCA decided additional contractor assistance will not be necessary to develop other Land Use Plans. The MPCA intends to train staff and complete additional Land Use Plans as time allows in FY05.

## National Recognition for CLP and Insurance Recovery

Minnesota's Closed Landfill Program was selected as one of the top 50 finalists for an Innovations Award in American Government in December 2003. These 50 finalists represent the top seven percent of the national applicant pool. This annual award competition (administered by the John F. Kennedy School of Government at Harvard University, in partnership with the Council for Excellence in Government) strives to identify and promote excellence and creativity in the public sector. Although the CLP and Insurance Recovery programs were not selected as one of the year's top 15 finalists, the reviewers indicated they were impressed by the program's creativity.

# Looking Ahead to FY05

## Proposed New Projects

MPCA staff anticipates the CLP will have activities at the following landfills during FY05.

**Table 6: Looking Ahead to FY05**

| Landfill | Design, Oversight, Construction, and Other Activities |
|---|---|
| Carlton County South | Complete installation of a passive gas venting system. |
| Cook Area | Complete installation of a passive gas venting system. |
| Dakhue | Complete installation of an active gas extraction system, flare, and install a perimeter fence. |
| East Mesaba | Complete groud water and waste investigation. Begin construction of partial new cover and passive gas venting system. |
| Gofer | Begin construction of the cover and upgrade of the passive gas venting system. |
| Korf Bros. | Complete property boundary survey. |
| La Crescant | Complete property boundary survey. |
| La Grande | Design and construction of a cover and passive gas venting system. |
| Meeker County | Begin construction to upgrade one cell. |
| Oak Grove | Complete installation of an active gas extraction system. |
| Pine Lane | Complete installation of a new cover, an active gas extraction system, and flare. |
| Rock County | Implement gas migration corrective action. |
| Sibley County | Complete design of the cover and upgrade of the passive gas venting system. |
| Washington County | Conduct Feasibility Study of PFOA's, construct upgrade of the ground water treatment system. |
| WDE | Construct a lined treatment basin and other design improvements. |
| WLSSD | Investigate: natural attenuation at Duluth Dump #2, how to install a bedrock monitoring system, and begin design work on a new cover. |
| Winona County | Investigate potential remedial actions and initiate design. |
| Woodlake | Complete design of new cover, leachate and gas collection system, and initiate construction if funding is available. |

# Emerging Issues

## Research on Emerging Contaminants in Minnesota's Closed Landfills

To ensure protection of human health and the environment, in 2000 the MPCA initiated the Emerging Contaminants Program to examine and gather information on emerging issues of concern in Minnesota. Polybrominated diphenyl ethers (PBDEs), brominated dioxins and furans, perfluorooctane sulfonate (PFOS), and alky phenols (APs) are currently the focus of investigations by the Emerging Contaminants Program. For more information on this program, see **www.pca.state.mn.us/publications/reports/lr-air-water-pollution-sy03.pdf**.

### 1. Polybrominated Diphenyl Ethers (PBDEs):

In recent years, scientists have observed undesirable health and environmental consequences from the widespread use of flame retardants such as Polybrominated Diphenyl Ethers (PBDEs). PBDEs are used as additive flame retardants in plastics, textiles, coatings and electrical components in products such as computers, TVs, electrical appliances, furniture, building materials, carpets and automobiles. These chemicals have been found to persist in the environment and bioaccumulate in humans and wildlife.

During 2001, the MPCA staff conducted a study entitled *Occurrence and Concentrations of Polybrominated Diphenyl Ethers (PBDEs) in Minnesota Environment* (Oliaei et. al, 2002). This was the first study to investigate PBDE contamination and found PBDEs in all environmental matrices examined. The highest concentrations were found in landfill leachates and wastewater treatment plant sludges.

During FY04, the CLP supported a study which included the Western Lake Superior Sanitary District (WLSSD) Landfill and an adjacent watershed. WLSSD is a recently closed landfill located in Duluth. Samples were collected and analyzed for PBDEs. The results of this study will help us to better understand sources and distribution of PBDEs in Minnesota's environment and to identify emerging issues associated with such contaminants.

### 2. Polybrominated Dioxins and Furans

As part of the 2001 study, composites of fish and sediment samples collected from six major Minnesota rivers downstream from Wastewater Treatment Plants are also being analyzed for brominated dioxins. Brominated dioxins are also being measured in samples taken from wastewater treatment plant sludges, landfill leachates and landfill sludges collected as part of the PBDE study.

