

Investigating Environmental Contamination

A GUIDE FOR COMMUNITIES – MINNESOTA SUPPLEMENT

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Investigating Environmental Contamination: A Guide for Communities – Minnesota Supplement

[Investigating Environmental Contamination: A Guide for Communities \(Guide\)](#) was written by the Great Lakes Center for Children’s Environmental Health at the University of Illinois at Chicago, School of Public Health. The guide is for community members who are concerned about environmental exposures in their neighborhoods. The information and resources are intended to help community members take steps to figure out if contamination is affecting the health of members of their community.

Minnesota Department of Health (MDH) created this Minnesota-specific supplement to provide more local sources of information and data, and to empower Minnesotans to learn about their environment and health by understanding outdoor pollution in the air, soil, and water.

This Minnesota Supplement is not intended to be a stand-alone document and is most helpful when used in tandem with the original guide.

[Investigating Environmental Contamination: A Guide for Communities \(Guide\)](#)

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Introduction

Health begins long before illness; it begins where we live, learn, work, and play. We all live in conditions that we cannot individually control but that can affect our health—the air we breathe, the water we drink, the food we eat. Minnesota agencies work to provide data and information to create conditions that support the health of people in Minnesota.

Using this guide will help you to:



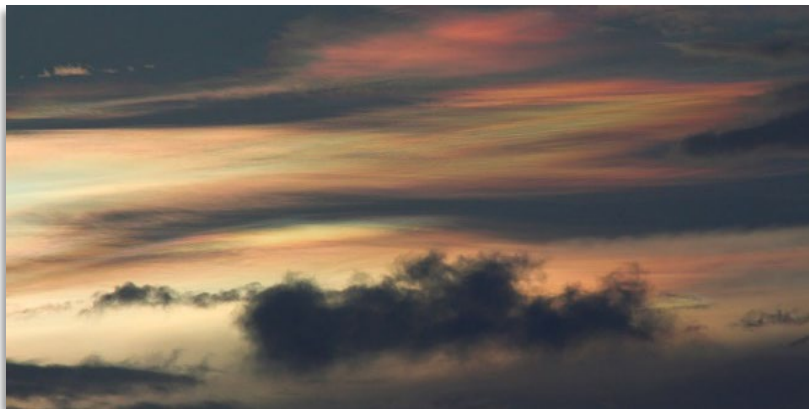
Find out the levels of pollution in your air, water, and soil.



Know which government agencies to contact about pollutants in your environment.

Who can I call? State, County, and Local Government

Each resource listed below has contact information on their websites. This is the best source for questions related to the specific data, tools, or programs in this guide.



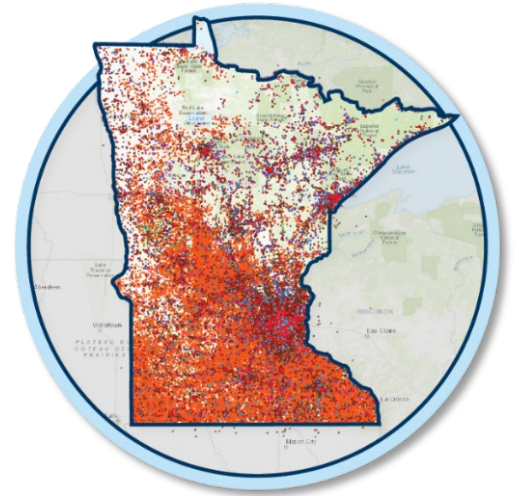
Across Minnesota, the services offered at the local government or county level vary greatly. If you have a concern or issue that you are uncertain whom to contact with your inquiry, consider connecting with the local government or county first. State agencies and programs may delegate programs or services to regional, local, or county offices.

