

# The Water Where We Live

*A Collaborative Project between A House Unbuilt and Brown's Creek Watershed District*

A 2023 Supreme Court decision revoked the Clean Water Act's power to protect approximately two-thirds of the nation's wetlands and millions of miles of rain-fed streams. Many states don't have their own legal protections for these waters. In states with strong laws, polluting industries are taking action to weaken them.

Through the work of watershed districts, conservation management, citizen advocacy, and creativity we can raise awareness about the public's role in maintaining clean water and how we pursue that at higher levels of municipal and state government. To that end, *The Water Where We Live*—a collaboration between A House Unbuilt and Brown's Creek Watershed District—will amplify the hidden stories living in our watershed as well as the ways we can protect the water that flows there.

Opening January 24, 2025, A House Unbuilt's Art + Water + Ecology Space (AWE) in Downtown Stillwater will host a unique exhibition featuring area artists. A selection of 5-10 works on paper will be created in response to stories and descriptions of the unique organisms living in the watershed, accompanied by a "first person" narrative of the organisms' experiences moving through Brown's Creek. Artists will receive a \$100 stipend for their participation, and each artwork will be made into a postcard for distribution by the artists and BCWD. Future collaborations between the Watershed District and the artists as well as additional exhibition opportunities will be sought in respect to the project.

The AWE Space is approximately 500 square feet with two blank walls for display space. The artists' responses will be featured on one wall, and on the opposite wall, A House Unbuilt will feature blown up versions of Washington County Conservation District's Water Pollution 101 info cards featuring the impacts of bacteria, phosphorus, nitrogen, chloride, mercury, and sediment on our waterways and watersheds. Additionally, in the open area of the AWE Space, Artistic Director Victoria Bradford Styrbicki and other volunteers will host a "water bar," featuring a tasting of regional drinking water sources, as an activity to spur awareness of our impacts on our waterways.

According to a March 2024 GALLUP poll, pollution of drinking water tops environmental worries in the US. The National Wildlife Federation suggests our best approach as advocates of waterways is to advance a message of clean drinking water, which will simultaneously amplify the other concerns that people are apparently less worried about, such as pollution of waterbodies, contamination of soil and water by toxic waste, climate change, air pollution, loss of rain forests, and extinction of plants and animals. Through this immersive installation and project collaboration, we can have an impact on clean water in our community, raising awareness and changing behavior.

The Opening Reception showcasing the artworks on January 24, 2025, 4-7pm will also feature Angie Hong as a guest speaker, highlighting her new book *Exploring the St. Croix River Valley: Adventures on and off the Water*. The exhibit will be on display for a 3-month period in the AWE Space: January 24 - April 18, 2025, Monday-Friday, 10am-3:30pm and by appointment. As mentioned before, together in partnership with BCWD leadership, we will seek out future exhibition opportunities for this project, solicit groups to tour the space, and explore other applications for these creative materials within the Watershed.

Attachments:

The Water Where We Live Budget.xlsx

WaterPollution101\_Toolkit\_impairments-20200203\_RGBforPartners.pdf

## Project Budget—The Water Where We Live

<b>EXPENSES</b>	<b>Description</b>	<b>Budget</b>	<b>Actuals</b>	<b>Date</b>
Opening reception	Refreshments (compostable cups, plates, napkins, light snacks—linens/tables provided by venue)	\$100.00		
Info card panels	Large format printing	\$500.00		
Postcards	5,000 postcards, 10 designs featuring each artwork—each artist receives 300 postcards, BCWD receives 1,500 cards, AHU receives 500 cards	\$600.00		
Installation supplies	Materials to hang artworks, posters	\$150.00		
Artists fees	Fees for artists to create new works on paper in response to BCWD stories (\$100 per participating artist)	\$1,000.00		
Artistic Director Fee	\$100/wk for 12 weeks of exhibition to manage space/tours/inquiries/visitors throughout project + \$300 for creative time and labor to facilitate artists, design and fabricate exhibition)	\$1,500.00		
<b>TOTAL</b>		<b>\$3,850.00</b>		