### 3. Perfluorooctane Sulfonate (PFOS) & Perfluorooctanoic Acid (PFOA)

Fluorinated surfactants, including perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), are another class of new chemicals widely incorporated into consumer products and recently identified as contaminants of concern. In April 2003, the EPA released a preliminary risk assessment presenting serious concerns about developmental exposure and toxic effects related to PFOA and its salts (see **www.epa.gov/opptintr/pfoa/index.htm**).

The Emerging Contaminants Program received additional funding for FY05 from the CLP to continue investigations on the presence and distribution of PFOS/PFOA in Minnesota's landfills, wastewaters and the environment. The objective of this work is to determine the sources and prevalence of these contaminants (PBDEs and PFOS/PFOA). If we can determine that, then measures can be devised to reduce their prevalence in the environment.

# Program Contacts

For more information about the CLP, contact:

- Doug Day, Supervisor, Landfill Cleanup Program, (651) 297-1780, toll-free/TTY (800) 657-3864.
- Jeff Lewis, Manager, Remediation Programs, (651) 297-8505.

# *Appendix A: Financial Assurance*

## Appendix A: Financial Assurance

| Site Name | Financial Assurance Received | Amount Spent in FY04 | Total Amount Spent | Financial Assurance Balance |
|---|---|---|---|---|
| Anoka-Ramsey* | $ 1,781,489 | $ - | $ 1,781,489 | $ - |
| Cass Co. (L-R) | $ 84,497 | $ 3,460 | $ 33,205 | $ 51,292 |
| Cass Co. (W-H) | $ 84,497 | $ 10,557 | $ 61,837 | $ 22,660 |
| Chippewa County | $ 362,516 | $ 20,224 | $ 102,718 | $ 259,798 |
| Cook County | $ 644,726 | $ 22,945 | $ 22,945 | $ 621,781 |
| Dakhue | $ 150,411 | $ - | $ 150,411 | $ - |
| Dodge County | $ 1,189,672 | $ 20,455 | $ 137,991 | $ 1,051,681 |
| East Mesaba | $ 696,244 | $ 54,143 | $ 261,214 | $ 435,030 |
| French Lake | $ 14,931 | $ - | $ 14,931 | $ - |
| Grand Rapids** | $ 1,750,000 | $ 139,368 | $ 607,042 | $ 1,142,958 |
| Hibbing | $ 468,020 | $ 56,824 | $ 171,144 | $ 296,876 |
| Isanti-Chisago | $ 333,839 | $ - | $ 333,839 | $ - |
| Lindenfelser | $ 400,827 | $ - | $ 400,827 | $ - |
| Long Prairie | $ 72,973 | $ - | $ 72,973 | $ - |
| Louisville | $ 337,130 | $ - | $ 337,130 | $ - |
| Meeker County | $ 378,002 | $ 40,902 | $ 173,528 | $ 204,474 |
| Northeast Otter Tail | $ 590,996 | $ 17,920 | $ 21,788 | $ 569,208 |
| Paynesville | $ 111,641 | $ - | $ 111,641 | $ - |
| Pipestone County | $ 16,622 | $ - | $ 16,622 | $ - |
| Redwood County | $ 81,689 | $ - | $ 81,689 | $ - |
| Sun Prairie | $ 10,725 | $ - | $ 10,725 | $ - |
| Tellijohn | $ 351,406 | $ - | $ 351,406 | $ - |
| Winona | $ 1,586,726 | $ 75,693 | $ 236,773 | $ 1,349,953 |
| Woodlake | $ 1,350,000 | $ - | $ 1,350,000 | $ - |
| **Total** | **$ 11,068,090** | **$ 462,491** | **$ 6,843,868** | **$ 4,224,222** |

*An additional $1,781,489 that would have been collected from Waste Management of Minnesota, Inc., (Anoka-Ramsey Municipal Sanitary Landfill) was waived because Anoka-Ramsey Municipal Sanitary Landfill agreed to waive its reimbursement claim from MPCA in an equal amount.