Pollution in Your Community

What's in My Neighborhood – MPCA

The Minnesota Pollution Control Agency (MPCA) focuses on preventing and reducing the pollution of air, land, and water. What's in My Neighborhood is an online application that provides access to a wide variety of environmental information in communities. It includes:

- Properties that were previously contaminated and those being investigated for contamination
- Facilities with air, water, and other environmental permits and registrations, and those that have applied
- Facilities that MPCA has penalized for environmental violations
- Projects under environmental review
- Emergency management activities
- Pollution prevention projects



[What's in My Neighborhood | Minnesota Pollution Control Agency \(state.mn.us\)](https://state.mn.us)

What's in My Neighborhood – MDA

The Minnesota Department of Agriculture (MDA) is the lead agency for response to, and cleanup of agricultural chemical contamination in Minnesota. The MDA has tracked spills of agricultural chemicals and sites contaminated with agricultural chemicals since the late 1970's. The data in this collection contains information on known and potential sources of agricultural chemical soil and ground water contamination.



[What's In My Neighborhood? Agricultural Interactive Mapping | Minnesota Department of Agriculture \(state.mn.us\)](https://state.mn.us)

Air Pollution Resources

MDH Air Guidance Values

MDH develops health-based guidance values to evaluate potential human health risks from exposures to chemicals in ambient air. An air guidance value is a concentration of a chemical that is likely to pose little or no risk to human health, for a specified length of exposure.

[Air Guidance Values: Minnesota Department of Health \(state.mn.us\)](https://state.mn.us/air-quality/air-guidance-values)

MPCA Air Data and Tools

The MPCA has compiled many resources for understanding air quality in Minnesota. The Science and data page contains links to interactive air monitoring data and risk assessment tools.

[Science and data | Minnesota Pollution Control Agency \(state.mn.us\)](https://state.mn.us/air-quality/science-and-data)

Additional resources to learn more about Minnesota's air quality, including facility and statewide air emissions, can be found on the Air quality trends and data page.

[Air quality trends and data | Minnesota Pollution Control Agency \(state.mn.us\)](https://state.mn.us/air-quality/trends-and-data)



Soil and Groundwater Resources

MPCA Remediation Programs

The MPCA oversees many different categories of sites that are known to be contaminated. Most cleanup sites in Minnesota can be found on the *What's in My Neighborhood* mapping resource described above. Contaminated sites are in various stages of remediation – at some, investigation and cleanup are needed, cleanup is underway, or cleanup has been completed and long-term monitoring or maintenance continues. The *Groundwater Contamination Atlas* (see below) also contains more information about federal and state Superfund sites.

[Cleanup and redevelopment | Minnesota Pollution Control Agency \(state.mn.us\)](#)

MDA Remediation Programs

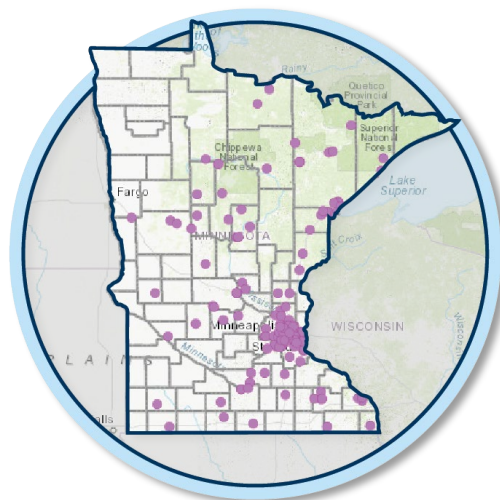
The MDA has lead regulatory authority in Minnesota for agricultural chemicals (pesticides and fertilizers), including wood treatment compounds. The MDA oversees investigations and cleanups of agricultural chemical facilities, agricultural chemical manufacturing and distribution facilities, wood treatment operations, plant and tree nurseries, lawn care companies, golf courses and other contaminated sites. The MDA has State Superfund authority that is similar to the MPCA. Some MDA sites are also included in the *Groundwater Contamination Atlas* (see below).

[Spills & Cleanup | Minnesota Department of Agriculture \(state.mn.us\)](#)

Minnesota Groundwater Contamination Atlas

The Groundwater Contamination Atlas is a tool for learning about polluted sites around the state and provides access to groundwater sampling data. If there are potential health risks associated with a groundwater area of concern, remediation activities are implemented to protect health.

