



February 1, 2021

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The Honorable David Senjem
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The Honorable Patricia Torres Ray
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The Honorable Chris Swedzinski
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Ranking Minority Member, Senate Environment and
Natural Resources Policy and Legacy Finance
Committee
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95 University Avenue West
St. Paul, MN 55155

RE: Biennial Superfund Program Report

Dear Committee Chairs and Ranking Minority Members:

Enclosed please find the Biennial Superfund Program report by the Minnesota Department of Agriculture and the Minnesota Pollution Control Agency, submitted pursuant to Minn. Stat. § 115.20, subp. 6. This report provides details regarding the activities for which money has been spent pursuant to this section during fiscal years 2019 and 2020.

Committee Chairs and Ranking Minority Members
Biennial Superfund Program Report
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If you have any questions regarding this report, please call Jeff Thuma at (651)757-2617.

Sincerely,

Handwritten signature of Thom Petersen in black ink.

Thom Petersen, Commissioner
Minnesota Department of Agriculture

Handwritten signature of Laura Bishop in blue ink.

Laura Bishop
Commissioner
Minnesota Pollution Control Agency

GG/TP/JT:cbg

Enclosure

cc: Minnesota Environmental Quality Board



REPORT TO THE
LEGISLATURE

JANUARY 2021

Superfund Program: Fiscal years 2019 and 2020

Biennial report tracking activities and expenditures in cleaning up Minnesota's most polluted industrial sites.



Legislative charge

Minn. Stat. § 115B.20, subd. 6

Report to the Legislature

By January 31 of each odd-numbered year, the commissioner of agriculture and the Pollution Control 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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Cover Photo 1: Aerial view of the cleanup at Ford Motor Company's former Twin Cities Assembly Plant in St. Paul. Ford Parkway is in the foreground, followed by covered stockpiles of contaminated soil, waiting for shipment to a permitted landfill. The 122-acre site is on the east bank of the Mississippi River, which can be seen at the far right. Soil cleanup was completed in FY2019, bringing to a close a 12-year effort to prepare the site for redevelopment. – MPCA

Cover Photo 2: Soil excavation process. – MPCA

Estimated cost of preparing this report (as required by Minn. Stat. § 3.197)

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Production/duplication	\$100
Total	<u>\$3,100</u>

Minnesota Pollution Control Agency

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This report is available in alternative formats upon request, and online at www.pca.state.mn.us.

Document number: lrc-s-1sy21

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. 115B, establishing the State Superfund Program. This law is implemented by the Minnesota Pollution Control Agency (MPCA) and 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 (MLCAT) Account. A report on the potential for insurance recovery under the Dry Cleaner Environmental Response Law was prepared this year (<https://www.pca.state.mn.us/sites/default/files/lrc-rem-1sy21.pdf>). The MLCAT Legislative Report was prepared in 2020, and can be found here: <https://www.pca.state.mn.us/sites/default/files/lrw-sw-1sy20.pdf>.

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 2019 and 2020 (FY19 – FY20) (July 1, 2018 – June 30, 2020) by the MPCA and the MDA for Superfund, emergency response, and cooperative cleanup related activities.

The MPCA's and MDA's administrative costs represent salaries, travel, equipment, non-site-specific legal costs, and supply expenditures associated with responding to emergencies and implementing site cleanup. FY19 and FY20 Remediation Fund figures are current as of December 2, 2020. All cumulative income and expenditure figures are approximations. Direct staff costs to research, write, and review this report totaled about \$3,100.

Administrative costs cover salaries for:

FY19	FY20	
24.3	24.3	MPCA full-time equivalent positions
2.5	2.5	MDA full-time equivalent positions
26.8 FTE	26.8 FTE	

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Minnesota Environmental Response and Liability Act responsibilities

The MPCA/MDA Superfund programs fulfill functions specified in MERLA for the 97 sites on the State's Permanent List of Priorities (PLP), as well as for the 136 non-listed sites being addressed by cooperative responsible parties. The tables below summarize the funds expended for PLP Sites and other fund-financed categories. An additional 1,132 MPCA projects and 82 MDA projects are currently being addressed under the Brownfields Program (formerly called the Voluntary Investigation and Cleanup) authorized by the Land Recycling Act of 1992 and performed according to respective agency protocols.

Superfund Sites annual report closing numbers FY19 & FY20

Site Name	Expended FY19	Expended FY20	Site Name	Expended FY19	Expended FY20
55th St & Lyndale S	\$71,600	\$49,835	Hmong Center	\$55,543	\$36,172
66th St & Vincent Ave	\$101,019	\$158,061	Hospital Linen	\$25,611	\$31,610
Arcade St N & Hawthorne	\$7,630	\$56,166	Kettle River (MDA)	\$342,567	\$921,010
Baytown	\$130,080	\$208,674	Kurt/SW Fridley	Not Funded	\$45,305
Bulinski Point	\$7,733	\$8,248	Lakeland GW Contam	\$6,921	Not Funded
Capri / Byron Vapor	\$65	\$111	Lehillier	\$6,276	\$29,698
Cedar Service - Bemidji (MDA)	\$672,441	\$314,262	Littlefork	\$124,648	\$157,125
Cedar Service - Mpls (MDA)	\$457	Not Funded	Long Prairie	\$314,379	\$233,605
Centerville Rd	\$32,384	Not Funded	Lyndale Ave Corridor	\$55,645	\$185,850
Chemart	\$7,063	\$30,896	Main Street Plume	\$29,761	\$74,585
Clothing Care Cleaners	Not Funded	\$51,573	Mcgillis & Gibbs	\$656,381	\$906,190
CMC Heartland (MDA)	\$1,548	\$122	Page & Hill (MDA)	\$10,591	\$9,498
CMC Minneapolis (MDA)	\$28,128	\$28,750	Perham	\$257,874	\$246,489
Duluth Dump	\$38,815	\$60,290	Peter Pan Cleaners	\$36,483	\$37,552
Esko GW Plume	\$37,561	\$33,212	Pigs Eye	\$23,813	\$25,723
Exclusive Cleaners	\$6,877	\$21,071	Pilgrim Cleaners	\$86,275	\$83,705
Farmington GW Plume	\$13,664	\$7,584	Pine Street Dump	\$10,032	\$52,756
Fish Hatchery	\$25,805	\$69	Precision Plating	\$37,694	\$53,272
FMC / Fridley Area GW	\$33,579	\$39,740	Pure Oil	\$12,464	Not Funded
General Mills	\$16,332	\$48,868	Rice County Dump	\$4,408	\$34,984
Hibbing Gas	\$133,355	\$152,452	Ritari	\$34,378	\$41,555
			Rochester GW Plume	\$66,502	\$71,479
			Schloff	\$32,665	\$40,152
			SE Hennepin Area GW	\$158,189	\$148,075
			Southview Blvd	\$32,669	\$23,765