**Bond dollars were incorrectly reported in last years report as financial assurance dollars spent.

# *Appendix B: FY04 Financial Summary*

## Appendix B: FY04 Financial Summary

| Landfill Name | Class & Score | MPCA Salary & Expenses | Attorney General Support | Operation & Maintenance | Design/ Construction Non-Bond | Design/ Construction Bond | Landfill Totals |
|---|---|---|---|---|---|---|---|
| ADAMS (Re-located) | D/00 | $ 244 | | | | | $ 244 |
| AITKIN AREA | D/26 | $ 1,449 | | $ 1,584 | | | $ 3,033 |
| ALBERT LEA | B/25 | $ 20,996 | | $ 71,392 | $ 104,300 | $ 1,506,809 | $ 1,703,497 |
| ANDERSON-SEBEKA | D/02 | $ 224 | | $ 3,170 | | | $ 3,394 |
| ANOKA-RAMSEY | D/03 | $ 14,243 | $ 346 | $ 401,669 | $ 136,945 | $ 121,340 | $ 674,543 |
| BARNESVILLE | C/01 | $ 490 | $ 19 | $ 3,854 | | | $ 4,363 |
| BATTLE LAKE | D/01 | $ 620 | | $ 9,981 | | | $ 10,601 |
| BECKER COUNTY | A/29 | $ 14,317 | $ 259 | $ 114,200 | | $ 677,675 | $ 806,450 |
| BENSON | D/03 | $ 9,717 | | $ 10,254 | $ 52,245 | | $ 72,216 |
| BIG STONE COUNTY | D/02 | $ 833 | | $ 9,817 | | | $ 10,650 |
| BROOKSTON AREA | C/02 | $ 976 | | $ 3,097 | | | $ 4,073 |
| BUECKERS #1 | D/04 | $ 2,799 | | $ 869 | | | $ 3,668 |
| BUECKERS #2 (Re-located) | D/00 | | | $ 137 | | | $ 137 |
| CARLTON COUNTY #2 | D/05 | $ 9,833 | $ 250 | $ 49,787 | | | $ 59,869 |
| CARLTON COUNTY SOUTH | B/10 | $ 782 | | $ 3,527 | | | $ 4,309 |
| CASS COUNTY (L-R) | D/05 | $ 103 | | $ 3,460 | | | $ 3,563 |
| CASS COUNTY (W-H) | D/02 | $ 845 | | $ 10,557 | | | $ 11,401 |
| CHIPPEWA COUNTY | D/11 | $ 896 | | $ 20,224 | | | $ 21,120 |
| COOK (AREA) | C/04 | $ 957 | $ 19 | $ 8,634 | | | $ 9,610 |
| COOK COUNTY | D/03 | $ 3,002 | $ 1,718 | $ 22,945 | | | $ 27,666 |
| COTTON | D/05 | $ 637 | | $ 1,826 | | | $ 2,464 |
| CROSBY | D/02 | $ 117 | | $ 3,402 | | | $ 3,519 |
| CROSBY AMERICAN PROPERTY | B/07 | $ 6,543 | $ 2,141 | $ 30,347 | | | $ 39,031 |
| DAKHUE | B/11 | $ 25,716 | $ 2,187 | $ 37,575 | $ 103,162 | $ 408,817 | $ 577,457 |
| DODGE COUNTY | D/30 | $ 2,370 | | $ 20,455 | | | $ 22,824 |
| EAST BETHEL | B/40 | $ 34,169 | $ 5,712 | $ 144,674 | $ 99,174 | | $ 283,728 |
| EAST MESABA | C/18 | $ 9,059 | $ 96 | $ 5,629 | $ 48,514 | | $ 63,297 |
| EIGHTY ACRE | D/10 | $ 2,987 | | $ 7,791 | | $ 57,735 | $ 68,513 |
| FARIBAULT COUNTY | C/15 | $ 1,984 | | $ 10,292 | | $ 62,244 | $ 74,520 |
| FIFTY LAKES | D/04 | $ 187 | | $ 4,668 | | | $ 4,855 |
| FLOODWOOD | C/05 | $ 1,392 | | $ 335 | | | $ 1,727 |
| FLYING CLOUD | C/12 | $ 3,115 | | $ 54,747 | | | $ 57,862 |
| FREEWAY | B/100 | $ 2,453 | $ 4,205 | | | | $ 6,658 |
| FRENCH LAKE | D/03 | $ 4,071 | $ 10 | $ 13,685 | | | $ 17,765 |
| GEISLERS | D/00 | $ 312 | | | | | $ 312 |
| GOFER | C/17 | $ 24,024 | $ 48 | $ 9,998 | | $ 57,552 | $ 91,623 |
| GOODHUE CO-OP | C/11 | $ 903 | | $ 4,023 | | | $ 4,926 |
| GRAND RAPIDS | D/17 | $ 4,584 | $ 19 | $ 139,368 | | $ 124,633 | $ 268,605 |
| GREENBUSH (Re-located) | D/00 | $ 77 | $ 29 | | | | $ 106 |

