

Tips for Protecting Groundwater



WaterSense Products

WaterSense products have undergone independent testing and certification to meet EPA WaterSense criteria for efficiency and performance. The average US household on city water could save ~\$350 per year by using water more efficiently.

Smart Water Softeners

Smart water softeners reduce salt and water use by flushing themselves based on usage rather than timed intervals. By reducing salt and water use, you can simultaneously protect your pocket book and drinking water supply.



Sustainable Mowing Practices

By keeping grass at least 3" tall and mulch mowing your lawn clippings and leaves, you can significantly reduce the fertilizer and water needs of your lawn. Mulch mowing kits are inexpensive and easy to install at home.



Sealing Unused Wells

When well casings corrode, they act like a pipe for pollution near the surface to travel into deeper groundwater. In Minnesota, you are legally required to seal any unused wells if you transfer ownership of a property.



Regular Septic Maintenance

Make sure your septic system is inspected by a certified professional at least once every three years to ensure that it is effectively digesting waste. A malfunctioning septic system can pollute nearby private wells and water bodies.



Irrigation Controllers

As much as 50% of water used in lawn irrigation is overwatering. Irrigation controllers minimize water waste by automatically adjusting irrigation based on daily changes in weather and allowing you to directly control your irrigation through a smartphone app.



Low-input Lawn Options

Seed your lawn with a low input turf, like a fine fescue mix. These native turf grasses have deeper root systems and grow slower than traditional turf, meaning they need less water and fertilizer and only need to be mowed about twice per year.



Common Groundwater Pollutants

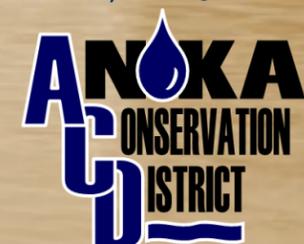
Pollution	Why is it a Problem?	What can we do?
Chloride (Salt)	Excess chloride causes groundwater to taste salty, and in some cases can change water chemistry allowing for dangerous minerals to dissolve into the water.	Since chloride permanently pollutes water, prevention is the best option. Calibrating water softeners and limiting the amount of salt we apply to roads and sidewalks will reduce chloride pollution in groundwater.
Animal Waste	Animal waste from pets, farm animals, and wildlife contains bacteria and nutrients that can cause illness.	Picking up and disposing of animal waste in a sealed bin prevents it from entering our water.
Household Hazardous Waste	Heavy metals, petroleum, and toxic chemicals can infiltrate groundwater undetected. These substances have a suite of deleterious effects on human health.	Proper storage and disposal are the most effective ways to prevent water contamination.
Fertilizer	Nitrogen in fertilizer can soak into groundwater and cause serious health problems for infants.	Proper and targeted application of fertilizer reduces the amount that gets into groundwater.
Pesticides	Pesticides are commonly misused and some have been linked to rare cancers and childhood development issues.	Limit their use and apply what is used with precision.
Rx	Pharmaceuticals, such as hormones, antibiotics, mood stabilizers can contaminate our drinking water and accumulate in our bodies over time.	Properly dispose of all pharmaceuticals at a police station or other designated pharmaceutical drop-off.
Arsenic	Arsenic is a naturally occurring neurotoxin and carcinogen present in some groundwater. ~8% of private wells in Anoka County have tested positive for unsafe amounts Arsenic.	Test your well at least once arsenic. Since its presence is dependent on local geology, not human activity, one test is adequate.
Manganese	Manganese is naturally occurring in some groundwater. While low levels of Manganese are safe, high concentrations harm neurological development in babies.	Like Arsenic, local geology determines the presence of Manganese. A single test will tell you if your water has unsafe amounts of Manganese.
Soluble	These contaminants accumulate in water over time, eventually reaching unsafe concentrations. Once water is polluted with these contaminants, it becomes very expensive to treat.	
Toxic	These contaminants have been shown to have negative human health impacts even at very low concentrations in water.	