Site Name	Expended FY19	Expended FY20
Spring Park Mun Wells	Not Funded	\$6,895
St. Louis Park Vapor	\$9,569	Not Funded
Superior Plating	\$69,847	\$121,038
Universal Plating	\$7,274	Not Funded
Valentine Clark	\$17,477	\$17,917
West Duluth	\$8,161	\$15,339
Whiteway Cleaners	\$13,734	\$30,257
Winona	\$166,972	\$135,673
Site Subtotal	\$4,080,942	\$5,087,259

Superfund annual report closing numbers FY19 & FY20

Name	Expended FY19	Expended FY20
Emergencies	\$447,594	\$431,335
Harmful Substance	\$39,302	\$26,751
MDH Well Fees - Superfund	\$1,600	Not Funded
PFC Technical Assistance	\$39,304	\$50,536
Site Assessment	\$480,439	\$474,409
Site Assessment (MDA)	Not Funded	\$6,209
Supplemental-Closed Sites	\$567,801	\$856,575
Technical Assistance	\$41,657	\$7,672
Subtotal (site specific)	\$5,698,639	\$6,940,746
Site Specific Lab Analytical	\$150,210	\$164,900
Site Specific Lab Analytical (MDA)	\$374	\$4,600
Site-specific Legal	\$49,508	\$41,014
Subtotal (site-specific support)	\$200,092	\$210,514
Total FY Expenditures	\$5,898,731	\$7,151,261

Responding to emergencies and spills

Emergency Response Program staff at the MPCA are on call and available to respond to environmental emergencies 24 hours a day, seven days a week, 365 days a year. The MPCA receives reports from regulated parties, other units of government and citizens through the duty officer program at the Department of Public Safety. These reports are triaged for emergency conditions and about one third of the incidents are transferred to other MPCA programs for follow-up. These transferred reports are releases, such as air pollutants, wastewater bypasses, and petroleum tank leaks where those programs have the tools and processes to address site referrals. When agricultural products or chemical spills occur, the MDA is the lead state agency to respond.

The MPCA and MDA's emergency response role is to provide advice and oversee cleanup performed by responsible parties. In some situations, a responsible party is not identifiable or is unable or unwilling to perform the cleanup. In these situations, Superfund monies are used to cleanup, stabilize or mitigate emergency conditions resulting from releases of hazardous substances. Examples include fuel spills from unknown sources, mercury spills affecting sensitive populations, abandoned containers of chemicals or oil, abandoned businesses containing chemicals, oil and waste or other situations in which the commissioner of the MPCA or the MDA (or delegates) has declared emergencies. The table below summarizes the number of reports, emergencies declared and dollars spent on state financed emergency responses using Superfund monies.

FY19		FY20		
MPCA	MDA	MPCA	MDA	
3,599		2,892		Duty officer reports triaged
2,209	118	1,938	103	Emergency response program Incidents
18	0	32	0	Emergency situations/declarations
\$447,594	NA	\$431,335	NA	Spending on emergency situations

Notable emergency expenditures in fiscal year 2019 include:

- a. Performed an emergency removal action, spending \$202,000 to cleanup large volume of abandoned hazardous substances at an abandoned metal plating shop in a residential area of Minneapolis.
- b. Performed the initial steps of an emergency removal action, spending \$49,000 to recover, secure and inventory abandoned hazardous materials and waste on tax forfeited property near Eveleth.
- c. Performed an emergency removal action, spending \$35,000 to cleanup abandoned and mismanaged electronic waste that was spread outside around a property located in Pierz.
- d. Performed an emergency removal action, spending \$34,000 to remove and land apply manure from a feedlot lagoon that was overflowing in Royalton.

Notable emergency expenditures in fiscal year 2020 include:

- a. Continued performing an emergency removal action, spending \$122,000 to consolidate, package and dispose of abandoned hazardous materials and waste on tax forfeited property near Eveleth.
- b. Performed 13 residential mercury cleanups, spending \$105,000 to protect citizens from adverse health impacts and spreading the contamination. These spills came from thermometers, barometers and other mercury containing devices. Many broken thermometers may be associated with an increase in illness and residents monitoring for COVID-19 symptoms.
- c. Performed emergency environmental sampling and assessment, spending \$69,000 to assess air contamination and water runoff contamination at a scrap metal fire in Becker.
- d. Supported the city of Minneapolis state assistance request, spending \$26,000 to contain contaminants discharging from the storm sewers to the Mississippi River and area lakes as result of the fires and destruction during the civil unrest after the death of George Floyd.

In addition, the program provides support to the Superfund Program to stabilize emergency conditions at their sites such as ventilating homes with high intruding vapor contamination and providing safe drinking water in situations when water supply wells are impacted by hazardous substances.

Lastly, the MPCA and MDA plans and prepares for natural disasters and terror related incidents so we can effectively support local units of government with cleanup and waste management tasks. 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 public health or welfare or the environment.

Brownfield Program

A “brownfield” is any property that is abandoned or under-used due to the known or likely presence of contamination, such as a deserted railroad depot, a closed factory, a former drycleaner, or an abandoned gas station. Minnesota’s Brownfield Program was created in 1988, and strengthened by passage of the Minnesota Land Recycling Act in 1992, to help overcome the environmental and legal barriers that prevent the redevelopment of these properties.

The Brownfield Program is a fee-for-service program that provides technical assistance and liability assurance letters to promote the voluntary investigation, cleanup, and redevelopment of contaminated property. The assurance letters provide liability protection for property developers and environmental closure for identified contamination. Program customers include property owners, prospective purchasers, developers, development agencies, lending institutions, non-profit organizations, and local units of government. More

than 5,000 properties contaminated with hazardous substances have been addressed by Minnesota’s Brownfield Program, helping to return more than 94,000 acres of blighted property to productive use.

The MPCA’s Brownfield Program includes sites managed under MERLA (Minn. Stat. § 115B) and the Petroleum Tank Release Cleanup Act (Minn. Stat. § 115C). The MDA also manages brownfield sites under MERLA, for sites impacted by agricultural chemicals. The metrics presented below reflect only sites within the MERLA portion of the Brownfield Program.