# *Appendix B: FY04 Financial Summary*

| Landfill Name | Class & Score | MPCA Salary & Expenses | Attorney General Support | Operation & Maintenance | Design/ Construction Non-Bond | Design/ Construction Bond | Landfill Totals |
|---|---|---|---|---|---|---|---|
| HANSEN | C/14 | $ 822 | | $ 4,398 | | | $ 5,220 |
| HIBBING | D/07 | $ 6,400 | $ 58 | $ 6,280 | $ 50,544 | | $ 63,282 |
| HICKORY GROVE | D/02 | $ 1,109 | | $ 3,277 | | | $ 4,386 |
| HIGHWAY 77 | C/02 | $ 252 | | $ 2,704 | | | $ 2,956 |
| HOPKINS | B/22 | $ 5,235 | $ 29 | $ 119,283 | | | $ 124,547 |
| HOUSTON COUNTY | D/25 | $ 3,510 | | $ 20,775 | | | $ 24,285 |
| HOYT LAKES | C/03 | $ 719 | | $ 2,144 | | | $ 2,863 |
| HUDSON | C/05 | $ 413 | | $ 461 | | | $ 874 |
| IRON RANGE | C/04 | $ 1,637 | | $ 9,483 | | | $ 11,119 |
| IRONWOOD | D/09 | $ 7,989 | | $ 120,465 | | | $ 128,453 |
| ISANTI-CHISAGO | D/11 | $ 5,191 | | $ 78,743 | | | $ 83,934 |
| JACKSON COUNTY | C/06 | $ 1,178 | | $ 5,838 | | | $ 7,017 |
| JOHNSON BROS. | C/11 | $ 1,745 | | $ 3,781 | | | $ 5,525 |
| KARLSTAD | C/04 | $ 1,470 | | $ 5,190 | $ 4,567 | | $ 11,227 |
| KILLIAN | D/05 | $ 5,574 | $ 269 | $ 5,892 | $ 691,898 | | $ 703,633 |
| KLUVER | B/15 | $ 4,393 | $ 1,766 | $ 21,548 | | | $ 27,707 |
| KOOCHICHING COUNTY | B/24 | $ 19,198 | | $ 121,853 | $ 104,404 | $ 1,426,680 | $ 1,672,135 |
| KORF BROS. | D/15 | $ 3,858 | $ 10 | $ 17,220 | | | $ 21,088 |
| KUMMER | B/13 | $ 2,001 | $ 163 | $ 25,086 | | | $ 27,251 |
| LACRESCENT | NEW | | $ 259 | | | | $ 259 |
| LA GRANDE | B/16 | $ 899 | | $ 6,339 | | | $ 7,238 |
| LAKE COUNTY | C/15 | $ 1,974 | | $ 7,134 | | | $ 9,107 |
| LAKE OF THE WOODS COUNTY | C/08 | $ 688 | | $ 6,129 | | | $ 6,818 |
| LAND INVESTORS, INC. (Re-located/GW monitoring) | D/15 | $ 3,009 | | $ 792 | | | $ 3,801 |
| LEECH LAKE | D/04 | $ 6,123 | $ 11,971 | $ 171,597 | | $ 165,292 | $ 354,983 |
| Leslie Benson Dump | NEW | | $ 2,045 | | $ 7,037 | | $ 9,081 |
| LINCOLN COUNTY (Re-located) | D/02 | $ 19 | | | | | $ 19 |
| LINDALA | D/11 | $ 5,006 | | $ 7,313 | $ 45,011 | | $ 57,330 |
| LINDENFELSER | D07 | $ 6,799 | $ 38 | $ 79,311 | | $ 65,406 | $ 151,555 |
| LONG PRAIRIE | D/07 | $ 4,501 | $ 7,642 | $ 245,310 | | | $ 257,452 |
| LOUISVILLE | D/04 | $ 13,141 | $ 154 | $ 119,092 | | | $ 132,386 |
| MAHNOMEN COUNTY | C/10 | $ 968 | $ 10 | $ 2,237 | | | $ 3,214 |
| MANKATO | D/23 | $ 904 | | $ 3,146 | | | $ 4,050 |
| MAPLE | D/23 | $ 375 | | $ 5,562 | | | $ 5,938 |
| MCKINLEY | C/04 | $ 770 | $ 125 | $ 4,515 | | | $ 5,410 |
| MEEKER COUNTY | C/13 | $ 20,690 | | $ 10,902 | $ 30,000 | | $ 61,592 |
| MILLE LACS COUNTY | C/02 | $ 326 | | $ 1,581 | | | $ 1,907 |
| MN SANITATION | D/07 | $ 3,901 | | $ 10,123 | | | $ 14,024 |
| MURRAY COUNTY | D/105 | $ 1,679 | | $ 14,135 | | | $ 15,814 |