[Minnesota Groundwater Contamination Atlas | Minnesota Pollution Control Agency \(state.mn.us\)](#)



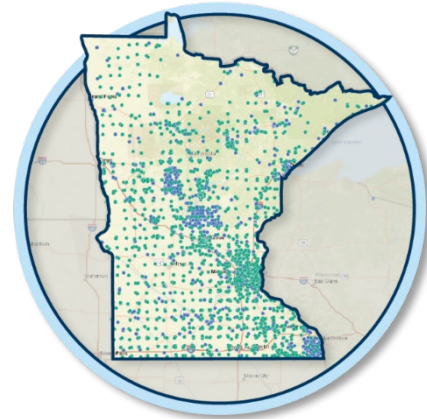
MDA Groundwater Monitoring Data

The MDA samples a network of groundwater monitoring wells annually. The network is designed to characterize the impacts of agricultural chemicals (pesticides and fertilizers) on groundwater quality in areas vulnerable to contamination.

[Groundwater Pesticide Water Quality Monitoring | Minnesota Department of Agriculture \(state.mn.us\)](#)

MPCA Groundwater Monitoring Data

MPCA also samples a network of groundwater monitoring wells annually. The network is designed to detect contamination as it enters the groundwater system, help identify sources, and implement best management practices to prevent contamination.



[Groundwater monitoring | Minnesota Pollution Control Agency \(state.mn.us\)](#)

[Groundwater Monitoring Data \(arcgis.com\)](#)

MDH/MPCA Vapor Intrusion



Volatile organic compounds (VOCs) are chemicals that easily evaporate into air. VOCs that evaporate from polluted soil and groundwater can create chemical vapors underground. If these vapors move and come in contact with a building, they may enter through cracks in the foundation, around pipes, or through a drain system. The VOCs can then contaminate indoor air. This process - when pollution moves from air spaces in soil to indoor air - is called vapor intrusion. The VOCs found most often during vapor intrusion investigations in Minnesota are the industrial degreaser trichloroethylene (TCE), and the dry cleaning solvent tetrachloroethylene (PCE).

People who live in or occupy buildings that are being investigated for vapor intrusion are notified and provided resources on the webpages below.

[Managing vapor intrusion | Minnesota Pollution Control Agency \(state.mn.us\)](#)

[Vapor Intrusion - Environmental Health: Minnesota Dept. of Health \(state.mn.us\)](#)

MDH Site Assessment and Consultation

The Site Assessment and Consultation Unit (SAC) at MDH evaluates public health risks at sites or facilities where chemicals have been released into the environment. Our environmental health scientists do this by:

- Evaluating exposure (where and how much contamination is present, and how much people are exposed)
- Evaluating toxicity (whether the exposure will cause harm)
- Reviewing health concerns and developing recommendations (report potential harms and make recommendations for limiting exposure)
- Engaging the community (outreach and health education activities like public meetings)

For questions related to hazardous chemical exposures from sites leave a message for SAC at 651-201-4897 or health.hazard@state.mn.us.

[Hazardous Sites and Substances: Site Assessment and Consultation Unit - EH: Minnesota Department of Health \(state.mn.us\)](#)



Drinking Water Resources

Guidance Values and Standards for Contaminants in Drinking Water

MDH uses and develops different types of guidance for different purposes to protect people's health from contaminants in drinking water. Drinking water that is contaminated above the standard or guidance may pose some level of health risk to some people drinking the water. For more information about types of guidance, see [Guidance Values and Standards for Contaminants in Drinking Water \(PDF\)](#)

Chemicals that MDH has developed health-based guidance have a toxicological summary and information sheet available to aid in understanding of health risk and occurrence of the chemical in groundwater in Minnesota.