FY19		FY20		
MPCA	MDA	MPCA	MDA	
324	11	292	15	New sites entered into the program
1022	80	1133	82	Open/active sites
299	13	372	17	Sites closed

The MPCA’s Brownfield Program has seen a significant increase in requests for assurances and approvals of cleanup actions primarily due to the number of soil vapor investigations conducted during redevelopment projects.

A successful brownfield redevelopment project depends on many partners working together to navigate the environmental, legal, and financial challenges that arise when transforming a blighted property into a community resource. Key partners of the Brownfield Program include Minnesota Brownfields, a 501 (c)(3) non-profit organization which is dedicated to promoting the efficient cleanup and reuse of contaminated land through education and research. MPCA staff are frequent speakers at Minnesota Brownfield forums, where topics are often chosen to coincide with current MPCA initiatives. The Brownfield Program partners with the Minnesota Department of Employment and Economic Development (DEED) and the Metropolitan Council by providing technical support and review of applications submitted to their contamination investigation and cleanup grant programs. On redevelopment projects where the community has questions about risk to public health, the Brownfield Program works with the Minnesota Department of Health (MDH) to resolve concerns. The U.S. Environmental Protection Agency (EPA) provides valuable financial support to MPCA’s Brownfield Program through federal grants that help pay for program operational expenses and investigation grants administered by the MPCA.

The MPCA 2019 Brownfield Program Annual Report provides a more detailed description of the program and can be found at <https://www.pca.state.mn.us/sites/default/files/c-brwnfld1-06.pdf>. Examples of successful brownfield redevelopment projects in Minnesota can be found on the website of Minnesota Brownfields at <https://mnbrownfields.org/rescape-award-finalists/>. Additional information about the environmental, economic, and community benefits of brownfield redevelopment can be found in the Benefits of Brownfields report at <https://mnbrownfields.org/wp-content/uploads/2020/11/2020-Benefits-of-Brownfields-Report.pdf>.

Superfund Site Assessment

The Superfund Site Assessment Program (SA) is a MPCA-EPA cooperative program designed to evaluate initial reports of hazardous substance releases 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 EPA for staff resources. The MPCA SA Program receives State Duty Officer (spill) reports, referrals from other regulatory programs, and citizen complaints; evaluates these referrals; and determines whether Superfund SA resources should be expended to assess risk to human health and the environment.

During the SA process, SA staff evaluate existing site data to determine the level of risk to nearby receptors posed by the site. When observed conditions indicate that an imminent risk exists, funding is made available

to complete necessary site assessment investigations or response actions to reduce those risks. When observed conditions do not indicate an imminent risk to human health or the environment is present, the site is added to the long-term backlog list of sites. When observed conditions do not indicate that a risk is present or that the risk has been adequately addressed, the site is closed out under SA. SA funds originate from the general Superfund appropriation (see table on page 3). Sites listed on the Superfund Permanent List of Priorities (PLP) receive prioritization for funding over SA.

Two desktop reviews were conducted with the EPA's State Program officer during this past biennium in October 2018 and October 2019. 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 timely manner.

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 PLP, the State Superfund list, 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 on either the PLP or NPL, 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 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.

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 Minn. Stat. 115B to provide oversight of investigations and response actions taken by responsible parties who agree to cooperatively work with the MPCA to complete investigation and clean-up actions. As such, and in addition to sites listed on the PLP, the MPCA currently provides oversight at 136 cooperative responsible party sites in the Superfund program.

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 necessary 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 will 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.

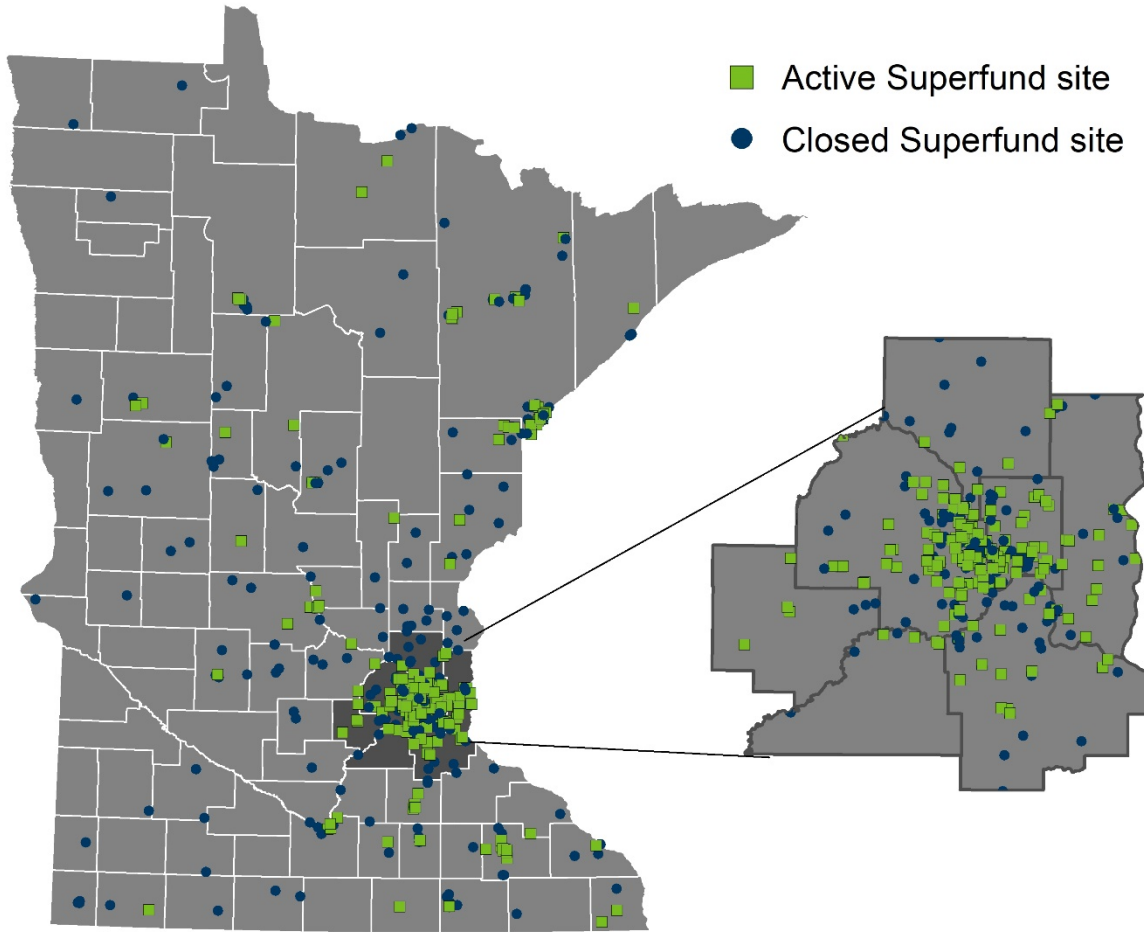
After response actions are complete or when a site no longer poses risks to public health or the environment, the site may be "delisted" from the PLP or the NPL. Sites are delisted from either the PLP or the NPL, if responsible parties have completed all necessary response actions and/or if no additional 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.