# *Appendix B: FY04 Financial Summary*

| Landfill Name | Class & Score | MPCA Salary & Expenses | Attorney General Support | Operation & Maintenance | Design/ Construction Non-Bond | Design/ Construction Bond | Landfill Totals |
|---|---|---|---|---|---|---|---|
| NORTHEAST OTTER TAIL | D/03 | $ 1,349 | | $ 17,920 | | | $ 19,269 |
| NORTHOME | D/03 | $ 676 | | $ 6,829 | | | $ 7,505 |
| NORTHWEST ANGLE | B/02 | $ 602 | | $ 3,390 | | | $ 3,993 |
| NORTHWOODS | D/09 | $ 1,980 | | $ 16,689 | | | $ 18,668 |
| OAK GROVE | D/11 | $ 7,013 | | $ 102,425 | | $ 103,564 | $ 213,002 |
| OLMSTED COUNTY | D/13 | $ 24,990 | $ 1,018 | $ 124,437 | $ 1,903,990 | | $ 2,054,436 |
| ORR | B/05 | $ 170 | | | | | $ 170 |
| PAYNESVILLE | D/07 | $ 2,778 | $ 19 | $ 3,620 | | | $ 6,417 |
| PICKETT | B/03 | $ 1,152 | | $ 16,930 | | | $ 18,082 |
| PINE LANE | D/06 | $ 29,537 | $ 394 | $ 81,266 | | $ 3,003,898 | $ 3,115,094 |
| PIPESTONE COUNTY | C/08 | $ 2,489 | | $ 11,305 | $ 3,015 | | $ 16,809 |
| PORTAGE MOD. (Re-located) | D/00 | | | | | | $ - |
| RED ROCK | D/26 | $ 1,223 | | $ 16,236 | | $ 184,972 | $ 202,431 |
| REDWOOD COUNTY | C/08 | $ 24,182 | $ 106 | $ 11,583 | | $ 918,116 | $ 953,986 |
| ROCK COUNTY | D/07 | $ 3,692 | | $ 10,964 | $ 6,591 | $ 5,000 | $ 26,246 |
| SALOL/ROSEAU | D/04 | $ 2,406 | $ 394 | $ 9,812 | | | $ 12,611 |
| SAUK CENTRE | D/22 | $ 12,934 | $ 4,138 | $ 7,383 | | $ 797,393 | $ 821,847 |
| SIBLEY COUNTY | C/07 | $ 1,234 | | $ 7,543 | | | $ 8,777 |
| ST. AUGUSTA | C/21 | $ 13,716 | $ 38 | $ 67,755 | | $ 76,554 | $ 158,063 |
| STEVENS COUNTY | B/30 | $ 5,091 | | $ 8,643 | | $ 151,484 | $ 165,217 |
| SUN PRAIRIE | D/22 | $ 946 | | $ 9,035 | | | $ 9,981 |
| TELLIJOHN | D/15 | $ 6,491 | | $ 66,423 | | | $ 72,914 |
| VERMILLION DAM (Re-located) | D/00 | | | | | | $ - |
| VERMILLION MOD. | D/11 | $ 750 | | $ 13,501 | | | $ 14,250 |
| WABASHA COUNTY | D/11 | $ 1,160 | $ 77 | $ 13,873 | | | $ 15,109 |
| WADENA | D/05 | $ 617 | $ 19 | $ 3,657 | | | $ 4,293 |
| WASECA COUNTY | B/20 | $ 30,547 | | $ 32,726 | | $ 971,761 | $ 1,035,034 |
| WASHINGTON COUNTY | B06 | $ 31,675 | | $ 179,869 | $ 76,111 | | $ 287,655 |
| WATONWAN COUNTY | D/06 | $ 3,476 | | $ 82,792 | | $ 16,986 | $ 103,254 |
| WASTE DISPOSAL ENG (WDE) | B/116 | $ 19,911 | $ 1,920 | $ 346,075 | $ 150,970 | | $ 518,876 |
| WINONA COUNTY | C/23 | $ 8,048 | | $ 75,693 | | | $ 83,741 |
| WLSSD Rice Lake | B/48 | $ 5,736 | $ 1,930 | | | | $ 7,666 |
| WOODLAKE | C/08 | $ 28,339 | $ 182 | $ 360,470 | | $ 139,874 | $ 528,866 |
| YELLOW MEDICINE COUNTY | D/20 | $ 2,202 | | $ 10,400 | | | $ 12,602 |
| Program Administration/Maint | | $ 1,908,718 | $ 85,765 | $ 21,718 | | | $ 2,016,201 |
| **GRAND TOTALS** | | **$ 2,538,319** | **$ 137,594** | **$ 4,248,574** | **$ 3,618,478** | **$ 11,043,784** | **$21,586,749** |