GROUNDWATER Protecting Drinking Water for Generations to Come



Conservation Starts at Home

Prepared by the

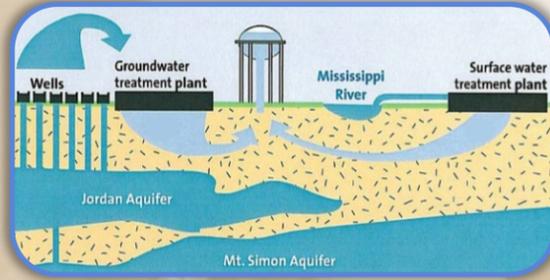


Anoka Conservation District
1318 McKay Drive NE, Suite 300
Ham Lake, MN 55304
763-434-2030
www.AnokaSWCD.org

Where Our Water Comes From

Groundwater is an essential natural resource for Anoka County and Minnesota at large. We depend on groundwater for everything from drinking and bathing, to irrigation and industry.

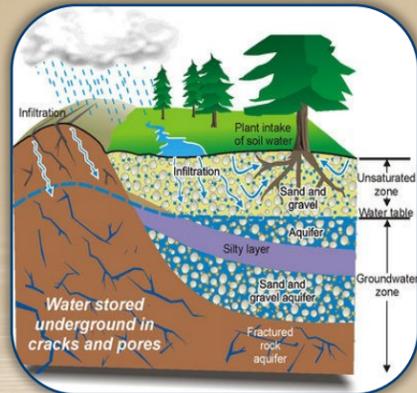
In Anoka County, 94% of residents rely on groundwater to supply all of their water needs. Unfortunately, the “out-of-sight, out-of-mind” nature of groundwater makes it easy for people to take this vital natural resource for granted.



What You Should Know About Groundwater

More than underground lakes and rivers:

The vast majority of groundwater exists in tiny spaces between rocks and soil particles. When an area can provide large sustained amounts of water, we call it an aquifer.



Distinct layers of water:

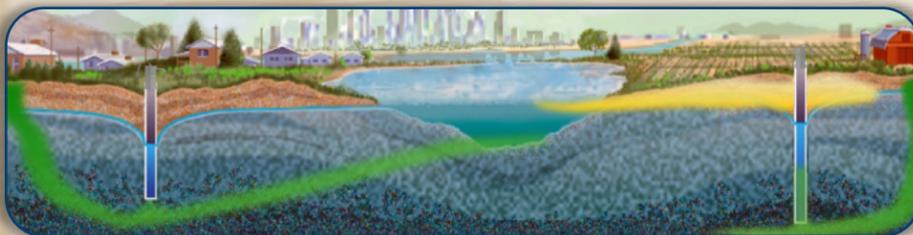
Groundwater aquifers are separated into layers by geological formations called confining beds. These beds usually consist of solid rock or clay that block the flow of water. Typically, city wells draw water from deep aquifers, while private wells usually tap into relatively shallow aquifers.

Connected to surface water:

Surface water and groundwater connect through the beds of rivers, lakes, and streams. When surface water evaporates during dry, hot weather, groundwater helps to keep these water bodies full and flowing.

Vulnerable to Pollution:

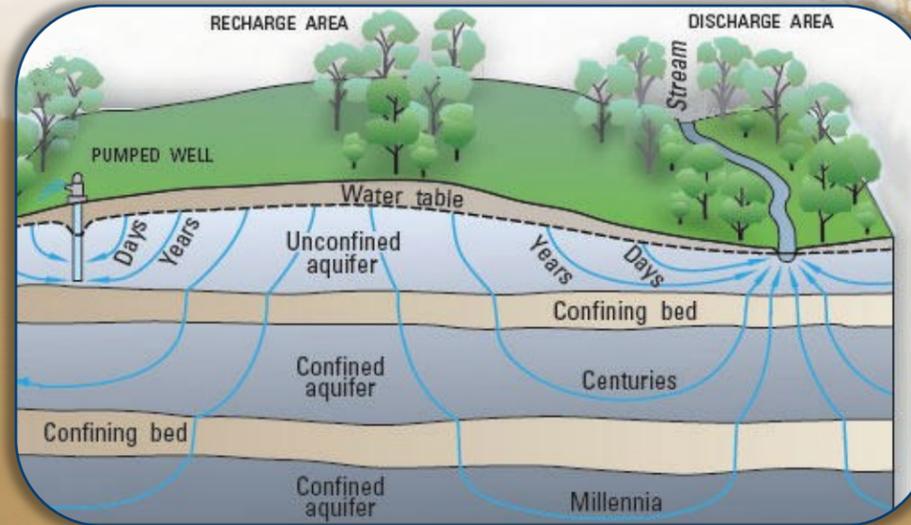
Groundwater is vulnerable to the pollution created by our land use and waste. Pollution often gets carried into groundwater with rain that soaks into the ground, traveling vertically and horizontally according to density of the pollutant and the direction of groundwater flow.