Chemical CAS Number	Value Type	Exposure Duration	Value (µg/L)	Health Endpoints
Find chemicals beginning with: A-C D-E F-H I-L N-O P-R T-Z				
Acetaminophen 63-25-6		Acute	ND	--
		Short-term	ND	--
Toxicological Summary for Acetaminophen (PDF)	HRL ₁₅	Subchronic	200	Adrenal; Liver system
Information Sheet: Acetaminophen in Drinking Water (PDF)		Chronic	100	Adrenal; Liver system
		Cancer	NA	--
Acetaminophen 103-90-2		Acute	200	Liver system
		Short-term	200	Liver system
Toxicological Summary for Acetaminophen (PDF)	HRL ₁₅	Subchronic	200*	Liver system
Information Sheet: Acetaminophen in Drinking Water (PDF)		Chronic	200*	Liver system
		Cancer	NA	--
		Acute		

[Human Health-Based Water Guidance Table - EH: Minnesota Department of Health \(state.mn.us\)](#)

Pesticide Rapid Assessments

MDH pesticide rapid assessment have been conducted for pesticides that do not have current MDH drinking water guidance values. They are health-based, conservative values that other agencies use when no other standards or guidelines are available.

[Rapid Assessments for Pesticides - MN Dept. of Health \(state.mn.us\)](#)

Consumer Confidence Reports for Public Water Systems



Community water suppliers must prepare annual water quality reports, known as Consumer Confidence Reports, for their customers. The reports must be published by July of each year. The reports tell where drinking water comes from, what's in it, and how you can help protect it.

[Drinking Water Protection: Consumer Confidence Reports - EH: Minnesota Department of Health \(state.mn.us\)](#)



Lead pipe scratch test

Lead in Drinking Water

Lead can get in your drinking water as it passes through your household plumbing system. See the MDH webpage below to learn ways to protect yourself from lead, including learning about the presence of lead service lines, how to test your water, and how to reduce lead in drinking water.

[Lead in Drinking Water - Minnesota Dept. of Health \(state.mn.us\)](https://state.mn.us)

Private Well Testing

Private well owners are responsible for regularly testing their well water. MDH offers an *Owner's Guide to Wells* and information on how to test your well water and options for addressing water quality issues.

[Water Quality/Well Testing/Well Disinfection - EH: Minnesota Department of Health \(state.mn.us\)](https://state.mn.us)

Protect your health!
Test your well water for:

- Coliform Bacteria (Every year)
- Nitrate (Every other year)
- Arsenic (At least once)
- Lead (At least once)
- Manganese (Before a baby drinks the water)

Testing is even more important if young children drink the water.

Private Well Pesticide Sampling

The MDA conducts testing of private wells for pesticides in some areas where groundwater may be vulnerable to contamination.

[Private Well Pesticide Sampling Project | Minnesota Department of Agriculture \(state.mn.us\)](https://state.mn.us)

Public Health Data

The Minnesota Department of Health (MDH) collects public health data on various diseases and conditions. Data provides Minnesotans with meaningful statistics on rates and trends across the state. This data can also inform health professionals and citizens about risks and, when warranted, provide a more complete and accurate profile of health outcomes for communities having questions or concerns about disease rates in their area. Collecting this data is mandated by state law.

Minnesota Public Health Data Access Portal

Minnesota Public Health Data Access portal is an online data resource designed to provide public access to Minnesota environmental public health data including environmental risk factors and health. Information may be presented as interactive charts and figures, maps, custom tables generated using a query tool, or County profiles across a range of environmental health indicators. In many cases, data are available to download.

[MN Environmental Public Health Tracking Program \(state.mn.us\)](https://state.mn.us)

[MN Public Health Data Access Home - MN Data \(state.mn.us\)](https://state.mn.us)

Biomonitoring

Everyone is exposed to chemicals in our air, water, food and consumer products. Some can be harmful to health. Biomonitoring tells us about people's exposure to chemicals by measuring them in blood or urine and whether chemical exposures differ between groups and over time. This information is used to promote public health actions to reduce chemical exposures.