# *Appendix C: CLP State Ownership of Landfills and Adjacent Property*

**Appendix C: CLP State Ownership of Landfills and Adjacent Property.**

| SITE NAME* | County | Landfill (Acres) | Adj Property (Acres) | Twp | Range | Sect | Donated (Y/N) | When Acquired |
|---|---|---|---|---|---|---|---|---|
| ANDERSON/SEBEKA | WADENA | 27 | | 137 | 35 | 29 | Y | 8/3/1999 |
| ANOKA/RAMSEY | ANOKA | 317 | | 32 | 25 | 27 | Y | 6/30/1998 |
| Anoka/Ramsey Buffer | ANOKA | | 23 | 32 | 25 | 23 | N | 12/7/2001 |
| BUECKERS #1 | STEARNS | 17 | 13 | 126 | 32 | 31 | Y | 9/23/1994 |
| DAKHUE | DAKOTA | 80 | | 113 | 18 | 24 | Y | 11/1/1996 |
| EAST BETHEL | ANOKA | 60 | | 33 | 23 | 8&9 | Y | 7/22/1999 |
| EAST MESABA | ST LOUIS | 128 | | 58 | 17 | 15 | Y | 12/31/1996 |
| FRENCH LAKE | WRIGHT | 11 | | 120 | 28 | 28 | Y | 8/16/1996 |
| French Lake Buffer | WRIGHT | | 69 | 120 | 28 | 28 | N | 5/24/1996 |
| ISANTI/CHISAGO | ISANTI | 40 | | 35 | 23 | 1 | Y | 8/25/1997 |
| Kluver Buffer | DOUGLAS | | 3 | 129 | 37 | 27 | N | pending |
| Kummer Buffer | BELTRAMI | | 7 | 147 | 33 | 32 | N | 12/3/1996 |
| Kummer Buffer | BELTRAMI | | 3 | 147 | 33 | 32 | N | 6/27/2003 |
| LA GRANDE | DOUGLAS | 80 | | 128 | 38 | 18 | Y | 6/25/1997 |
| LAND INVESTORS, INC. | BENTON | 9 | | 36 | 30 | 11 | Y | 6/30/1998 |
| LEECH LAKE | HUBBARD | 60 | | 145 | 32 | 13 | Y | 6/17/1997 |
| Leech Lake Buffer/Bergeron Prop. | HUBBARD | | 13 | 145 | 32 | 13 | N | 12/5/2003 |
| Leech Lake Buffer/Goodman Prop. | HUBBARD | | 3 | 145 | 32 | 13 | N | 2/10/2004 |
| LINDALA | WRIGHT | 60 | | 120 | 28 | 3 | Y | 3/6/2000 |
| Lindala Buffer | WRIGHT | | 23 | 120 | 28 | 3 | Y | 5/28/1999 |
| LINDENFELSER | WRIGHT | 60 | | 120 | 24 | 26 | Y | 4/12/2000 |
| Lindenfelser Buffer | WRIGHT | | 11 | 120 | 24 | 26 | N | 4/12/2000 |
| LONG PRAIRIE | TODD | 28 | | 129 | 32 | 18 | Y | pending |
| Long Prairie Buffer/Prill Prop. | TODD | | 80 | 129 | 32 | 18 | N | 11/1/2002 |
| Long Prairie Buffer/Loegering Prop. | TODD | | 20 | 129 | 32 | 18 | N | 6/7/2004 |
| OAK GROVE | ANOKA | 160 | | 33 | 24 | 28 | Y | 1/27/2000 |
| Oak Grove Buffer (3 properties) | ANOKA | | 6 | 33 | 24 | 28 | N | 9/26/1996 |
| OLMSTED | OLMSTED | 252 | | 108 | 14 | 27 | Y | 2/27/1996 |
| Olmsted Buffer | OLMSTED | | 47 | 108 | 14 | 27 | y | 2/27/1996 |
| PAYNESVILLE | STEARNS | 56 | | 122 | 32 | 22 | Y | 6/1/2000 |
