

Superfund Program Biennial Legislative Report for Fiscal Years 2015 and 2016



Minnesota Pollution Control Agency



MINNESOTA DEPARTMENT
OF AGRICULTURE

Legislative charge

Minn. Stat. § 115B.20, subd. 6

Report to the Legislature

Every other year, the Commissioner of Agriculture and the Agency shall submit to the Senate Finance Committee, the House of Representatives Ways and Means Committee, the Environment and Natural Resources Committees of the Senate and House of Representatives, the Finance Division of the Senate Committee on Environment and Natural Resources, and the House of Representatives Committee on Environment and Natural Resources Finance, and the Environmental Quality Board, a report detailing the activities for which money has been spent pursuant to this section during the previous fiscal year.

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Minnesota Pollution Control Agency

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Foreword

This report is submitted to the Minnesota Legislature under requirement of Minn. Stat. § 115B.20, subd. 6.

In 1983, the State enacted the Minnesota Environmental Response and Liability Act (MERLA), Minn. Stat. ch. 115B, establishing the State Superfund Program. This law, which is implemented by the Minnesota Pollution Control Agency (MPCA), provides broad state authority to respond to releases or threatened releases of hazardous substances that may endanger public health, welfare, or the environment. Minn. Stat. §116.155 establishes a state Remediation Fund from which the MPCA and the Minnesota Department of Agriculture (MDA) can spend money to investigate and remediate releases or threatened releases of hazardous substances, pollutants or contaminants, and agricultural chemicals. MERLA was later amended to include sections addressing:

- Harmful Substance Compensation (1985)

- Investigation and Cleanup by Voluntary Parties- Land Recycling Act (1992)

- Landfill Cleanup Program (1994)

- Dry Cleaner Environmental Response Law (1995)

The MPCA and MDA commissioners access money appropriated from the Remediation Fund to accomplish investigation and cleanup of hazardous substance releases and for administrative costs associated with those programs. The Remediation Fund also contains two special accounts, the Drycleaner Environmental Response and Reimbursement Account and the Metropolitan Landfill Contingency Action Trust Account. This report does not apply to expenditures from the Metropolitan Landfill Contingency Action Trust Account.

The MPCA and MDA use the authorities granted under state and federal Superfund laws to identify, evaluate, and clean up (or direct the cleanup of) sites that pose hazards to public health, welfare, and the environment. As required by Minn. Stat. 115B.20, subd. 6, this report details activities for which Remediation Fund dollars were spent during Fiscal Years 2015 and 2016 (FY15 - FY16) (July 1, 2014 – June 30, 2016) by the MPCA and the MDA for Superfund-, emergency response-, and voluntary cleanup-related activities. The tables on pages 2 and 3 detail expenditures for FY15 and FY16.

The MPCA's and MDA's administrative costs represent salaries for 30 full-time equivalent positions in FY15 (27 MPCA and 3 MDA) and 28 in FY16 (25 MPCA and 3 MDA) as well as costs for travel, equipment, non-site-specific legal costs, and supply expenditures associated with responding to emergencies and implementing site cleanups. FY15 and FY16 Remediation Fund figures are current as of November 7, 2016. All cumulative income and expenditure figures are approximations. Direct staff costs to research, write, and review this report totaled about \$2,200.

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MERLA responsibilities

The MPCA/MDA Superfund programs fulfill functions specified in MERLA for the 92 sites on the State's Permanent List of Priorities (PLP), as well as for the 109 non-listed sites being addressed by cooperative responsible parties. An additional 421 MPCA projects and 91 MDA projects are currently being addressed under Voluntary Investigation and Cleanup (VIC) programs authorized by the Land Recycling Act of 1992 and performed according to respective agency protocols.

Responding to emergencies and spills

Emergency Management Unit staff at the MPCA are on call and available to respond to environmental emergencies 24 hours a day, 7 days a week, 365 days a year. The MPCA received 3,670 incident reports from the Minnesota Duty Officer in FY15 and 3,644 in FY16. These reports were triaged and some were transferred to other MPCA programs for follow-up. The MPCA Emergency Management Unit directly handled 2,707 incident reports in FY15 and 2,276 in FY16. The remaining reports were other types of releases, such as air pollutants, wastewater bypasses, and tank petroleum leaks, and they were transferred to other MPCA programs. In FY15, the MPCA Emergency Management Unit responded to 36 emergency situations and authorized the spending of approximately \$462,145 under MERLA authorities. In FY16, the MPCA Emergency Management Unit responded to 21 emergency situations and authorized the spending of approximately \$268,478 under MERLA authorities. See the tables on pages 2 and 3.

When agricultural chemical spills occur, the MDA is the lead state agency which would respond. During FY15, 134 agricultural chemical incidents were reported, with no agricultural chemical emergencies declared. During FY16, 113 agricultural chemical incidents were reported, with no agricultural chemical emergency declared.

Anhydrous ammonia continues to be the most commonly reported agricultural chemical released in Minnesota. Roughly one-quarter to one-third of all agricultural chemical release reports are related to anhydrous ammonia.

The MPCA and MDA Emergency Management/Response teams' roles are to provide advice and oversee cleanups performed by responsible parties. In some situations, a responsible party is not identifiable or is unable or unwilling to perform the cleanup, and Superfund monies are used to respond to the situation. Examples include fuel spills from unknown sources, mercury spills affecting sensitive populations, unknown chemicals infiltrating a sump in a home, abandoned containers of chemicals or oil, or other situations in which the commissioner of the MPCA or the MDA (or delegates) has declared emergencies.

Natural disaster and terror preparedness is an important part of the State Emergency Response programs. Contingency planning and preparing are done to prepare for assisting local officials with abandoned chemicals, oils and wastes, and managing contaminated or infected debris. When a disaster occurs, the MPCA and MDA may assist the local units of government and may utilize MERLA funds to recover scattered chemicals, materials and containers to protect the environment and human health.

Superfund annual report closing numbers FY15

Allotment Name	TOTAL \$
Ace Signs	3,641
Baytown	49,274
Boyer Lumber	100,396
Brainerd Foundry	588,878
Bulinski Point	14,943
Capri	13,819
Chemart	13,393
Clothing Care Cleaners	46,444
Dealers Reviva	1,282
EMERGENCIES	462,145
EMERGENCIES (MDA)	0
Esko GW Plume	36,135
Farmington GW Plume	13,141
Fish Hatchery	20,959
FMC/Fridley Area GW	23,232
General Mills	106,359
HARMFUL SUBSTANCE	22,402
Hmong Center	39,744
Isanti Solvent	31,760
Kettle River (MDA)	742,882
Kurt / SW Fridley	55,000
Lakeland GW Contam	50,095
Littlefork	154,900
Long Prairie	194,032
Main Street Plume	48,239
Mankato Plating	9,011
MacGillis & Gibbs	367,816
MN Valley Dump	49,457
NON-EMERGENCY REMOVALS	93,516
PA / SI (Site Assessment)	640,827
PA / SI (MDA)	18,100
Perham	146,620
Peter Pan Cleaners	27,860