Minnesota's 25 NPL sites are eligible for federal funding under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, the Federal Superfund law) for response actions based on national priority. In return for access to these funds, states are required 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 state is also responsible for long-term operations and maintenance at NPL sites as the EPA is "prohibited by CERCLA from conducting O&M activities at NPL sites." (<https://semspub.epa.gov/work/HQ/174124.pdf>)

The MPCA and the MDA continue to manage site cleanup 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 per- and polyfluoroalkyl substances (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 the EPA has revised its Hazard Ranking System to account for vapor intrusion in the NPL listing process.

Below is a map of Minnesota showing the approximate location of all active and closed Superfund Sites followed by a table listing all the current PLP and NPL Sites. Of note, four new sites (214 and 220 Ramsey Street, Gold Eagle Cleaners, Gold Eagle Cleaners – Richfield and Minnetonka Boulevard and Raleigh Avenue South) were added to the PLP in April and May 2020, which are presented in the Table below. No sites were removed from the PLP in FY2019-2020.



MPCA and MDA active Permanent List of Priorities sites	County	HRS Score	NPL	PLP List	Site ID
Joslyn Mfg. & Supply Co. OU1	Hennepin	44	Y	10/30/1984	SR0000001
General Mills	Hennepin	39	Y	10/30/1984	SR0000003
Boise Cascade/Onan/Medtronics	Anoka	59	N	10/30/1984	SR0000004
St. Regis Paper OU1	Cass	53	Y	10/30/1984	SR0000008
BURLINGTON NORTHERN (Tie Plant, Brainerd)	Crow Wing	47	Y	10/30/1984	SR0000016
Burlington Northern Car Shops (Brainerd)	Crow Wing	38	N	12/30/1988	SR0000017
Honeywell Inc - Golden Valley Plant	Hennepin	31	N	10/1/1984	SR0000018
Tonka Main Plant	Hennepin	31	N	12/30/1985	SR0000025
Dealers Manufacturing Co	Anoka	28	N	12/30/1990	SR0000027
FMC	Anoka	66	Y	10/30/1984	SR0000029
3M Chemolite	Washington	33	N	10/30/1984	SR0000033
Bell Lumber & Pole Company	Ramsey	48	Y	10/30/1984	SR0000034
Waite Park Wells	Stearns	32	Y	12/30/1985	SR0000035
Ritari Post & Pole	Wadena	30	Y	10/30/1984	SR0000039
Long Prairie Groundwater Contamination	Todd	32	Y	10/30/1984	SR0000040
Valentine Clark Corp	Ramsey	4	N	12/30/1988	SR0000044
3M Oakdale Dump Sites	Washington	59	Y	10/30/1984	SR0000055
Perham Arsenic Site	Otter Tail	38	Y	10/30/1984	SR0000056
Reilly Tar & Chem Saint Louis Park	Hennepin	59	Y	10/30/1984	SR0000060
Isanti Solvent (Aka Charles Schumaker Farm)	Isanti	30	N	10/30/1984	SR0000063
Arrowhead Refinery Co.	St. Louis	40	Y	10/30/1984	SR0000067
NIROP OU1	Anoka	63	Y	10/30/1984	SR0000072
Baytown Twp Groundwater Contamination	Washington	38	Y	12/30/1988	SR0000084
Cedar Services	Hennepin	17	N	12/30/1990	SR0000087
Duluth City Dump Former #1	St. Louis	28	N	12/31/1987	SR0000093
Duluth Air Force Base OU1	St. Louis	21	N	10/30/1984	SR0000095
Freeway Sanitary Landfill	Dakota	46	Y	10/30/1984	SR0000098
Old Freeway Dump	Dakota	65.64	N	6/30/1993	SR0000099
Pollution Controls Inc. (A.K.A. Pci)	Scott	52	N	10/30/1984	SR0000107
Brooklyn Park Dump	Hennepin	35.5	N	12/30/1989	SR0000112
Pig's Eye Landfill	Ramsey	43	N	12/30/1989	SR0000117
Highway 96 Dump	Ramsey	31	N	10/15/1984	SR0000122
Superior Plating Inc	Hennepin	6	N	10/30/1984	SR0000131
Electric Machinery	Stearns	38	Y	4/30/1986	SR0000136
Lakeland Ground Water Contamination	Washington	16	N	6/24/2014	SR0000145
St. Louis/Interlake/Duluth/Tar Site - OU Sed	St. Louis	32	Y	10/30/1984	SR0000149
Minnegasco OU-1 Soils	Hennepin	42	N	10/30/1984	SR0000155
Schloff Chemical	Hennepin	7	N	12/30/1989	SR0000175
Mankato Plating Company	Blue Earth	8	N	5/30/1995	SR0000176
Mibco Site	Hennepin	40	N	5/30/1992	SR0000177
West Duluth Industrial Site	St. Louis	11	N	10/30/1984	SR0000179
Winona Groundwater Contamination	Winona	25	N	12/30/1989	SR0000181