| PICKETT | HUBBARD | 16 | | 140 | 34 | 7 | Y | 5/31/2002 |
| PINE LANE | CHISAGO | 44 | | 33 | 21 | 16/17/20 | Y | 12/20/2001 |
| Pine Lane Buffer | CHISAGO | | 22 | 33 | 21 | 16/17/20 | N | 12/20/2001 |
| PIPESTONE | PIPESTONE | 40 | | 107 | 44 | 31 | Y | 9/13/1996 |
| RED ROCK | MOWER | 80 | | 108 | 17 | 32 | Y | 12/26/1996 |
| Red Rock Buffer | MOWER | | 81 | 108 | 17 | 32 | N | 6/18/1997 |
| SALOL | ROSEAU | 102 | | 162 | 38 | 15 | Y | 12/23/1996 |
| SAUK CENTRE | STEARNS | 8 | | 126 | 34 | 14 | Y | pending |
| Sauk Centre Buffer | STEARNS | | 11 | 126 | 34 | 14 | N | 6/26/2003 |
| Sauk Centre Buffer | STEARNS | | 3 | 126 | 34 | 14 | N | 7/8/2003 |
| ST AUGUSTA | STEARNS | 48 | | 123 | 27 | 7&12 | Y | 6/30/1998 |
| St. Aug. Buffer/Hankemeyer | STEARNS | | 43 | 123 | 27 | 7 | Y | 5/8/1997 |
| St. Aug. Buffer/McConnell | STEARNS | | 35 | 123 | 27 | 7 | N | 12/21/1996 |
| SUN PRAIRIE | LE SUEUR | 80 | | 111 | 24 | 24 | Y | 6/30/1998 |
| WABASHA COUNTY | WABASHA | 29 | | 109 | 24 | 24 | Y | 11/24/2003 |
| Washington Co. Buffer | WASHINGTON | | 20 | 29 | 21 | 10 | N | 11/21/1995 |
| WDE | ANOKA | 114 | | 32 | 24 | 27 | Y | pending |
| WDE Buffer | ANOKA | | 6 | 32 | 24 | 27 | N | 2/20/2002 |
| WOODLAKE | HENNEPIN | 85 | | 118 | 23 | 8 | Y | 5/11/2000 |
| Woodlake Buffer | HENNEPIN | | 110 | 118 | 23 | 8 | Y | 5/17/2000 |
| | **TOTALS:** | **2,091** | **652** | | | | | |

*(Site names in upper case include landfill permitted areas. Site names in lower case are buffer areas adjacent to or surrounding the landfill.)

# *Regional Offices*

- *MPCA North Central Office*
  7678 College Road
  Suite 105
  Baxter, Minnesota 56425
  (218) 828-2492

- *MPCA Detroit Lakes Office*
  714 Lake Avenue Plaza
  Detroit Lakes, Minnesota 56501
  (218) 847-1519

- *MPCA Duluth Office*
  525 Lake Avenue South
  Suite 400
  Duluth, Minnesota 55802
  (218) 723-4660

- *MPCA Mankato Office*
  1230 South Victory Drive
  Mankato, Minnesota 56001
  (507) 389-5977

- *MPCA Marshall Office*
  1420 East College Drive
  Suite 900
  Marshall, Minnesota 56258
  (507) 537-7146

- *MPCA Rochester Office*
  18 Wood Lake Drive Southeast
  Rochester, Minnesota 55904
  (507) 285-7343

- *MPCA Willmar Office*
  201 28th Avenue Southwest
  Willmar, Minnesota 56201
  (320) 214-3786

Minnesota Pollution Control Agency