Allotment Name	TOTAL \$
PFC Technical Assistance	40,019
Pigs Eye	51,523
Pilgrim Cleaners	24,062
Pine Street Dump	29,152
Poplar Hill Solvent	29,743
Precision Plating	13,562
Rice County Dump	3,311
Ritari	32,644
Rochester GW Plume	79,810
Schloff	26,231
Southview Blvd	33,174
St. Louis Park Vapor	151,866
Superior Plating	73,165
Supplemental Closed Sites	442,827
Technical Assistance	151,147
Technical Assistance (MDA)	0
US Steel / ST Louis River	28,589
Valentine Clark	42,500
Whiteway Cleaners	10,823
Winona	90,570
Subtotal (site specific)	5,541,021
Site-specific legal expenses (MPCA)	230,700
Site-specific legal expenses (MDA)	0
Site-specific lab analytical services (MPCA)	181,700
Site-specific lab analytical services (MDA)	0
Subtotal (site-specific support)	412,400
TOTAL FY15 site-specific expenditures	5,953,421
TOTAL FY15 administrative costs (MDA = \$364,582)	3,826,154
TOTAL FY15 expenditures	\$9,779,575

Superfund annual report closing numbers FY16

Allotment Name	TOTAL \$
Ace Signs	16,272
Arrowhead	4,990
Baytown	16,935
Brainerd Foundry	539,108
Bulinski Point	13,957
Clothing Care Cleaners	14,968
Duluth Dump	84,265
Cedar Service-Bemidji (MDA)	381,553
Cedar Service-Mpls (MDA)	1,000
CMC Heartland (MDA)	64
CMC Minneapolis (MDA)	28,947
EMERGENCIES	268,478
EMERGENCIES (MDA)	0
Esko GW Plume	48,972
Exclusive Cleaners	47,881
Farmington GW Plume	11,014
Fish Hatchery	49,692
FMC/Fridley Area GW	30,793
General Mills	23,840
HARMFUL SUBSTANCE	11,558
Hmong Center	27,126
Isanti Solvent	7,541
Kettle River (MDA)	731,044
LeHillier	2,074
Littlefork	133,961
Long Prairie	201,971
Main Street Plume	115,245
Mankato Plating	3,473
MacGillis & Gibbs	339,907
NON-EMERGENCY REMOVALS	89,858
PA / SI (Site Assessment)	1,105,950
PA / SI (MDA)	0
Perham	188,159
Peter Pan Cleaners	28,005

Allotment Name	TOTAL \$
PFC Technical Assistance	51,515
Pigs Eye	19,973
Pilgrim Cleaners	52,508
Pine Street Dump	56,474
Precision Plating	21,781
Ritari	22,414
Rochester GW Plume	78,239
Spring Park Mun Wells	727,585
St. Louis Park Vapor	620,496
Schloff	26,953
Southview Blvd	56,205
Superfund Emergencies	71,232
Superior Plating	574,779
Supplemental-Closed Sites	133,904
Technical Assistance	74,261
Technical Assistance (MDA)	0
US Steel / St. Louis River	24,231
Valentine Clark	52,705
Whiteway Cleaners	45,289
Winona	96,086
Subtotal (site specific)	7,375,231
Site-specific legal expenses (MPCA)	0
Site-specific legal expenses (MDA)	0
Site-specific lab analytical services (MPCA)	211,283
Site-specific lab analytical services (MDA)	4,295
Subtotal (site-specific support)	215,578
TOTAL FY16 site-specific expenditures	7,590,809
TOTAL FY16 administrative costs (MDA = \$372,953)	3,625,258
TOTAL FY16 expenditures	\$11,216,067

Voluntary investigation and cleanup

Minnesota has built and maintains programs that enable properties with known or suspected environmental problems to be returned to productive use. The voluntary cleanup programs of the MPCA and the MDA, to varying degrees, are involved in most of Minnesota's redevelopment projects on "brownfield" properties. As a result of the Land Recycling Act of 1992, these two programs offer a menu of assurances regarding potential liabilities that voluntary parties may obtain after their investigation of, and, if necessary, cleanup of contaminated sites.

Since 1988, the MPCA's Voluntary Investigation and Cleanup (VIC) Program has overseen over 4,500 projects. Of those, over 4,000 have been cleaned-up; found acceptable for purchase, refinancing, or redevelopment; have been transferred to other regulatory programs for appropriate action; or have become inactive.

In FY15, 195 new sites entered the VIC Program. In FY16, 254 sites entered the VIC Program. The number of new projects has steadily increased since 2010, during the most recent downturn in the State's economy. As an example, the number of applicants received in FY16 was the highest number received in the history of the VIC Program.

During FY15, 16 new sites entered the MDA's Agriculture Voluntary Investigation and Cleanup (AgVIC) Program. In FY16, 26 new sites entered AgVIC. Currently, 91 sites are "open" cases. The AgVIC Program has closed 407 sites to date, of which 17 were closed in FY15 and 13 in FY16. The combination of liability assurances available under MERLA, and eligibility for partial reimbursement of corrective-action costs from the Agricultural Chemical Response and Reimbursement Account (ACRRA) offer a unique, incentive-driven program. This opportunity has been positively received by MDA clientele.

The MPCA VIC and Petroleum Brownfields programs continue to work closely with agency partners in the cleanup and reuse of contaminated properties in Minnesota. MPCA Brownfield staff are often asked to participate/present information concerning Brownfield redevelopment at seminars sponsored by community/non-profit organizations or educational institutions. The MPCA is a member of the Minnesota Brownfields Association, a nonprofit organization that promotes coordination among governmental units, consultants, and private developers for the redevelopment of Brownfield properties in the State. MPCA Brownfield Program staff are members of the Minnesota Brownfields Association Advisory Council, and often plan or participate in seminars/training sessions sponsored by the association. Minnesota Brownfields also sponsors an annual awards program called "The ReScape Awards," that highlights successful Brownfield redevelopment projects in Minnesota (<http://mnbrownfields.org/>). Minnesota Brownfields assisted the MPCA in preparing the Benefits of Brownfields report, which highlights the community, environmental and economic benefits of Brownfield redevelopment. <https://www.pca.state.mn.us/waste/benefits-brownfields-redevelopment>

Superfund site assessment

The Superfund Site Assessment Program is a MPCA-U.S. Environmental Protection Agency (EPA) cooperative program designed to evaluate initial reports of sites to determine whether Superfund resources should be expended to assess environmental risk at these sites. The program works with EPA Region 5 Superfund, and under a Cooperative Agreement, receives limited funding from the EPA for staff resources. During the last five years, the MPCA Site Assessment (SA) staff have been working to improve our connections and relationship with EPA. The SA program recently underwent a desk review with the EPA's State Program officer. EPA's findings were that the MPCA is responsive to site needs and activities under the Pre-Remedial Cooperative Agreement and all activities are on schedule, drawdowns are consistent and progress reporting is provided in a very timely manner. The MPCA SA Program

receives State Duty Officer (spill) reports, referrals from other regulatory programs, and citizen complaints; evaluates these; and determines whether Superfund resources should be expended to assess risk to human health and the environment. During calendar year 2016, approximately 90 initial site assessment inquiries (potential SA Program sites) were initiated, with approximately one-third becoming SA sites and about one-half of the inquiries being referred to other programs (Brownfield, Superfund, Petroleum or other programs) as sites. This is similar to calendar year 2015, when approximately 85 initial inquiries became approximately 35 new SA sites and a similar number were referred to other programs as sites.