MPCA and MDA active Permanent List of Priorities sites	County	HRS Score	NPL	PLP List	Site ID
St. Louis River/Us Steel OU-P Wire Mill P	St. Louis	32	Y	10/30/1984	SR0000190
Pine Street Dump	Dakota	32	N	12/30/1991	SR0000192
St. Paul Levee Property	Ramsey	20	N	5/30/1992	SR0000198
Littlefork GW Contamination Site	Koochiching	22.56	N	5/30/1995	SR0000199
MacGillis and Gibbs Waste Site	Ramsey	48	Y	10/30/1984	SR0000200
Finland Air Force Station (Former)	Lake	13	N	6/30/1996	SR0000205
Pilgrim Cleaners	Hennepin	12.2	N	12/30/1996	SR0000206
Precision Plating, Inc.	Hennepin	4	N	12/1/2014	SR0000249
D's Fabric Care	Carlton	5.81	N	8/24/2016	SR0000264
214 and 220 Ramsey Street	Dakota	24.07	N	4/22/2020	SR0000266
Ashland Oil - Park Penta	Washington	32	N	4/30/1986	SR0000278
Gold Eagle Cleaners	Ramsey	50.01	N	4/30/2020	SR0000290
TCAAP General	Ramsey	59	Y	10/30/1984	SR0000313
Farmington Ground Water Plume	Dakota	5.62	N	6/30/1999	SR0000329
CMC Heartland Lite Yard	Hennepin	13	Y	4/15/2002	SR0000348
Kettle River Company - Creosote	Pine	35	N	6/30/2002	SR0000349
Peter Pan	St. Louis	3	N	1/30/2003	SR0000350
Reserve Mining Silver Bay Scrapyard & Dro Plume	Lake	10	N	10/30/2003	SR0000351
Edina Well Field Site	Hennepin	50	N	7/6/2006	SR0000358
Rochester Groundwater Plume	Olmsted	50	N	7/6/2006	SR0000359
Minnesota Valley Landfill	Scott	14	N	7/6/2006	SR0000360
Hibbing Gas Manufacturing Plant Site	St. Louis	11	N	7/6/2006	SR0000361
Esko Groundwater Contamination Site	Carlton	8	N	8/15/2006	SR0000369
Capri Beauty Salon	Olmsted	4	N	4/20/2010	SR0000372
Hmong Shopping Center/Pilgrim Cleaners	Hennepin	3	N	4/1/2010	SR0000373
Southview Boulevard	Dakota	3	N	4/2/2010	SR0000375
Fish Hatchery Dump	Ramsey	22	N	8/1/2007	SR0000376
St. Louis Park Solvent Plume	Hennepin	3	N	4/15/2010	SR0000377
Brainerd Foundry	Crow Wing	2	N	4/1/2010	SR0000378
Centerville Road Dump	Ramsey	9	N	8/1/2010	SR0000379
Bulinski Point - Wittrup	St. Louis	5	N	2/28/2014	SR0000381
Rice County Dump (Former, Comus)	Rice	12	N	2/1/2014	SR0000382
Chemical Marketing Corp Of America	Hennepin	23.22	N	6/30/1999	SR0001009
Cedar Services Inc.	Beltrami	17	N	2/1/2014	SR0001051
Poplar Hill Solvent Site	St. Louis	6	N	8/1/2013	SR0001273
Main Street Solvent Plume	St. Louis	2	N	8/1/2013	SR0001281
White Way Cleaners	Hennepin	4	N	6/30/1998	SR0001293
Exclusive Cleaners Worthington	Nobles	6	N	8/1/2014	SR0001339
Spring Park Municipal Wells	Hennepin	50	Y	8/27/2014	SR0001349
Ace Signs, Inc	Kandiyohi	3	N	2/25/2014	SR0001351
Clothing Care Cleaners	Olmsted	14	N	3/4/2014	SR0001353
Page & Hill	Koochiching	17	N	9/1/2010	SR0001354

MPCA and MDA active Permanent List of Priorities sites	County	HRS Score	NPL	PLP List	Site ID
Universal Plating	Hennepin	25	N	8/24/2016	SR0001398
66th St & Vincent Ave	Hennepin	50	N	8/24/2016	SR0001400
Southeast Hennepin Area Groundwater & Vapor Site	Hennepin	33	N	9/21/2015	SR0001401
Lyndale Ave Corridor	Hennepin	38	N	8/24/2016	SR0001402
Arcade & Hawthorne Ave E	Ramsey	24	N	9/30/2015	SR0001403
55th St & Lyndale Ave S	Hennepin	17	N	9/24/2015	SR0001404
University Ave & Pascal St	Ramsey	18	N	8/15/2016	SR0001405
Hospital Linen	Ramsey	50	N	8/15/2016	SR0001406
Pure Oil Bulk Facility	Hennepin	7	N	8/15/2016	SR0001430
West Broadway Ground Water Contamination	Steele	6	N	6/30/1999	SR0001503
Boise Cascade Medtronic	Anoka	59	N	10/1/1984	SR0001522
Gold Eagle Cleaners – Richfield	Hennepin	50.05	N	5/1/2020	SR0001569
Minnetonka Boulevard and Raleigh Avenue South	Hennepin	51.32	N	5/1/2020	SR0001570

Institutional controls

Institutional controls are used to help ensure that exposure to residual contaminants does not occur as a result of inappropriate land use at former Superfund and Brownfields 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. The MPCA recently started sharing institutional control information, including site details and location in the Mn GeoSpatial Commons. They can be viewed here: <https://gisdata.mn.gov/dataset/env-institutional-controls>

579	Brownfield site institutional controls
47	RCRA Remediation site institutional controls
64	Superfund site institutional controls
9	Leak Site institutional controls

The MDA also includes institutional control information including site details in the Mn GeoSpatial Commons. This information can be viewed here: <https://gisdata.mn.gov/dataset/env-agchem-incidents>