This material was reproduced from groundwater.org with the permission of The Groundwater Foundation. © The Groundwater Foundation. All Rights Reserved. (contaminant plumes added)

Groundwater Quantity

Groundwater refills when rain is able to soak into the ground. While refilling can happen in hours to days for shallow aquifers, it can take hundreds to thousands of years for water to reach deep aquifers buried beneath several confining beds of solid rock or clay. City wells typically draw from these deep aquifers because they are relatively protected from pollution. However, the very slow recharge rate of these aquifers makes them vulnerable to overuse.



Water Use for an Average Suburban Community

Our groundwater supply works a lot like a bank account. We spend water every day on things like laundry, bathing, and irrigation. Just like saving money, cutting back on wasteful water spending is one of the best ways to maintain a healthy groundwater account. However, groundwater eventually has to refill in order for use to be sustainable. By protecting natural spaces like forests and wetlands and using tools like rain gardens, we can ensure a healthy groundwater income.



Lawn irrigation is the main driver behind domestic water use. When we heavily irrigate lawns during dry summer months, we're depleting the drinking water supply of future generations. Considering the quality of our deep groundwater, it's like using Evian to water your lawn! By making simple changes to our water use, we can ensure clean, plentiful drinking water in Anoka County for generations to come.

Groundwater Quality

If I get my water from the city, why should I care about groundwater?

In Anoka County, every municipal water supply except for Columbia Heights and Hilltop comes from groundwater. So even if you get your water from the city, it is likely still groundwater!

Why can't we just treat groundwater for pollution?

Once groundwater is polluted, it's often prohibitively expensive to treat. Preventing pollution is far safer and more cost-effective than treatment.

I don't live near a landfill or a hazardous waste site, why would I need to test my well water?

Groundwater pollution can travel long distances underground, often in unpredictable directions and speeds. Additionally, everyday things like agricultural runoff or a malfunctioning septic system can make groundwater unsafe to drink.

Hazardous Household Waste

Proper disposal of hazardous household waste is one of the best ways individuals can help protect groundwater. Common items like paint, pesticides, and cleaning solutions need to be disposed of at a designated facility to prevent contaminating groundwater and the environment.

If you're an Anoka County resident, you can take your household hazardous waste year-round to the designated facility at 3230 101st Ave NE, Blaine, MN 55449. You can also check with your city to find convenient local drop-off events.



Our hazardous household waste facility in Anoka County cannot accept some hazardous items like dried paint, asbestos, or batteries, so check with Anoka County Environmental Services to make sure that your waste can be accepted before attempting a drop-off.

Well Testing in Anoka County

While city wells are regularly tested and treated for contaminants, private wells are the responsibility of the well owner. Regular water testing is one of the best things you can do to ensure the safety of your drinking water.

You can pick up well water testing bottles from Anoka County Environmental Services, or call 763-324-4260 to find a convenient location near you. Arsenic tests should be done once for the lifetime of the well, and Coliform bacteria and Nitrate tests should be done every 6-12 months.

Just because your well water appears clean doesn't mean that it isn't contaminated! Most common groundwater pollutants do not affect the taste, appearance, or smell of water.