[Minnesota Biomonitoring: Chemicals in People - Minnesota Department of Health \(state.mn.us\)](https://state.mn.us)

MN Public Health Data Access Portal
Data currently available
health.mn.gov/mndata

TOPIC	CHARTS	MAPS	QUERY	COUNTY	SUB-COUNTY
Air quality	●	○	●	○	●
Asthma	●	○	●	○	●
Biomonitoring: chemicals in people	●				
Birth defects	●		●	○	
Birth outcomes	●		●		
Cancer	●	○	●	○	
Carbon monoxide poisoning	●	○	●		
Childhood lead exposure	●	○	●	○	●
COPD	●	○	●	○	●
Climate-related environmental health concerns	●				
Cold-related illness	●	○		○	
Diabetes	●				
Drinking water quality	●	○	●	○	●
Environmental justice	●				
Health equity	●				
Health insurance	●		●		
Heart attacks	●		●		
Heat-related illness	●	○		○	
Hospitalizations and emergency room visits	●				
Immunizations	●	○	●	○	●
Obesity	●	○	●	○	●
Oral health	●	○	●	○	●
Pesticide poisoning	●				
Pollen	●				
Poverty and income	●	○	●	○	●
Radon	●	○	●	○	●
Secondhand smoke exposure	●				
Smoking	●				
Traffic	●	○	●		●

Minnesota Cancer Reporting System (MCRS)

The MCRS is Minnesota's statewide cancer registry (database) and has operated since 1988. It collects diagnostic and related data on all cancer diagnoses among Minnesota residents. Data from the MCRS can be used to compare cancer rates among individuals living in certain geographic areas including counties and census tracts at the time of their diagnosis with cancer rates in a comparison area. While community cancer rates have a high degree of statistical uncertainty and must be interpreted cautiously, such data can be useful in addressing public concerns over cancer rates in a community by providing a more complete and accurate profile of cancer occurrence. However, for many reasons, analyses of community cancer rates are rarely useful in documenting potential cancer risks from low levels of environmental pollutants. While environmental contaminants are the frequent focus of community cancer concerns, the primary determinants of cancer risk include smoking, obesity, diet, lack of exercise, UV radiation, alcohol, viruses, genetics, reproductive history, medications, and occupation.

[Minnesota Cancer Reporting System \(MCRS\) - Minnesota Department of Health \(state.mn.us\)](https://state.mn.us)



[Cancer and the Environment - MN Dept. of Health \(state.mn.us\)](https://state.mn.us)

Cancer can be scary and overwhelming especially if you or your loved one has been diagnosed. Questions about what causes cancer—and how the environment may play a role—are common and concerning. MDH has a resource for you.

Birth Defects Information System (BDIS)

The BDIS statute was enacted in 2004 to establish and maintain an information system containing data on the cause, treatment, prevention, and cure of major birth defects. Monitoring birth defects among babies born in Minnesota began in May 2005. The BDIS is still considered to be in its early stages of development. It takes many years to collect enough data to be able to identify trends in the occurrence of birth defects because they are relatively rare; and small, random changes can appear to have a significant effect on such rates in the short term



There are many different purposes in collecting BDIS information. One purpose is to monitor the occurrence of birth defects in Minnesota to detect potential public health problems, predict risks, and assist in response to birth defect clusters. Contact staff for a list of conditions included in the BDIS.

[Birth Defects Information System - Minnesota Department of Health \(state.mn.us\)](https://state.mn.us)

Blood Lead Levels

MDH receives the results from all blood lead tests performed for Minnesotans. The data are used to help identify populations at risk for elevated blood lead levels, ensure screening services are provided to groups with a high risk of lead poisoning, and ensure environmental and medical follow up are provided to children with elevated blood lead levels.

When a child has an elevated blood lead level, MDH works with local public health agencies to perform an environmental inspection in the home. The majority of elevated blood lead levels in Minnesota children are traced back to lead-based paint in older homes. In-home environmental inspections are the best way to determine individual sources of lead exposure. However, community-level blood lead data can shed light on larger patterns of lead exposure.

[Blood Lead Information System - EH: Minnesota Department of Health \(state.mn.us\)](https://state.mn.us/eh/blood-lead-information-system)

[Childhood Lead Exposure: MN Public Health Data Access – MN Dept. of Health - MN Data \(state.mn.us\)](https://state.mn.us/mn-data/childhood-lead-exposure)

Asthma

Since 1999, the MDH Asthma Program has maintained an asthma surveillance system to track data on asthma prevalence, morbidity, and mortality to better understand and describe the impact of asthma. The Asthma Program also educates health care professionals, the public, and others about actions to reduce exposures to asthma triggers.