Ecology



Recreation



Health



Economy

# Pollutants & Stressors

Impairments IMPACT our waters and our lives

Impacts: Ecology, Human Health & Recreation

## Bacteria

[www.pca.state.mn.us/water/bacteria](http://www.pca.state.mn.us/water/bacteria)

Impacts: Ecology & Recreation

## Phosphorus

[www.pca.state.mn.us/water/phosphorus](http://www.pca.state.mn.us/water/phosphorus)

Impacts: Ecology & Human Health

## Nitrogen

[www.pca.state.mn.us/water/nitrogen](http://www.pca.state.mn.us/water/nitrogen)

Impacts: Ecology & Economy

## Chloride (salts)

[www.pca.state.mn.us/water/chloride-salts](http://www.pca.state.mn.us/water/chloride-salts)

Impacts: Ecology & Human Health

## Mercury

[www.pca.state.mn.us/water/mercury](http://www.pca.state.mn.us/water/mercury)

Impacts: Ecology & Economy

## Sediment

[www.pca.state.mn.us/water/sediment](http://www.pca.state.mn.us/water/sediment)

# Bacteria

## IMPACTS:

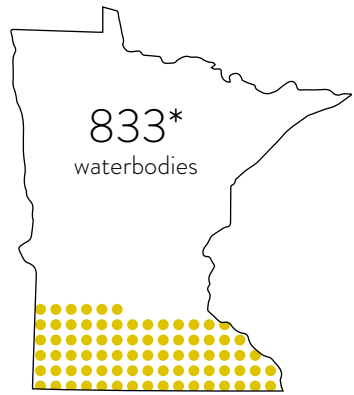
Ecology, Human Health & Recreation



## WATER QUALITY STATS

**833** water bodies in Minnesota are impaired by E. coli & fecal coliform. (MPCA 2020)

**Bacteria make up 14%** of all water quality impairments in Minnesota.



\* 1 dot represents 10 waterbodies

**BACTERIA** are part of nature. They help dead plants and animals to decompose and are usually safe for people and animals. When we find E. coli & fecal coliform in our lakes and streams, however, it is a sign that feces and harmful diseases could be in the water. Common sources of fecal waste include failing septic systems, wastewater treatment plants, and manure from livestock. Urban stormwater also carries feces from dogs, geese and other animals.

Avoid swimming or playing in lakes and streams with bacteria impairments and stay out of the water in ANY lake, river or stream for 2 days after a heavy rain. Young children and the elderly are most at risk of getting sick and can experience diarrhea, nausea, jaundice, headaches, and fatigue.

# COMMON SOURCES

Failing  
septic  
systems



Releases  
from  
wastewater  
treatment  
plants



Dog and  
goose poop  
in urban  
areas



Manure  
from  
livestock



## SUMMARY

Finding *E. coli* & fecal coliform in lakes and streams indicates that fecal waste and harmful diseases could be in the water.

Children and adults who swim or play in contaminated water could get sick if they get water in their mouths. Symptoms may include: diarrhea, nausea, jaundice, headaches, and fatigue. Young children and the elderly are most at risk.

## WHAT YOU CAN DO

1. **Inspect your septic system** at least once every three years, pump as needed, and replace when needed.
2. **Avoid swimming or playing in lakes and streams with bacteria impairments**, and stay out of the water in any lake, river or stream for 2 days after a heavy rain.
3. **Pick-up and throw dog poop in the trash**, and don't feed ducks or geese.
4. **Work with your soil and water conservation district** to manage manure if you have farm animals.