During the SA process, existing site data are evaluated to determine the level of risk posed by the site. When observed conditions indicate that a substantial imminent risk exists, the site is eligible for funding for additional investigation. When observed conditions do not indicate a substantial imminent risk, the site is added to the long-term backlog of sites. When observed conditions do not indicate a risk, the site is closed out under SA. Current funding levels allow for about 40 sites to be actively investigated during the year, with the remaining sites adding to the backlog.

Site Assessment has encumbered approximately \$624,000 for SA site work during the first half of FY17. During FY16, SA expenditures totaled approximately \$1,105,950 and during FY15 SA expenditures totaled approximately \$640,827. See the tables on pages 2 and 3.

Superfund investigation and cleanup

Potential Superfund sites are identified by or reported to the MPCA or the MDA, and when responsible parties do not volunteer to investigate or cleanup, the sites enter a formal assessment process for possible addition to the State's PLP and/or the EPA's National Priorities List (NPL), the federal Superfund list.

Listing of a site on the PLP does not qualify it for listing on the NPL. The EPA has developed NPL listing and delisting procedures. However, prior to a site being listed, responsible parties, landowners, or facility operators are provided an opportunity to conduct an investigation and cleanup under the oversight of the MPCA or the MDA. Should the responsible party be unwilling or unable to conduct the necessary investigations and/or cleanup, the MPCA or MDA conducts the cleanup with MERLA funding and seeks cost recovery from responsible parties.

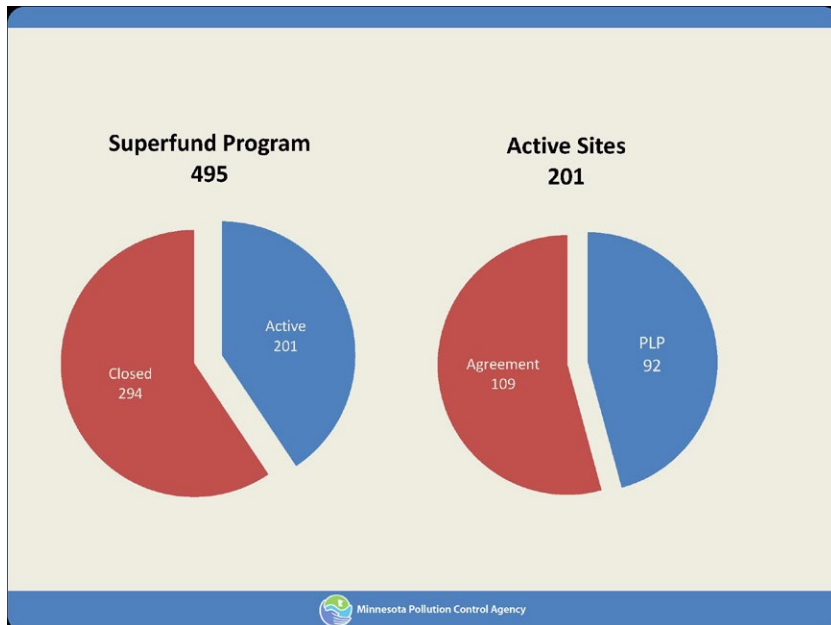
For sites under the oversight of the MDA, both responsible and voluntary parties may be eligible for partial reimbursement of their cleanup costs from the ACRRA. At the present time, the MDA is the lead state agency for site responses being performed at the South Minneapolis Residential Soil Contamination NPL/PLP site and five PLP only sites: Cedar Service site in Northeast Minneapolis, the Cedar Service site in Bemidji, the Kettle River Company Creosote Plant site in Sandstone, the CMC Heartland Lite Yard site in South Minneapolis, and the Page and Hill Forest Products site in Koochiching County.

Under MERLA authorities, MDA spent \$974,989 in FY15 and \$1,146,904 in FY16. The majority of the MERLA spending in FY15 and FY16 was on the Kettle River Company site, which is on the PLP, the State Superfund list. Spending on the Kettle River Company site (\$742,882 in FY15 and \$731,044 in FY16) was for long-term investigation and cleanup.

Since its inception, 495 sites have been brought into the State Superfund program. Cleanup and site closure has been completed at 294 of those sites, and 201 sites are currently active with ongoing investigation, monitoring, or other site actions occurring. See map on page 7 for statewide distribution of sites. There are 92 sites on the PLP for both the MPCA and MDA as of the end of FY16. One site was delisted from the PLP in FY15, and one site was delisted in FY16. It should be noted that the primary

purpose of the PLP (and NPL) is to identify which sites are eligible for state (or federal) funding for the purpose of the MPCA/MDA (or EPA) to conduct fund-financed response actions. The MPCA does have the authority under 115B to provide oversight of investigations and response actions taken by responsible parties. As such and in addition to sites listed on the PLP, the MPCA provides oversight of Superfund actions by responsible parties at 109 other sites. Responsible parties for those other 109 active superfund sites have entered into an agreement to complete cleanup activities. The MPCA Superfund Program has developed a formal agreement that both the responsible party and the MPCA

sign, which outlines roles and responsibilities for each party and provides a timeline for completion of appropriate actions to be taken.



A cumulative total of 266 sites have been listed on the PLP. Of those, 174 sites have been delisted. A detailed summary of delisted sites is available from the MPCA. Of the 92 PLP-listed sites, 19 are also on the NPL (See the PLP list of Sites on pages 8 and 9). Minnesota has 7 additional NPL sites that are not on the PLP.