St. Louis River Area of Concern

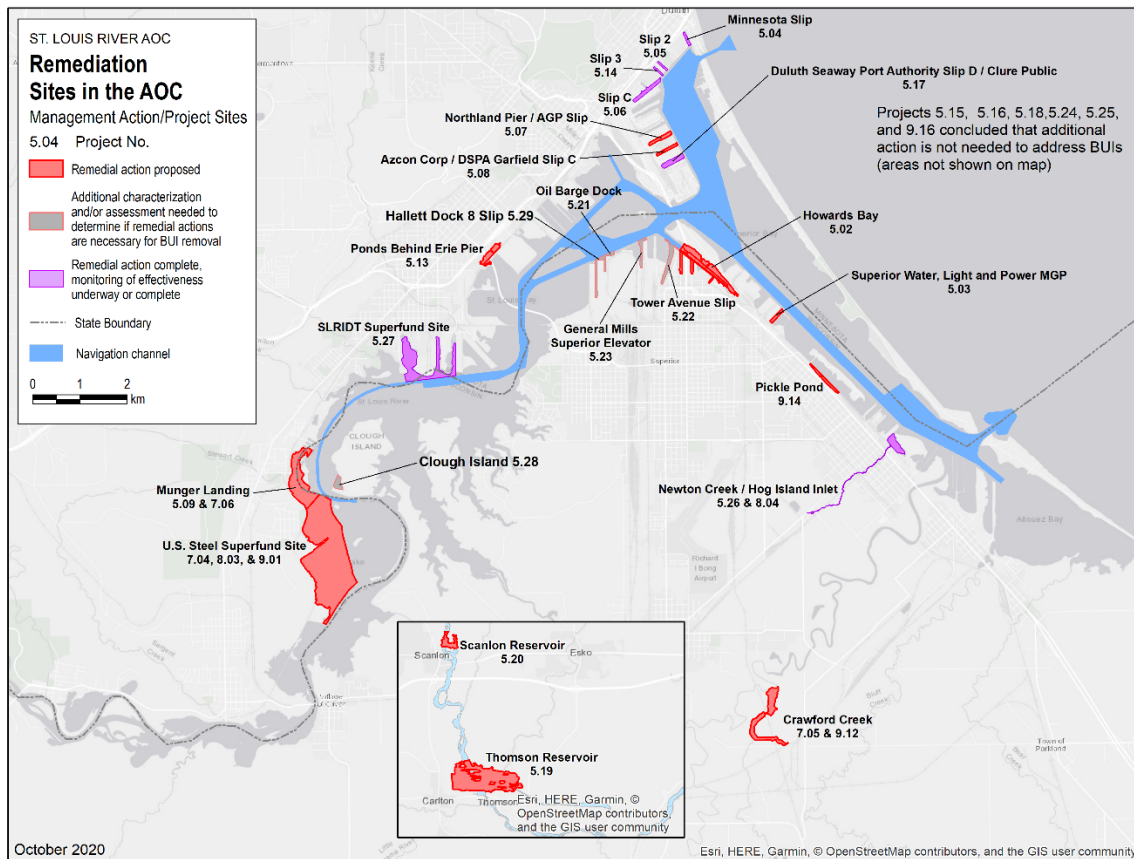
Remediation work at contaminated sediment sites has evolved in the last 20 years, particularly in the St. Louis River Area of Concern (SLRAOC), which stretches from the Duluth harbor to Cloquet. The SLRAOC was designated by the U.S. Environmental Protection Agency (EPA) in 1987. Nine beneficial use impairments were identified here, many of which are related to contaminated sediments.

Several small sediment investigations were conducted prior to 2006, but since then, the MPCA has partnered with the EPA and the U.S. Army Corps of Engineers (USACE) to assess the state of sediment contamination throughout the lower St. Louis River estuary. In 2013, six sites on the Minnesota side of the SLRAOC were identified during a Phase 1 Assessment as needing more investigation and cleanup. A Phase 2 Sediment Assessment using EPA Great Lakes Restoration Initiative funding was completed in late 2014. This work identified eight additional sites for potential cleanup. See the map of the SLRAOC remediation sites and completion status below.

Remediation at two of the sites was completed by outside entities through the Brownfields program, while two other sites received “no action” determinations. In 2016, Focused Feasibility Studies (FFS) for the ten remaining remedial sites were completed. The FFS identified a number of remedial alternatives for each site. The initial Partnership Agreement with the USACE for design of restoration projects and the Minnesota Slip sediment remediation project was amended to add the remaining remedial sites.

In the fall of 2018, three slips in the Duluth harbor (Minnesota Slip, Slip 3, and Slip C) were remediated. Another Duluth harbor remediation project was completed at the Azcon/Duluth Seaway Port Authority Slip in the fall of 2020. Remedial construction at all four of the harbor slip sites was completed through Project Agreements with the EPA and funding from Minnesota’s General Obligation Bonds and the Great Lakes Legacy Act fund, which is a component of the Great Lakes Restoration Initiative. Following additional site characterization, a decision of “no action” was made for the Mud Lake West site.

Five potential remedial sites remain to be addressed under the SLRAOC program. The MPCA has already negotiated a Project Agreement with EPA for remedial construction at the Ponds behind Erie Pier site, which is slated to begin in the spring of 2021. Assessment and design work is underway for the remaining sites (Scanlon Reservoir, Munger Landing, Thomson Reservoir, and the Northland Pier/AGP Slip). Pending negotiated project agreements and funding, all of the remedial actions will be complete by fall 2024. Completion of all the remedial projects support the eventual delisting of the SLRAOC sometime after 2025.



Dry Cleaner Account

The Dry Cleaner Environmental Response and Reimbursement Account (Dry Cleaner Account) 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 Dry Cleaner Account is funded by annual registration fees from drycleaner operators, as well as fees on solvents used in the dry cleaning process.

The FY16 amendments to the Dry Cleaner Environmental Response and Reimbursement Law directed the MPCA to adopt rules defining reasonable costs and ineligible costs for reimbursement, application requirements, and a process to adjust reimbursement rates. Those rules were promulgated in FY18.

During the 2019 legislative session, in the first year, \$600,000 was transferred from the Remediation Fund to the Dry Cleaner Account to be prioritized for reimbursement to dry cleaner operators. This \$600,000 was expended on reimbursements in FY20. Also in the first year, an additional \$600,000 was transferred from the Remediation Fund to the Commissioner for preparing a legislative report assessing the possibility of recovering environmental response costs from insurance held by dry cleaning facilities. The report was submitted on January 15, 2021 (<https://www.pca.state.mn.us/sites/default/files/lrc-rem-1sy21.pdf>). Lastly, in the second year, \$600,000 was to be transferred if legislation was enacted in the 2020 legislative session to address the insolvency of the Dry Cleaner account. Legislation was not enacted in 2020.

Since establishment of the Dry Cleaner Account, 77 facilities have received approximately \$14.9 million in full or partial reimbursement. In FY 2019, reimbursements were sent to 8 facilities. In FY 2020, reimbursements were sent to 21 facilities.

FY19	FY20	
\$425,293.11	\$1,387,755.41	Amount reimbursed

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). Initially the MPCA had normally received one or two claim requests per fiscal year for review/approval. Most of those claims found to be eligible have been for reimbursement of expenses to replace private drinking water wells, connections of residential homes to a municipal water supply or installation of carbon filter systems. However, since FY14 the number of claims received has increased, primarily related to the lower drinking water standards for trichloroethylene (TCE) and PFAS compounds.

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 MPCA recommendation for installing a vapor mitigation system is 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. When there is a responsible party identified, as there is with the PFAS releases, the MPCA will seek cost recovery for reimbursement payments made. The payments listed below were associated with costs individuals incurred related to installation of home treatment systems to remove PFAS from their drinking water supply. The MPCA did seek cost recovery from 3M, as these were the result of PFAS releases from a 3M PFAS disposal site.