# Phosphorus

## IMPACTS:

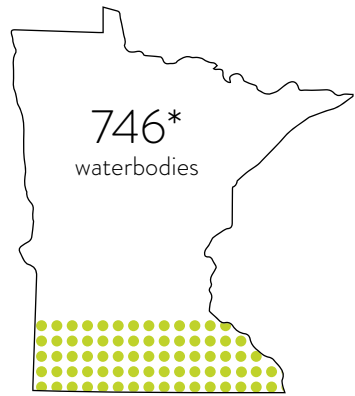
Ecology & Recreation



## WATER QUALITY STATS

**746** water bodies in Minnesota impaired by nutrients. (MPCA 2020)

**Phosphorous makes up 13%** of all water quality impairments in Minnesota.



\* 1 dot represents 10 waterbodies

**PHOSPHORUS** is a naturally occurring element found in leaves, grass clippings, soil and other organic matter. In the water, phosphorus feeds aquatic plants and algae. Too much algae makes the water green and smelly, keeps people from enjoying fishing, swimming, and boating. In some cases, algae can even create toxic conditions that are unsafe for children and pets.

Though aquatic plants need *some* phosphorus, stormwater pipes and ditches send much more than is needed into many of our waterways.

# COMMON SOURCES

Organic debris



Dog and goose poop in urban areas



Fertilizers for agriculture



Releases from wastewater treatment plants



Failing septic systems



Manure from livestock



Sediment from erosion



Soil from farmland



## SUMMARY

Phosphorus is a naturally occurring element that feeds algae. Too much phosphorus can cause algae blooms that make the water green and smelly and can be harmful to people and animals.

## WHAT YOU CAN DO

1. **Rake and sweep leaves, grass clippings and debris** off of the pavement and out of the street along your curb line.
2. Follow the law — **use zero-phosphorus fertilizer** on your lawn.
3. Plant a raingarden or convert some lawn to native plants. **Cover bare dirt and repair erosion.**
4. **Inspect your septic system** at least once every three years, pump as needed, and replace when failing.

# Nitrogen

## IMPACTS:

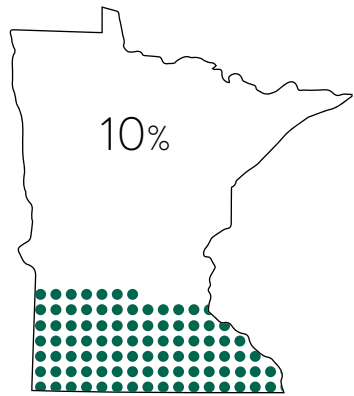
Ecology & Human Health



## WATER QUALITY STATS

**5 rivers used for municipal drinking water** supplies have too high of nitrates. (MPCA 2018)

In 113 townships, **10% or more of private wells** have too high of nitrates. (MDA 2018)



\* In 113 townships, more than 10% of wells have too much nitrates

**NITROGEN** is a naturally occurring element found in soil, as well as manure, human sewage, and fertilizers. Nitrogen in the Mississippi River flows downstream to the Gulf of Mexico, causing a hypoxic “dead zone.” It is harmful to fish and aquatic life in Minnesota lakes and streams, and can also make surface and groundwater unsafe to drink.

Studies show that nitrogen concentrations are increasing in both surface and groundwater in Minnesota. The majority – 72% - of this nitrogen comes from cropland. Smaller amounts come from wastewater treatment plants and septic systems. Urban stormwater is responsible for only 1% of all nitrate in Minnesota waters.



# COMMON SOURCES

Failing  
septic  
systems



Releases  
from  
wastewater  
treatment  
plants



Manure  
from  
livestock



Fertilizers  
for  
agriculture



## SUMMARY

Nitrogen is a naturally occurring element that feeds algae in saltwater systems. Nitrogen in the Mississippi River flows downstream to the Gulf of Mexico and feeds algae, causing a hypoxic “dead zone.” Nitrogen also combines with oxygen to form nitrate, which can make water unsafe to drink. Many communities in southeastern, southwestern and central Minnesota have elevated nitrates in their groundwater.