[Asthma Quick Facts -Minnesota Department of Health \(state.mn.us\)](https://state.mn.us/eh/asthma-quick-facts)

[Asthma in Minnesota: MN Public Health Data Access Portal - MN Dept. of Health - MN Data \(state.mn.us\)](https://state.mn.us/mn-data/asthma-in-minnesota)

Environmental Justice and Health Equity

Environmental Justice – MDH

Unequal exposure to environmental hazards is related to negative health outcomes. In Minnesota, this is reflected as increased rates of asthma, infant mortality, and other environmental health outcomes among people of color, American Indian, rural, and low-income communities. These groups are also the most at-risk for experiencing the negative health effects from climate change, such as flooding and extreme heat events.

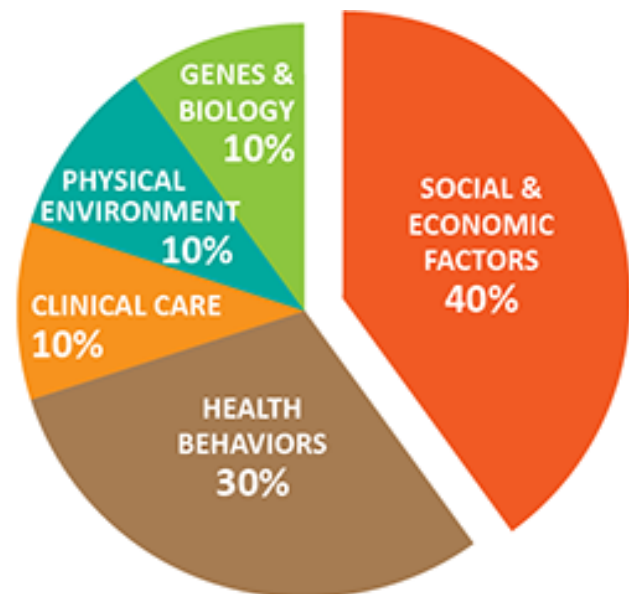
To ensure the health of all Minnesotans, everyone must have the opportunity to live in an environment with clean air, water, and land. Environmental justice involves working to ensure all Minnesotans not only have equal protection from environmental harms, but also have their voice represented in decision making with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Environmental justice is a key component to advancing health equity. Thus, the social determinants of health that are related to health equity are also important for understanding and advancing environmental justice.

The social determinants of health include:

- Education
- Income
- Racial discrimination
- Transportation
- Housing
- Disability status

[Health Equity - Minnesota Department of Health \(state.mn.us\)](https://state.mn.us/health-equity)



DETERMINANTS OF HEALTH

Environmental Justice – MPCA

The MPCA is committed to environmental justice, the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, concerning the development, implementation, and enforcement of environmental laws, regulations, and policies. We're committed to making decisions that do not place disproportionate pollution burdens on these communities.

[Environmental justice | Minnesota Pollution Control Agency \(state.mn.us\)](https://state.mn.us)

The MPCA considers tribal areas and census tracts with higher concentrations of low-income residents and people of color as areas of increased concern for environmental justice. This screening tool allows users to identify census tracts where additional consideration or effort is warranted to ensure meaningful community engagement and to evaluate the potential for disproportionate adverse impacts using three criteria:

- At least 40% of people reported income less than 185% of the federal poverty level
- 50% or more people of color
- Federally recognized tribal areas

[Understanding environmental justice in Minnesota \(arcgis.com\)](https://arcgis.com)



Communities in Action

The examples below show how communities can organize to continuously work on environmental issues or address specific community exposures to contamination. Having an organized community presence to provide feedback on environmental issues and engage with state and local health and environmental officials can be advantageous to communities for many reasons, including increased opportunities for education and dialogue on issues the community is passionate about.