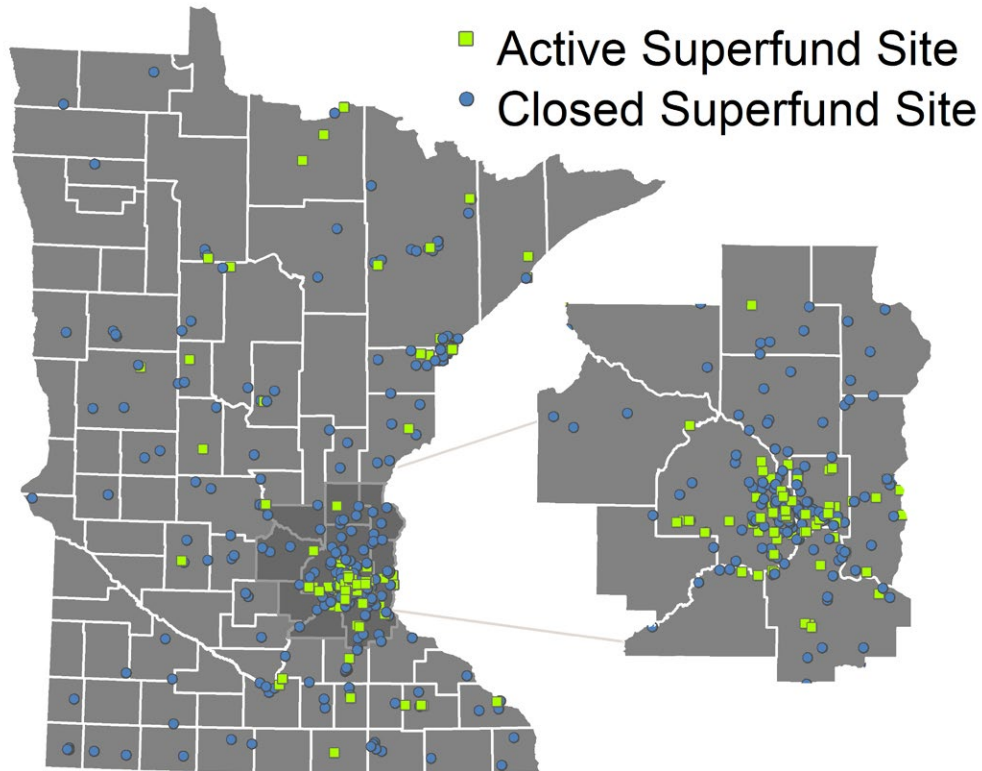
After the listing of a site on the

PLP or the NPL, and if a responsible party either cannot be identified or is unable or unwilling to take requested action, the MPCA or MDA may use the Remediation Fund to conduct response actions. The agencies follow an established process in their site responses.

A remedial investigation/feasibility study is conducted to determine the extent of contamination and evaluate cleanup alternatives. Following a decision on the needed activities, a plan for remedial design/remedial action is developed and implemented. If financially viable responsible parties are identified at any point during investigation or cleanup, the State may attempt to secure their cooperation and recover costs from them. Such cooperation or cost recovery leverages private funds for cleanups, conserving State funds for truly “orphan” sites, for which no viable responsible party can be identified.

After response actions are complete or when a site no longer poses risks to public health or the environment, the site may be “delisted” from the PLP or the NPL. Sites can also be delisted from either the PLP or the NPL if responsible parties have completed all necessary response actions and/or if no additional MERLA funding is needed to conduct response actions. Conditions at some responsible party lead sites may require ongoing maintenance or monitoring using land use controls after the delisting process to ensure long-term risk reduction. Site-specific expenditures can be seen in the tables on pages 2 and 3.

Minnesota's 26 NPL sites are eligible for federal funding for response actions based on national priority. But, in return for access to these funds, the Comprehensive Environmental Response, Compensation, and Liability Act, the federal Superfund law) requires states to match either 10% of the cost of site-specific remedial actions (when no state or local government has been identified as a responsible party) or pay 50% (if the site was owned or operated by a state or local governmental entity).

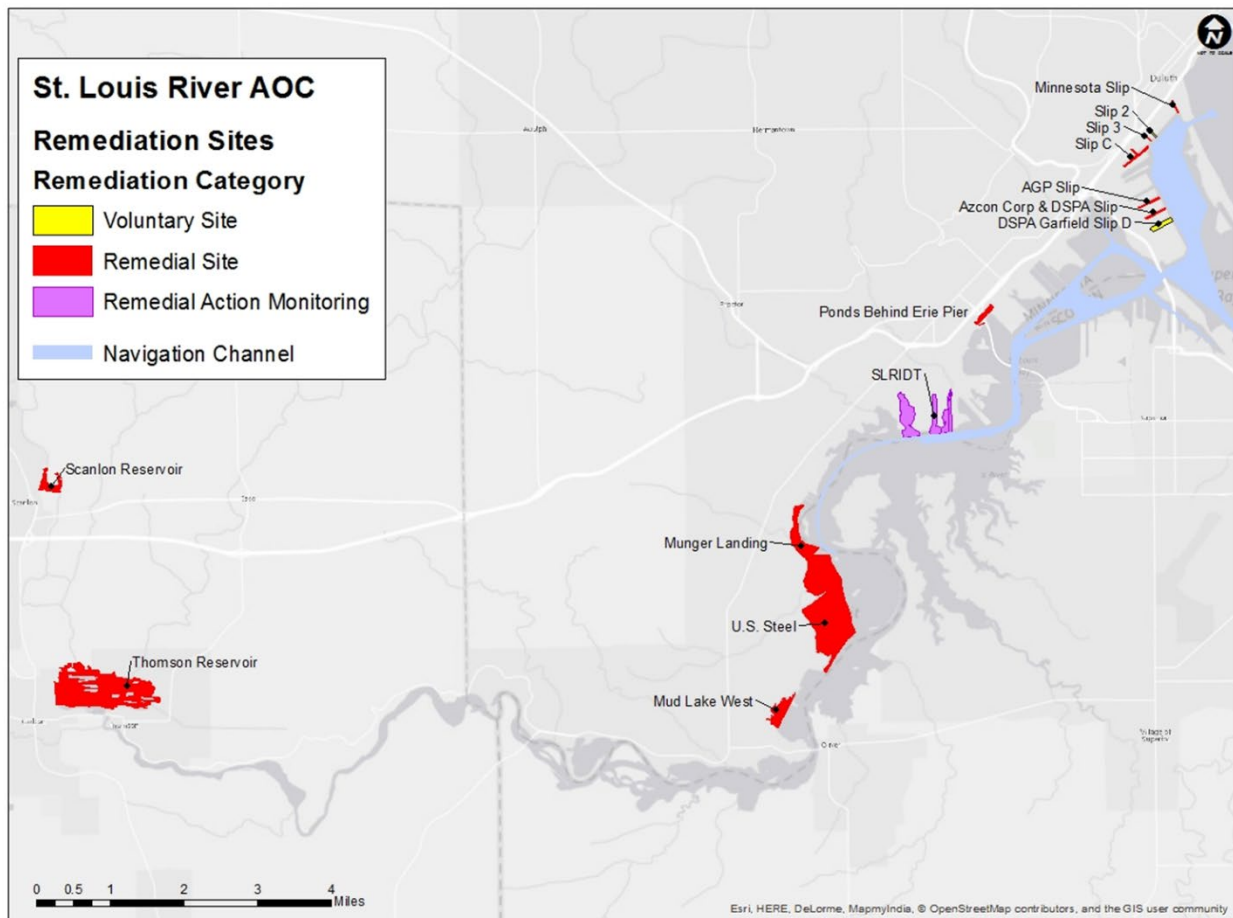


The MPCA and the MDA continue to manage site cleanups and move them to a monitoring or maintenance level, as appropriate. As development in Minnesota continues, new sites with contamination will be discovered and old ones redeveloped. Lower detection limits and changing health based standards sometimes may trigger investigation or cleanup at sites where action was not previously required. Sites that involve issues like perfluorochemicals (PFAS) and intrusion of chemical vapors into buildings may require similar actions. Vapor-intrusion issues have become such a growing area of concern at Superfund sites that, to account for potential vapor issues, the EPA has revised its Hazard Ranking System to account for vapor intrusion in the NPL listing process.