## WHAT YOU CAN DO

1. **Inspect your septic system** at least once every three years, pump as needed, and replace when failing.
2. **Use less nitrogen fertilizer**, especially in areas with sandy soils or karst geology.
3. Support programs that **encourage conservation farming**.
4. Work with your soil and water conservation district to **manage manure if you have farm animals**.

# Chloride (salts)

## IMPACTS:

Ecology & Economy

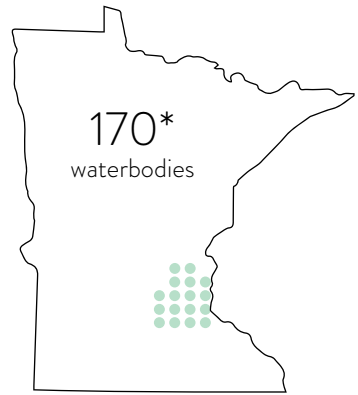


## WATER QUALITY STATS

**50 lakes and streams** in Minnesota are impaired by too much salt.

**120 water bodies** are threatened by salt.

**30% of shallow groundwater wells** in the Twin Cities metro area have elevated chlorides.

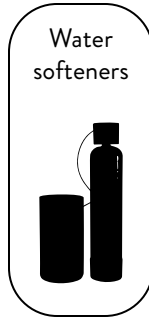
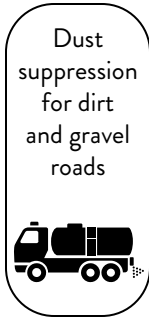


\* 1 dot represents 10 waterbodies

**SALTS** are used to melt snow and ice during the winter, suppress dust on gravel roads, and soften water. But, salt has become a major source of water pollution in Minnesota – especially in the Twin Cities metro area.

Salt kills fish and aquatic life, corrodes roads and bridges, and can even harm wildlife and our pets. We currently have no practical technology to remove salt from surface or groundwater once it is there. It takes only one teaspoon of salt to permanently pollute five gallons of freshwater.

# COMMON SOURCES



## SUMMARY

Chloride (salt) is a major source of water pollution in Minnesota, especially in urban areas. Salt permanently pollutes surface water and groundwater and harms fish and wildlife.

## WHAT YOU CAN DO

1. **Slow down.** Leave early, drive slower, and give plow trucks plenty of space to do their work.
2. **Be patient.** Just because you don't see salt on the road doesn't mean it hasn't been applied. Salt takes time to work.
3. **Shovel first.** Whether you use a shovel, snow blower, snow plow, or ice scraper, get out there as early as you can to shovel your driveway and sidewalk. The more you shovel, the less salt you'll need.
4. **Use salt wisely.** A 12 oz. mug of salt is enough for 10 sidewalk squares or a 20' driveway. Clean up leftover salt and sand to save and reuse. Salt does not melt ice when it is colder than 15° F. Wait until it warms up to avoid wasting money.

# Mercury

## IMPACTS:

Ecology & Human Health



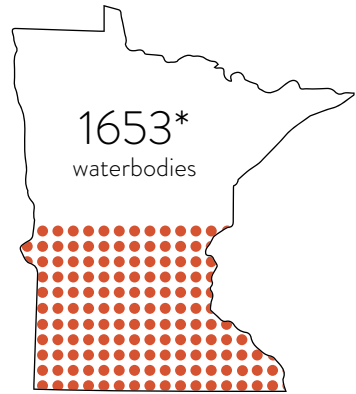
## contact:

your city for mercury disposal information.