Southeast Como Improvement Association (SECIA)

The mission of SECIA is to maintain and enhance the physical, social and economic environment of our neighborhood. Through programs that serve the community's present and future needs, through communication, stewardship, and citizen involvement, they strive to foster a sense of community and to promote the neighborhood as a vibrant place to live and work. This community association has been in action since the 1990's.

As part of this association, the Environment Committee has a long history of leading edge community projects such as the air pollution prevention project, Move In Move Out (their neighborhood recycling project), Solar pilot project, rain barrel building, rain gardens, community gardens, TCE advocacy and urban forestry.

During response actions to TCE vapor contamination from the General Mills Superfund Site, SECIA acted as a liaison to state agencies, hosted public meetings, provided community learning opportunities, and was a strong advocate and voice for community members concerned about their health and Superfund site activities.

[Southeast Como Improvement Association \(SECIA\)](#)



White Bear Area Neighborhood Concerned Citizens Group (NCCG)



White Bear Area
Neighborhood
Concerned
Citizens Group

In 2019, citizens in the White Bear Area learned that a company in their neighborhood had been emitting a significant amount of trichloroethylene (TCE) into the air for years, in violation of their air permit. The NCCG was formed and immediately engaged with state and elected officials to share their concerns about the effects of pollution on their community. In 2020, after much hard work by NCCG lobbying the Legislature, Minnesota became the first state to ban the use of TCE by facilities with air quality permits.

[White Bear Area Neighborhood Concerned Citizens Group \(NCCG\)](#)

Y ABELER	Y EICHORN	Y KENT	Y PRATT
Y ANDERSON, B.	Y EKEN	Y KIFFMEYER	Y RARICK
Y ANDERSON, P.	Y FRANZEN	Y KLEIN	Y RELPH
Y BAKK	Y FRENTZ	Y KORAN	Y REST
Y BENSON	Y GAZELKA	Y LAINE	Y ROSEN
Y BIGHAM	Y GOGGIN	Y LANG	Y RUUD
Y CARLSON	Y HALL	Y LATZ	Y SENJEM
Y CHAMBERLAIN	Y HAWJ	Y LIMMER	Y SIMONSON
Y CHAMPION	Y HAYDEN	Y LITTLE	Y SPARKS
Y CLAUSEN	Y HOFFMAN	Y MARTY	Y TOMASSONI
Y COHEN	Y HOUSLEY	Y MATHEWS	Y TORRES RAY
Y CWOODZINSKI	N HOWE	Y MILLER	Y UTKE
Y DAHMS	Y INGEBRIGTSEN	Y NELSON	Y WEBER
Y DIBBLE	Y ISAACSON	Y NEWMAN	Y WESTROM
Y DRAHEIM	Y JASINSKI	Y NEWTON	Y WIGER
Y DZIEDZIC	Y JENSEN	Y OSMEK	Y WIKLUND
Y EATON	Y JOHNSON	Y PAPPAS	