Institutional controls will also help to ensure that exposure to residual contaminants does not occur as a result of inappropriate land use at former Superfund and VIC sites. The MPCA has developed institutional control tracking mechanisms for former sites to ensure that citizens and local units of government are aware of, and honor, any controls already in place.

Remediation work at sediment sites has evolved and grown in the last 20 years, particularly in the St. Louis River Area of Concern (AOC), which stretches from the Duluth harbor to Cloquet. The AOC was designated by the EPA in 1987. Many of the beneficial use impairments are related to contaminated sediments. There have been many small sediment investigations in the past and the MPCA wanted to assess all reaches of the AOC. From 2006 to present, the MPCA has partnered with the EPA and the U.S. Army Corps of Engineers (USACE) to assess the state of the sediment contamination in the St. Louis River. See the map of the AOCs on page 9.

In 2013, eight sediment remedial sites were identified in the AOC during a Phase 1 Assessment as needing more investigation and cleanup. Some of these sites have responsible parties that are carrying out the remedial work. Others are being addressed through the Brownfields program as a redevelopment site. The remaining sites were investigated further using EPA Great Lakes Restoration Initiative funds awarded to the MPCA. A Phase 2 Sediment Assessment using EPA Great Lake Legacy funding was completed in late 2014. This work assessed six additional sites for potential cleanup. In 2016, Focused Feasibility Studies for each of these remedial sites were completed. The FFS identifies a number of remedial alternatives for each site. In the fall of 2016, a Partnership Agreement with the USACE for design of restoration projects and Minnesota Slip remedial design was amended to add 5 remedial sites. The USACE Partnership Agreement is currently being amended to add 3 more remediation sites for a total of 10 sites. Future cleanups will be coordinated with EPA Great Lake Legacy funding. Based on available funding all cleanup actions will occur by 2020 to meet the St. Louis River AOC delisting goal of 2025.



MPCA and MDA active Permanent List of Priorities sites

Site Name	City	County	**HRS Score	Date Listed
55th Street and Lyndale Avenue South	Minneapolis	Hennepin	17	Aug-16
3M Chemolite Disposal Site	Cottage Grove	Washington	33	Oct-84
Ace Sign	Willmar	Kandiyohi	3	Feb-14
Arcade Street North & Hawthorne Avenue East	St. Paul	Ramsey	24	Aug-16
*Arrowhead Refinery Company	Duluth	St. Louis	40	Oct-84
Ashland Oil/Park Penta/Sonford Products Site	St. Paul Park	Washington	32	Apr-86
*Baytown Township Ground Water Contamination	Baytown Township	Washington	38	Dec-88
Bell Lumber & Pole Company	New Brighton	Ramsey	48	Oct-84
*Boise Cascade/Medtronic	Fridley	Anoka	59	Oct-84
Boise Cascade/Onan	Fridley	Anoka	59	Oct-84
Brainerd Foundry	Brainerd	Crow Wing	2	Apr-10
Brooklyn Park Dump	Brooklyn Park	Hennepin	36	Dec-89
Bulinski Point	Ely	St. Louis	5	Feb-14
Burlington Northern Car Shops	Brainerd	Crow Wing	38	Dec-88
*Burlington Northern Tie Plant	Waite Park	Stearns	47	Oct-84
Capril Beauty Salon	Minneapolis	Hennepin	4	Apr-10
Cedar Service - Bemidji (MDA)	Bemidji	Beltrami	17	Feb-14
Cedar Service - Minneapolis (MDA)	Minneapolis	Hennepin	17	Dec-90
Centerville Dump	Bemidji	Beltrami	9	Apr-10
Chemical Marketing Corp.	White Bear Township	Ramsey	23	Jun-99
Clothing Care Cleaners	Minneapolis	Hennepin	14	Feb-14
*CMC Heartland Lite Yard Site(MDA)	Minneapolis	Hennepin	13	Apr-02
D's Fabric Care	Cloquet	Carlton	5.81	Aug-16
Duluth Air Force Base	Duluth	St. Louis	21	Oct-84
Duluth Former City Dump	Duluth	St. Louis	28	Dec-87
Edina Well Field	Edina	Hennepin	50	Jul-06
Electric Machinery	St. Cloud	Stearns	38	Apr-86
Esko Ground Water	Esko	Carlton	8	Jul-06
Exclusive Cleaners	Worthington	Nobles	6	Aug-14
Farmington Ground Water Plume Site	Fridley	Anoka	6	Jun-99
Finland Air Force Base	Farmington	Dakota	13	Jun-96
Fish Hatchery Dump	Finland	Lake	22	Aug-07
*FMC Corporation - Fridley Plant	St. Paul	Ramsey	66	Oct-84
*Freeway Sanitary Landfill	Burnsville	Dakota	46	Oct-84
*General Mills	Minneapolis	Hennepin	39	Oct-84
Hibbing Gas Mfg.	Hibbing	St. Louis	11	Jul-06
Highway 96 Dump	White Bear Lake	Ramsey	31	Oct-84
Hmong Shopping Center	Brooklyn Center	Hennepin	3	Apr-10
Honeywell, Inc. - Golden Valley Plant	Golden Valley	Hennepin	31	Oct-84