FY19	FY20	
23	6	Number claims
\$55,808.	\$20,966.	Amount associated with claims

In addition, in FY20, approximately \$233,650 was reimbursed through the Harmful Substance Compensation Program to 24 claimants in the East Metro for costs they incurred regarding connection of their private residence to the public water supply system. These were homes that had received a drinking water well advisory from MDH regarding PFAS impacts and were in close proximity to the public water supply system to allow for connection. As this action resulted in a long-term drinking water supply action, these claims were determined to be eligible under the 3M Natural Resource Damage Assessment (NRDA) Settlement.

Per- and polyfluoroalkyl substances (PFAS) in the East Metro

3M Consent Order

Per-and polyfluoroalkyl substances (PFAS) are a family of substances 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. The Superfund Program manages remediation of the three 3M sites; the Closed Landfill Program handles remediation of the Washington County Landfill.

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 and providing safe drinking water to impacted residents. Because the Washington County site is in the Closed Landfill Program, the MPCA is required by state law to cover the response action expenses regarding releases from the landfill. However 3M 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.

3M Natural Resources Damages Settlement

When oil or other hazardous substances are released into the environment and harm wildlife, water, air, or other natural resources — including the benefits they provide — the state is authorized to seek compensation from the responsible parties to restore what was lost. A Natural Resource Damage Assessment (NRDA) may be initiated after significant environmental harm. On February 20, 2018, the state of Minnesota settled its NRDA lawsuit against the 3M Company in return for a grant of \$850 million. Minnesota’s attorney general sued 3M in 2010 alleging that the company’s production of substances known as PFAS had damaged drinking water and natural resources in the southeast Twin Cities metro area. After legal and other expenses are paid, about \$720 million will be invested in drinking water and natural resource projects in the Twin Cities east metropolitan region.

The agreement specifies how the MPCA and the Minnesota Department of Natural Resources (DNR) can spend the grant from 3M. It sets two top priorities for funding – ensure safe and sustainable drinking water and enhance natural resources – and provides guidelines for using any remaining money after those two issues are adequately addressed. It also directs the MPCA and DNR to set up a working group to guide use of the funds. A legislative report exists that to engage with communities, stakeholders, and technical experts, the MPCA and DNR created two main work groups — the Government and 3M Working Group and the Citizen–Business Work Group. To assist these two main groups, a Drinking Water Supply Technical Subgroup 1 (Subgroup1) was formed to analyze options and deliver assessments and advice on alternatives and options.

Priority one — Ensure safe drinking water

With PFAS having contaminated domestic water supplies in a number of southeast metro communities, the top priority for grant funds will be projects aimed at providing a safe and sustainable supply of drinking water in the area. These projects will focus on the cities of Afton, Cottage Grove, Lake Elmo, Lakeland, Lakeland Shores, Maplewood, Newport, Oakdale, St. Paul Park, Woodbury and the townships of Denmark, Grey Cloud Island and West Lakeland, and the Prairie Island Indian Community. Projects in other communities may also be considered.

Funded projects will help provide residents and businesses with enough safe drinking water to meet current and future needs. Such efforts could include providing alternative sources of drinking water for cities or private well owners, treating drinking water from existing wells, or connecting homes served by private wells to municipal drinking water systems. Grant funds also could support efforts to assure a sustainable supply of drinking water, with projects such as promoting water conservation or acquiring open spaces that help recharge drinking water sources more quickly.

Priority two — Enhance natural resources

The second priority for grant spending is to enhance aquatic resources, wildlife habitat, and outdoor recreational opportunities in the east metropolitan area, or downstream of the area on the Mississippi and St. Croix Rivers. Such projects might include restoring and protecting fish and wildlife habitat, building boat ramps and fishing piers to provide access to fish unaffected by PFAS contamination, or cleaning up contaminated river sediments. The MPCA and DNR will have immediate access to \$20 million in grant funds for projects in this priority category. After the safe drinking water goals of the first priority are reasonably achieved, more grant money can be used for natural resource projects.

Remaining grant funds

If funds remain after the first two priority goals are met, they can be used for statewide environmental projects. Only projects that benefit statewide water resources, habitat restoration, open space preservation, recreation improvements, or other sustainability projects will be considered.

More detailed information about implementation of the Settlement can be found at the 3M Settlement webpage (<https://3msettlement.state.mn.us/>). This includes information about the Draft Conceptual Drinking Water Supply Plan which outlines costs and long-term options to address PFAS impacts in the East Metro to meet the Priority One goals of the Settlement. Biannual legislative reports which cover agency activities and annual spending plans can also be found on the main 3M Settlement webpage.

Temporary drinking water treatment systems

Under terms of the 2018 Settlement Agreement, 3M is to provide up to \$40 million, in addition to the \$850 million grant amount, over the first five years of the agreement for temporary drinking water treatment systems until the long-term actions are determined. These temporary treatment systems are to meet 3M's obligation to provide an alternative drinking water supply where public or private drinking water wells exceed MDH criteria for PFAS, as outlined in the 2007 Consent Order between 3M and the MPCA. Such temporary municipal carbon treatment systems are currently operating in Cottage Grove, St. Paul Park and Woodbury. A temporary treatment system is currently being designed for one well in Oakdale, in addition to the permanent carbon treatment system already in place. Under term outlined in the 2007 Consent Order, the MPCA seeks cost recovery of related State expenses from 3M.

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. Public notice is also required 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.

The MPCA also coordinates closely with the EPA on public meetings held for Federal Lead Superfund Sites listed on the NPL or proposed for future listing on the NPL. One example was the public meeting held in November 2019 in the City of Edina. This meeting focused on discussing the NPL listing proposal for the Highway 100 and County Road 3 Groundwater Plume site located within the communities of Edina and St. Louis Park, Minnesota. This meeting was critical to ensure key stakeholders were informed of the site in advance of the Superfund listing which subsequently occurred in September 2020. This Groundwater Plume extends from the City of St. Louis Park to the City of Edina. MPCA staff and management attended the meeting to present information to the public and answered questions.

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, GovDelivery (news releases, email updates, newsletters), YouTube, and targeted social media advertising. 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 and program 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 have been integrated into the MPCA Superfund Program's site management processes. More information about the MPCA's environmental justice principles can be found at <https://www.pca.state.mn.us/about-mpca/mpca-and-environmental-justice>.

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 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:

Groundwater/Drinking Water Protection

The MPCA Superfund Program and Minnesota Department of Health (MDH) have been collaborating to investigate and determine the best course to cleanup and protect public water systems that have been impacted by releases of hazardous substances.