SF 4073 CHAMBERLAIN
FINAL PASSAGE AS AMENDED

YEA 66
NAY 1

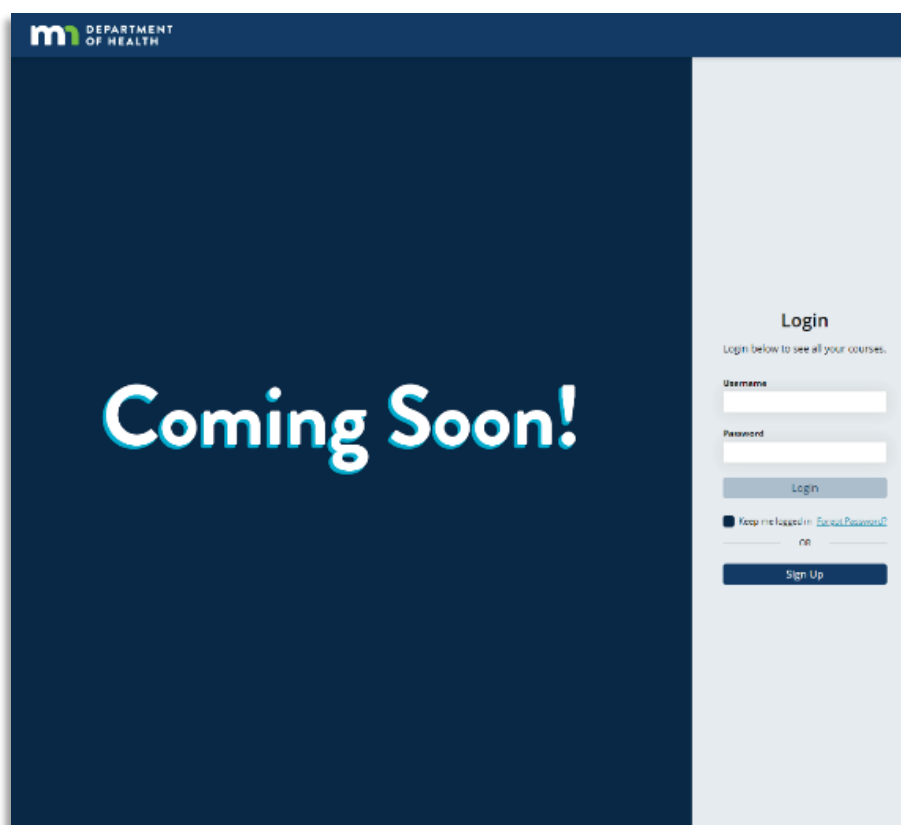
The Minnesota Senate passes SF 4073 banning the use of toxic TCE

Boost Your Knowledge – State Resources for Learning

Minnesota Department of Health (MDH) Learning Center – Coming Soon!

- Courses available - free for users via the website
- Basics of MN Geology and Groundwater module and a PFAS module
- Investigating Environmental Exposures in Minnesota

[MDH Learning Center Registration Instructions - Minnesota Dept. of Health \(state.mn.us\)](#)



Other

The items below are topics people have concerns about and look for resources. Because they are complex issues, you may need to connect with state, county and local government resources with an inquiry.

Odors

Environmental odors come from human activities, animals, nature, vehicles, and industry. The link below provides answers to common questions on odors and health, approaches for addressing odors in your community, information on reporting odors, methods for conducting odor complaint investigations, and ways for community members and other groups to be involved in odor management decisions.



[Odors in the Environment and Your Health - Site Assessment and Consultation - EH: Minnesota Department of Health \(state.mn.us\)](https://state.mn.us/odors)

Feedlots

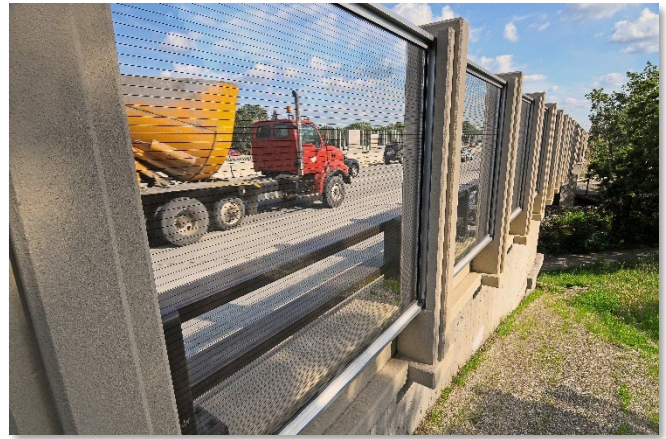
MPCA rules govern the collection, transportation, storage, processing, and land application of animal manure and other livestock operation wastes. The rules apply to most aspects of livestock management including the location, design, construction, operation, and management of feedlots and manure handling facilities.



[Feedlots | Minnesota Pollution Control Agency \(state.mn.us\)](https://state.mn.us/feedlots)

Noise

By Minnesota law, the MPCA is empowered to enforce the state's noise rules. Many other agencies and levels of government, however, have an important role to play in upholding the noise standards. Depending on the source and location of the noise, some agencies may be in a better position than others to help citizens with noise concerns.



[A Guide to Noise Control in Minnesota \(PDF\)](#)