## WATER QUALITY STATS

**1653 lakes and rivers** in Minnesota are impaired by too much mercury. (2020)

**99% of the mercury in our lakes and rivers** comes from the atmosphere.



\* 1 dot represents 10 waterbodies

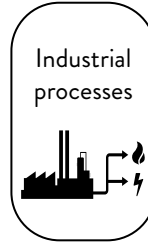
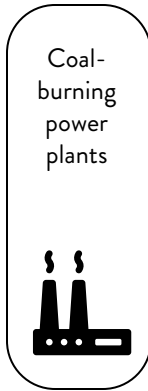
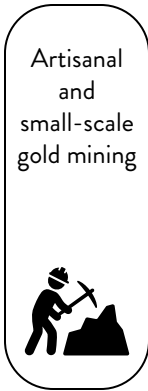
**MERCURY** is a naturally occurring element that is toxic to humans and animals. It affects human nervous systems, and is particularly harmful to young children and fetuses. Mercury is the most common pollutant in Minnesota's surface water.

Ninety-nine percent of the mercury in our lakes and rivers comes from atmospheric deposition. This happens when mercury is released into the atmosphere during industrial processes. The mercury eventually "falls out" of the air and onto the landscape. When it lands in lakes, the mercury ends up in the water and fish.

There are approximately 1653 water bodies in Minnesota with too much mercury (2020). As a result, the Minnesota Department of Health has issued fish consumption advisories for these lakes and rivers indicating that it may not be safe to eat fish from them more than once a week or once a month.

# COMMON SOURCES

Atmospheric deposition from regional, national and global sources:



## SUMMARY

Mercury is a naturally occurring element that is toxic to humans and animals. Mercury is the leading cause of surface water pollution in Minnesota. Nearly 100% of this mercury comes from atmospheric deposition.

## WHAT YOU CAN DO

1. **Reduce electricity consumption.** Shut down your computer and monitor at night, switch to LED light bulbs, unplug idle electronics, and turn off the lights when you leave a room.
2. **Dispose of household hazardous waste properly.** The mercury in thermostats, thermometers, fluorescent lights, gauges, medical and scientific equipment, electrical devices, and household appliances must be removed for reuse or recycling before these products can safely be disposed of or scrapped.

# Sediment

## IMPACTS:

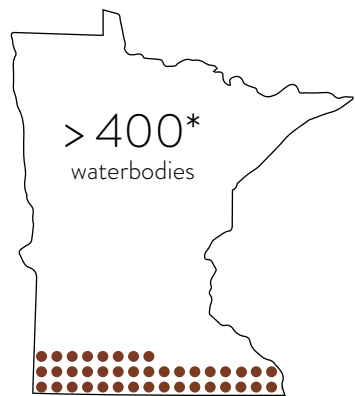
Ecology & Economy



## WATER QUALITY STATS

The **Minnesota River** needs a **90% reduction in sediment loading** to meet water quality goals; the **South Metro Mississippi** requires a **50% reduction**.

**More than 400 water bodies** are impaired by turbidity or total suspended solids (caused by sediment).



**SEDIMENT** – soil, dirt, sand, and silt – is a normal part of nature. It becomes a problem for our lakes, rivers and streams when there is too much loose sediment in the water. Sediment can clog the gills of fish and aquatic animals, smother spawning sites, fill-in rivers and streams, and make the water cloudy and unsafe for swimming. In addition, sediment also carries phosphorus with it into our water.

One major source of sediment is erosion along stream and river banks, gullies, ravines, ditches, and river bottoms due to too much flowing water. The erosion is indirectly caused by storm sewer systems, ditches and drain tile, and other alterations that quickly carry rain and melting snow off the land and into our waterways.

Sediment is also washed off of construction sites, farm fields, and patches of bare soil.

# COMMON SOURCES



## SUMMARY

Sediment – soil, dirt, sand, and silt – washes into lakes, rivers, and streams as a result of erosion. It is a major cause of water pollution in the Minnesota and Mississippi Rivers.

## WHAT YOU CAN DO

1. **Cover bare soil** on your property during landscaping and construction projects.
2. **Use erosion control fabric** to protect steep hills and shoreline areas while establishing new vegetation.
3. **Plant trees, shrubs, and deep-rooted native plants** along lakeshores and streambanks to prevent erosion.
4. **Plant a cover crop** after the corn and soybeans are harvested in the fall.