MPCA and MDA active Permanent List of Priorities sites

Site Name	City	County	**HRS Score	Date Listed
Hospital Linen	St. Paul	Ramsey	50	Aug-16
Isanti Solvent Site	Isanti County	Isanti	30	Oct-84
*Joslyn Mfg. & Supply Company	Brooklyn Center	Hennepin	44	Oct-84
Kettle River Company – Creosote(MDA)	Sandstone	Pine	35	Jun-02
Lakeland Ground Water Contamination	Lakeland	Washington		Feb-14
Little Fork Ground Water Contamination	Littlefork	Koochiching	23	May-95
*Long Prairie Ground Water Contamination	Long Prairie	Todd	32	Oct-84
Lyndale Avenue Corridor	Bloomington	Hennepin	38	Aug-16
*MacGillis & Gibbs Company	New Brighton	Ramsey	48	Oct-84
Main Street Solvent Plume, Biwabik	Biwabik	St. Louis	2	Aug-13
Mankato Plating	Mankato	Blue Earth	8	May-95
Mibco	Minnetonka	Hennepin	40	May-92
Minnegasco	Minneapolis	Hennepin	42	Oct-84
Minnesota Valley Landfill	Shakopee	Scott	14	Jul-06
*Oakdale Dump, 3M	Oakdale	Washington	59	Oct-84
Old Freeway Dump	Burnsville	Dakota	66	Jun-93
Page & Hill (MDA)	Big Falls	Koochiching	20	Sep-10
PCI, Inc.	Shakopee	Scott	52	Oct-84
Perham Arsenic Site	Perham	Otter Tail	38	Oct-84
Peter Pan Dry Cleaners	Duluth	St. Louis	3	Jan-03
Pig's Eye Landfill	St. Paul	Ramsey	42.5	Dec-89
Pilgrim Cleaners	Brooklyn Park	Hennepin	12	Dec-96
Pine Street Dump	Hastings	Dakota	32	Dec-91
Poplar Hill Solvent Plume, Hibbing	Hibbing	St. Louis	6	Aug-13
Precision Plating	Minneapolis	Hennepin	4	Feb-14
Pure Oil Bulk Storage Facility	Excelsior	Hennepin	7	Aug-16
Reserve Mining	Silver Bay	Lake	10	Oct-03
*Reilly Tar	St. Louis Park	Hennepin	59	Oct-84
Rice County Dump (Former)	Dundas	Rice County	12	Feb-14
*Ritari Post and Pole	Sabeka	Wadena	30	Oct-84
Rochester Ground Water Plume	Rochester	Olmsted	50	Jul-06
Schloff Chemical	St. Louis Park	Hennepin	7	Dec-89
Southeast Hennepin Area Groundwater and Vapor Site	Minneapolis	Hennepin	33	Aug-16
Southview Boulevard	South St. Paul	Dakota	3	Apr-10
Spring Park Municipal Wells	Spring Park	Hennepin	50	Aug-14
St. Louis Park Solvent Plume	St. Louis Park	Hennepin	3	Apr-10
*St. Louis River/Interlake/Duluth Tar	Duluth	St. Louis	32	Oct-84
St. Louis River/U.S. Steel	Duluth	St. Louis	32	Oct-84
St. Paul Levee Property	St. Paul	Ramsey	20	May-92
*St. Regis Paper	Cass Lake	Cass	53	Oct-84

MPCA and MDA active Permanent List of Priorities sites

Site Name	City	County	**HRS Score	Date Listed
Superior Plating, Inc.	Minneapolis	Hennepin	6	Oct-84
Tonka Main Plant	Minnetonka	Hennepin	31	Dec-85
*Twin Cities Army Ammunition Plant/ New Brighton/ Arden Hills/St. Anthony Site	Arden Hills	Ramsey	59	Oct-84
Universal Plating	Minneapolis	Hennepin	25	Aug-16
University Avenue and Pascal Street Area	St. Paul	Ramsey	18	Aug-16
*U.S. Naval Industrial Reserve Ordinance Plant (NIROP)	Fridley	Anoka	63	Oct-84
Valentine-Clark	Minneapolis	Hennepin	4	Dec-88
*Waite Park Ground Water Contamination Site	Waite Park	Stearns	32	Dec-85
West 66th Street and Vincent Avenue	Richfield	Hennepin	50	Aug-16
West Broadway Ground Water Plume(Owatonna)	Owatonna	Steele	6	Jun-99
West Duluth Industrial Site	Duluth	St. Louis	11	Oct-84
Whiteway Cleaners	Minneapolis	Hennepin	4	Jun-98
Winona Ground Water Contamination (Clarks Lane /Gilmore Avenue)	Winona	Winona	25	Dec-89

* NPL Site

** Hazard Ranking System Score

Dry Cleaner Fund

The Dry Cleaner Environmental Response and Reimbursement Account (Drycleaner Fund) was established by the Minnesota Legislature in 1995 and is used to reimburse owners or operators of dry cleaning facilities for costs associated with environmental cleanups. The MPCA reviews reimbursement requests, determines reasonable costs, and approves reimbursements, minus a deductible of \$10,000. The Drycleaner Fund is funded by annual registration fees from drycleaner operators, as well as fees on solvents used in the dry cleaning process.

In FY16, the Drycleaner Fund was amended in order to extend its viability into the future. Revisions include:

- The definition of "owner or operator" was narrowed to include only those individuals that were responsible for the release, thereby eliminating use of the Drycleaner Fund by non-contributors to the fund.
- A onetime transfer of \$743,000 to the Drycleaner Fund, earmarked for parties that would no longer be eligible for reimbursement after passage of the amendment to the law, but who had submitted applications for reimbursement prior to its enactment.
- Limited the reimbursement amount to \$100,000 in one fiscal year, per single dry cleaning facility.
- Directed the MPCA to adopt rules defining reasonable costs and ineligible costs for reimbursement, application requirements, and a process to adjust reimbursement rates.

The total amount reimbursed in FY2015 was \$560,354. The total amount reimbursed in FY2016 was \$701,286. Since establishment of the Drycleaner Fund, over 50 facilities have received approximately \$10.6 million in full or partial reimbursement.

Harmful substance compensation program

In 1996, the Minnesota Legislature abolished the Harmful Substance Compensation Board and transferred responsibility to manage the program to the MPCA and pay eligible claims out of the Remediation Fund (Minn. Stat. 115B.25 – 115B.37). Since taking over responsibility for review and payment of approved claims, the MPCA had normally received one or two claim requests per fiscal year. Most of those claims found to be eligible have been for reimbursement of expenses to replace private drinking water wells or to install carbon filter systems. However, since FY14 in which 15 claims were received, the number of claims received has increased, primarily related to the lower drinking water standard for trichloroethylene (TCE). In FY15, 3 claims were reimbursed for a total of \$7,424 and in FY16, 2 claims were reimbursed for a total of \$5,862 by the MPCA. These reimbursements were either for costs to install a granular activated carbon system to remove the TCE in the residential well water or were for costs associated with connecting the residence to the municipal water supply.

During the 2015 Legislative session, the MPCA proposed and the State Legislature approved an amendment to the Harmful Substance Compensation Program provisions of MERLA. In the amendment, reasonable costs for homeowners to install a vapor mitigation system to prevent migration of volatile organic compounds from sub-surface soils into the residence are now eligible for reimbursement. The vapor mitigation system does need to be recommended for installation by the MPCA based on results of appropriate building sub-slab soil vapor samples collected. While the MPCA would normally install the appropriate vapor mitigation system when determined one was necessary, this amendment does offer the option to the homeowners to install the vapor mitigation system themselves, based on MPCA specifications, and request reimbursement for their costs. To date, there has not been a claim for reimbursement under this provision.

The MPCA will also utilize funding under this program to provide bottled water or carbon filter systems when there is no responsible party identified. The MPCA is also authorized under Minn. Stat. 115B to reimburse local units of government for expenses incurred when responding to emergencies caused by the release of hazardous substances. The MPCA received no requests from local units of government for such reimbursements in either FY15 or FY16.