Currently, the two agencies have prioritized 28 public water supply systems with Volatile Organic Compounds (VOCs) detected in one or more water sources supplying these systems. The concentrations are compared to Advisory Levels (ALs), defined by the MDH, which are health-based advisory levels and are not enforceable standards under the Federal Safe Drinking Water Act. These 28 public water supply systems are prioritized into one of three priority levels based on chemical detections at the source or entry point to a public water supply distribution system:

- ✓ Priority 1 (one system) entry point has a VOC concentration exceeding an AL,
- ✓ Priority 2 (ten systems) entry point has a VOC concentration that is at least 50% of the AL or consistently exceeds the AL but is an emergency or backup entry point, and
- ✓ Priority 3 (17 systems) entry point is on increased monitoring due to a current or past detection, but concentrations are consistently less than 50% of the AL.

This prioritization system is used to direct actions taken by the MPCA Superfund Program and MDH to investigate and, if necessary provide short-term drinking water treatment while a long-term remedy is developed. The 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.

Per- and polyfluoroalkyl substances (PFAS) in Drinking Water

PFAS are a group of man-made substances that includes PFOA, PFOS, PFBS, and several others. This group of substances are commonly used in non-stick and stain resistant consumer products, food packaging, fire-fighting foam, and industrial processes. These substances are very persistent in the environment and in the human body and can accumulate over time, which can lead to adverse human health effects.

MPCA partnered with MDH to investigate PFAS in Minnesota in the early 2000s. Since then, MDH has established and updated criteria for five different PFAS compounds. In response to these published criteria, the MPCA and MDH have coordinated efforts to monitoring both public and private drinking water wells in both the East Metro and Statewide to ensure public health and the environment are adequately protected. MPCA is taking a programmatic approach to evaluating potential sources and managing/mitigating impacts where appropriate. This includes the MPCA providing bottled water or

home treatment systems for those cases in which MDH issues a drinking water well advisory to a private residence.

Another initiative was the start of the PFAS inventory pilot project. The primary objective of the inventory pilot is to evaluate historical and current potential PFAS-contaminated locations in Dakota, Olmsted, Stearns and St. Louis Counties. A protocol was developed to identify and prioritize potential PFAS sources in a manner that is defensible, well documented, reproducible, financially feasible, and transparent. A PFAS Inventory Risk Communications Plan has also been developed to establish a clear communications strategy for the protocol, which includes a stakeholder analysis, a decision framework for execution, and supporting tools. The U.S. Environmental Protection Agency (EPA) recently awarded, the MPCA, a Multipurpose Grant (MPG) to assist the pilot project to investigate PFAS sources and to validate the protocol. Site selection for the pilot project has started and investigation plans are being developed to identify sampling locations. The results from the pilot study will help determine how to incorporate PFAS considerations into the Superfund and other MPCA programs, and if the protocol should be scaled-up to all Minnesota counties. It will also allow the MPCA to address sites that pose an unacceptable risk to human health and the environment. MPCA has also reached out to other states to understand what protocols and actions other states are taking regarding PFAS contamination. The protocol will develop over the next few fiscal years.

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 detected in five community water supply wells, and they are actively being monitored by the MDH.

1,4 dioxane has been identified as a contaminant of concern in deep groundwater (at depths greater than 80 feet) associated with the former Twin Cities Army Ammunition Plant (TCAAP) Superfund site. The U.S. Army paid for drinking water treatment systems to be installed for the municipal water supplies of New Brighton and the Village of St. Anthony to treat the 1,4-dioxane, to supplement treatment systems already in place for chlorinated compounds. The city of St. Louis Park has 1,4-dioxane contamination at two of their municipal wells. The MPCA has designed water treatment plants for these two wells to treat both chlorinated compounds as well as the 1,4 dioxane. A treatment system is now in place and operational for one well. The other well is currently offline.

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.

Chlorinated solvents

Chlorinated solvents are a large family of chemical compounds that contain chlorine and are the source of much of the work for the Superfund Program. Typical compounds that are worked on include tetrachloroethylene (PCE) and trichloroethylene (TCE). Chlorinated solvents were routinely used in various industrial and commercial processes that, when released in the environment, can contaminate the land, groundwater, surface water, and air.

Vapor intrusion

Chlorinated solvents such as PCE and TCE can migrate as a vapor into buildings from the source of the contamination through the soil. These vapors can degrade the quality of the indoor air and sometimes pose risks to human health. Vapor intrusion sites can vary in size from small sites impacting a single building to large sites encompassing many city blocks. The understanding of vapor intrusion is still evolving; it drives the work at many of our sites and is expected to continue to do so into the future.

Closed sites reassessment project

The recent lowering of health-based standards and the development of new vapor intrusion guidance resulted in the need to re-evaluate sites that were previously closed in order to verify closure decisions made in the past are adequately protective using current policy and guidance. Minnesota's Superfund (SF) Program is in the process of re-evaluating 2,105 closed sites for vapor intrusion and approximately 600 closed sites for drinking water risks. These sites were closed prior to knowledge of health risks posed by vapor intrusion and reduction of the drinking water standard for TCE. In 2019, funding was granted to provide the dedicated staffing and project resources needed to complete this project. The additional resources will expedite the completion of these closed site reassessments by 33 years, from FY2061 to FY2028.

Minnesota Groundwater Contamination Atlas

The Superfund Program is working to make our data accessible – to citizens, elected officials, industry and the environmental community. Remedial programs collect data from sites all over the state and our stakeholders rely on the data to make decisions about siting wells, buying homes, and developing properties.

The Superfund Program has completed a three-year project funded by the Environmental and Natural Resources Trust Fund (ENTRF) to harvest data from files and place data into a statewide enterprise database. This project led to the development of the [Minnesota Groundwater Contamination Atlas](#), a web application completed and hosted online on July 1, 2020. This web application features 90 Superfund sites found on the PLP. For each of the 90 Superfund sites, the Minnesota Groundwater Contamination Atlas map application is composed of three constituent parts: the map, the site story, and the data download. The map and site story portions of the web application present groundwater contamination areas of concern and tell the contamination story of each area in a way that is understandable to the general public and meaningful to technical users. The data download allows for direct public access to groundwater data hosted on the statewide enterprise database in a self-service format. The 90 Superfund sites currently on the web application represent the first phase of content on the Minnesota Groundwater Contamination Atlas. Additional contaminated sites will be added to the web application in the future to continue to improve public awareness and access to MPCA and MDA data.

Increased data accessibility will lead to better-informed stakeholders, more transparency and accountability, and is consistent with the MPCA 2018-2022 Strategic Plan to “Accelerate the availability of data and information in a self-service format.”

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.