Perfluorochemicals at Superfund sites

Perfluorochemicals (PFAS) are a family of chemicals made by the 3M Company (3M), and other manufacturers that have been used for decades to make products that resist heat, oil, stains, grease, and water. They were not known to cause environmental problems until 2004, when the MPCA found PFAS in drinking water supplies in parts of the eastern Twin Cities Metropolitan Area.

Four sites where 3M had disposed of PFAS manufacturing wastes in the past were identified: the 3M Oakdale site, the 3M Woodbury site, the 3M Cottage Grove site, and the closed Washington County Landfill. Remediation of the three 3M sites is managed by the Superfund Program; remediation of the Washington County Landfill is handled by the Closed Landfill Program.

In May 2007, the MPCA Citizens' Board approved a Settlement Agreement and Consent Order (CO) negotiated between MPCA staff and 3M. The CO is a legally binding document that lays out timetables, deliverables, and other requirements, including funding for investigating and cleaning up PFAS at the

three 3M sites. Since the Washington County site is in the Closed Landfill Program, 3M has no legal liability for the site, but did agree under the CO to provide up to \$8 million to help fund the State's cleanup of the site. 3M also funded the construction of a lined disposal cell at SKB Industrial Waste Landfill (SKB) in Rosemount to contain only the excavated PFAS waste material from the 3M sites.

Cleanup plans for the 3M PFAS sites share basic similarities of (1) institutional controls; (2) excavation of remaining source areas; (3) continued and/or enhanced groundwater extraction and treatment; and (4) long-term monitoring. All excavation activities regarding PFAS-contaminated soils/sediments at the 3M PFAS sites have been completed. A majority of the excavated material from the 3M sites was disposed of and managed in a separate disposal cell at the SKB industrial landfill in Rosemount. This cell at SKB has now been closed. Material that was excavated and contained non-PFAS hazardous material was disposed of out of state in a permitted hazardous waste landfill. Groundwater control and treatment systems are also in place at each of the 3M sites, with only the final number of groundwater control wells at the 3M Cottage Grove site yet to be determined. 3M is currently in the process of reducing the amount of groundwater being pumped at the 3M Woodbury site, but also ensure PFAS contaminated groundwater is contained. The MPCA has approved this pumping reduction and is monitoring the effectiveness of this reduction to maintain capture of the PFAS contaminated groundwater. The overall goal of this reduction is to maintain capture of the correct amount of groundwater, while helping preserve the groundwater resource in the region.

In FY15 and FY16, the MPCA continued to provide either point-of-use carbon treatment systems or bottled water to about 75 residences in Lake Elmo and Cottage Grove that have private wells impacted with PFAS and have been issued a drinking water advisory by the Minnesota Department of Health (MDH). Costs to provide the carbon treatment or bottled water are reimbursed by 3M. All MPCA staff costs and costs incurred by MPCA contractors providing technical assistance to the MPCA for oversight of 3M activities are also reimbursed by 3M.

MPCA and MDH continued to monitor private drinking water wells in south Washington County for PFAS during the past two fiscal years, with about 200 residential wells sampled each year. The MDH also continues to monitor municipal wells in south Washington County for PFAS concentrations. While PFAS levels remain at low levels in municipal wells, such as those for the city of Cottage Grove, the concentrations remained below established drinking water criteria. Oakdale remains the only city that has a municipal well that requires carbon treatment.

Public participation in the Superfund process

Providing information to the public and public participation is an important component of the Superfund process. A public notice component is defined in state statute for selection of final remedial actions at listed sites, along with a public notice component when sites are listed to or delisted from the PLP. Superfund staff often meet with local government officials and community groups and hold public meetings to provide updates of site-specific activities.

One example of this is the public communication work that occurred at the General Mills Superfund site in response to the potential for vapor intrusion into nearby residences. The MPCA response action involved sampling over 340 homes and installing mitigation systems in 185 homes over a period of one year. Public communication work was a critically important element enabling this work to take place. In coordination with the MDH and the city of Minneapolis Health Department, the MPCA and MDH established several channels of communication with individuals, the local community group, and other interested stakeholders, including the University of Minnesota. The communication efforts involved two public meetings; "office hour" sessions, during which residents could meet one-on-one with MPCA and

MDH representatives; meetings with the community group (Southeast Como Improvement Association), and responding to many calls and e-mails from residents and property owners. A project-specific webpage and e-mail distribution list were established. Two project newsletters were mailed to residents and property owners in the neighborhood. As the work of installing mitigation systems to address the possibility of vapor intrusion was concluding, a cleanup technology open house was held in the community. A variety of cleanup technologies were shown in a poster session. Each station was staffed by remediation experts from a consulting company who answered residents' questions. Communication work is an ongoing part of the General Mills cleanup, and serves as a model for communication work at other vapor-intrusion sites.

In the past, the main way to communicate with the public and promote public participation was through traditional media like news releases. Now that has changed. The MPCA uses multiple forms of outlets, both traditional and social media, to engage the public, including Facebook, Twitter, Gov Delivery (news releases, email updates, newsletters), and You Tube. By using a combination of media we are able to share details of upcoming outreach activities, answer project and issue questions in real time, and engage citizens in the conversation.

During the last biennium the MPCA also developed a framework for integrating environmental justice principles into the agencies public communications processes. This framework states the MPCA will, within its authority, strive for the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations or policies. These principles are being placed into practice by the MPCA Superfund Program. In August 2016, MPCA Superfund staff collaborated with members of the MPCA Environmental Justice Group to identify Environmental Justice areas of concern at 9 out of 10 sites added to the PLP. This information helped Superfund staff develop site-specific community engagement plans to ensure that everyone within the impacted communities would be properly informed and benefit by the of actions taken by the MPCA.

Emerging priorities for the Superfund Program

The MPCA and the Superfund Program need to have adequate capacity to respond to a number of emerging environmental health priorities and lowering of several standards that will require significant attention over the next several years. These issues will necessitate (1) additional assessments and work at currently active sites, (2) greater degree of investigations and cleanups at a larger number of future sites than had been anticipated, and; (3) reassessment of closed sites to ensure that they do not pose a continued threat to public health and the environment.

The following issues will likely result in significant increase in MPCA Superfund activities over the next several years:

- **Trichloroethylene (TCE):** In 2013, MDH lowered the safe drinking water and safe indoor air standards for TCE. This action has been a driver for additional Superfund Program activities in all three modes outlined previously. The MPCA has identified 626 closed sites in the Superfund family of programs (VIC, Site Assessment, Superfund, and RCRA) with groundwater impacted from TCE. Due to the new safe drinking water level for TCE, 150 sites have been prioritized for reassessment because a drinking water well was identified within one-quarter mile of a closed TCE site. These 150 prioritized sites will be reassessed based on available program funding to ensure historical response actions taken at these sites remain protective.

- 1,1,2,2-Tetrachloroethylene [also known as perchloroethylene (PCE) or perc]:** Following a review of information on perc's toxicity to determine if the health based guidance value for groundwater, air or other environmental media should be updated, MDH lowered both the safe drinking water and safe indoor air standards for perc. This lowering of standards for perc will be a driver for additional Superfund Program activities in all three modes outlined above.
- Perfluorochemicals (PFAS):** In May 2016, the EPA established lower drinking water guidance for perfluorooctane sulfate and perfluorooctanic acid, two specific types of PFAS chemicals reported in Minnesota. This new guideline was set at 70 parts per trillion (ppt) in groundwater. The MDH's current Health Risk Limit (HRL) is set at 300 ppt. The MDH began to review EPA's new lower drinking water guideline and determined it was appropriate to issue drinking water well advisories based on the EPA value while MDH proceeded establishing a revised HRL through the State's rule making process. In late August 2016, MDH issued water well advisories to 80 additional homes in the East Metro area. MDH and MPCA also initiated a residential well sampling effort of more than 400 additional homes than those normally sampled each year. By the end of 2016, over 300 residential wells had been sampled and a total of 162 homes (including the initial 80 homes) had been issued a water well advisory by MDH. Once a water well advisory was issued, the MPCA began to provide bottled water to those affected residences and offered to install a granular activated carbon treatment system in the residence to remove the PFAS chemicals from the drinking water. As additional residential wells are sampled, it is very likely that additional well advisories will be issued, thus necessitating the MPCA to provide bottled water or install appropriate treatment systems in those homes.
- Lead:** In 2012, the federal Centers for Disease Control and Prevention (CDC) recommended the use of a blood lead reference level of 5 micrograms per deciliter ($\mu\text{g}/\text{dL}$) (as opposed to the previously recommended 10 $\mu\text{g}/\text{dL}$) in children to trigger medical and prevention actions. MDH has recommended the use of CDC's revised lower lead reference level of 5 $\mu\text{g}/\text{dL}$ for modeling exposure levels and pathways, and developing cleanup guidance. On April 16, 2004, MDH lowered the threshold for elevated blood lead exposure under Minn. Stat. 114.9501 from 10 $\mu\text{g}/\text{dl}$ to 5 $\mu\text{g}/\text{dl}$. The EPA has also announced it will soon release a new version of the lead model that contains revised exposure parameters in addition to the CDC's new blood lead level. MPCA will need to examine the adoption of new lead levels for the residential and industrial cleanup standards once the revised EPA standards are released and additional guidance is received from MDH.
- Vapor intrusion:** Vapor intrusion has moved past being an "emerging environmental issue" and is now directly integrated into Superfund programming the MPCA must perform under state and federal law. In the past, contaminated sites were viewed in terms of their effects on groundwater, not their ability to contaminate indoor air. It is now evident that significant MPCA Superfund Program resources will be needed to thoroughly investigate and, if needed, remediate vapor intrusion at current and future sites. As a testament to this, since 2010, 78% of new Superfund sites added to the State PLP identified vapor intrusion site risks. In an effort to advance vapor intrusion decision making in Minnesota the MPCA Superfund Program released a series of best management practices in FY15 and FY16 to assist MPCA customers and agency staff with investigating and remediating vapor intrusion risks at contaminated sites. As the scientific and technical understanding of vapor intrusion grows at both the national and state levels, it is apparent that a systematic reassessment of closed sites, even those considered to have adequately addressed soil and groundwater risks in the past will be needed to fully address vapor intrusion risks. To highlight this need, the MPCA has identified 1,429 closed sites in the Superfund family of programs (VIC, Site Assessment, Superfund, and RCRA) that were closed

before the MPCA examined vapor intrusion risks. Of these closed sites, 150 were identified as having either schools and/or daycare facilities within 500 feet of a closed site. These 150 sites have been prioritized for reassessment based on available program funding to ensure that historical response actions taken at these sites remain protective for vapor intrusion risks.

- **Groundwater/drinking water protection:** The MPCA Superfund Program and MDH have been partnering to investigate and determine the best course to clean up and protect public and private water supplies that have been impacted by releases of hazardous substances. Currently, the two agencies have prioritized approximately 17 community water supply wells with contamination that exceeds either state or federal drinking water standards, requiring the MPCA Superfund Program to investigate and, if required, provide short-term drinking water treatment while a long-term groundwater remedy is being developed. In some situations, these wells had previously not been prioritized for investigation and treatment since they met the legally required federal drinking water standards, but exceeded a revised state of Minnesota standards that are more stringent. In other situations, the lowering of federal drinking water standards for Superfund contaminants of concern has resulted in wells that were once in compliance to now be in violation of standards. Again, this effort to ensure drinking water in these communities is safe, will impose an additional significant demand on the Superfund Program resources in terms of both staff time and project funding.
- **Carcinogenic polycyclic aromatic hydrocarbons (cPAHs):** In 2013, MDH published a revised guidance to assess health risks from exposures to cPAHs in air, water, soil and other media. The revised MDH guidance modifies the list of cPAHs that are of the most concern at sites as well as making changes in the method of calculating the human health risks from the revised list of cPAH compounds now deemed to be of most significance.
- **1,4 dioxane:** 1,4 dioxane is an industrial chemical used as a stabilizer for the application of many chlorinated solvents and PFAS. 1,4 dioxane does not have an established EPA federal drinking water standard however the MDH has established a state drinking water standard of 1 part per billion. During the last biennium the advancement of laboratory testing methods used to report 1,4 dioxane resulted in the discovery of this chemical at established MPCA Superfund Sites investigating the releases of PFAS's and/or chlorinated solvents. 1,4 dioxane has been reported in nine Minnesota municipal drinking water systems which are currently being treated and monitored by the MDH. Two municipalities receiving treatment for 1,4 dioxane include the city of New Brighton and Village of St. Anthony drinking water systems. 1,4 dioxane has been identified as a contaminant of concern in the deep groundwater (at depths of 80 feet) associated with the former Twin Cities Army Ammunition Plant (TCAAP) Superfund site. In this case, both cities are effectively managing these deep groundwater impacts through implementing short-term treatment strategies (e.g. using alternative water supplies) with long-term treatment solutions underway, with assistance from the U.S. Army. The city of St. Louis Park has 1,4-dioxane contamination at two of their municipal wells which are currently offline. The MPCA is designing water treatment plants for these two wells to treat both chlorinated compounds as well as the 1,4 dioxane. The water treatment plants are expected to be operational in 2018. There is high likelihood that additional impacted water supplies will be discovered in the future that will need direct MPCA actions due to the absence of viable responsible parties. Additional consideration is also needed for conducting surveillance monitoring across the State at potential 1,4 dioxane contamination sites to ensure that public health impacts are not occurring from this emerging contaminant.

For additional information about the MPCA's Superfund Program, please visit www.pca.state.mn.us.

For additional information about the MDA's Incident Response Program, please visit www.mda.state.mn.us.