

## WHAT IS GROUNDWATER?

Groundwater is the water that fills the small spaces between rock particles (sand, gravel, etc.) or cracks in solid rock. Rain, melting snow, or surface water be-comes groundwater by seeping into the ground and filling these spaces. The top of the water-saturated zone is called the "water table."

When water seeps in from the surface and reaches the water table, it begins moving towards points where it can escape, such as wells, rivers, or lakes.

An *aquifer* is any type of geologic material, such as sand or sandstone, which can supply water wells or springs.

The groundwater, which supplies wells, often comes from within a short distance (a few miles) of the well. How fast groundwater moves depends on how much the well is pumped and what type of rock particles or bedrock it is moving through.

## WHAT WERE THE STEPS THE CITY TOOK TO DEVELOP A WELLHEAD PROTECTION PLAN?

1. Form a Wellhead Protection Planning team.
2. Identify the land area to be protected.
3. Identify land uses and possible sources of pollution in the wellhead protection area and determine how vulnerable the wellhead protection area is to pollution.
4. Implement ways to prevent groundwater pollution.
5. Develop an alternate way to supply water if the public well becomes polluted.

## WHAT CAN YOU DO?

To protect local groundwater:

- Recognize and manage possible sources of contamination on your property;
- Use hazardous products as directed and dis-pose of them properly; and
- Conserve water.

Where Does Your  
*DRINKING WATER*  
Come From?



The  
City of North Mankato

Has developed a  
*WELLHEAD PROTECTION PLAN*

In cooperation with  
Minnesota Department of Health  
&  
Minnesota Rural Water Association  
Source Water Protection Program

**NORTH  
MANKATO**  
MINNESOTA

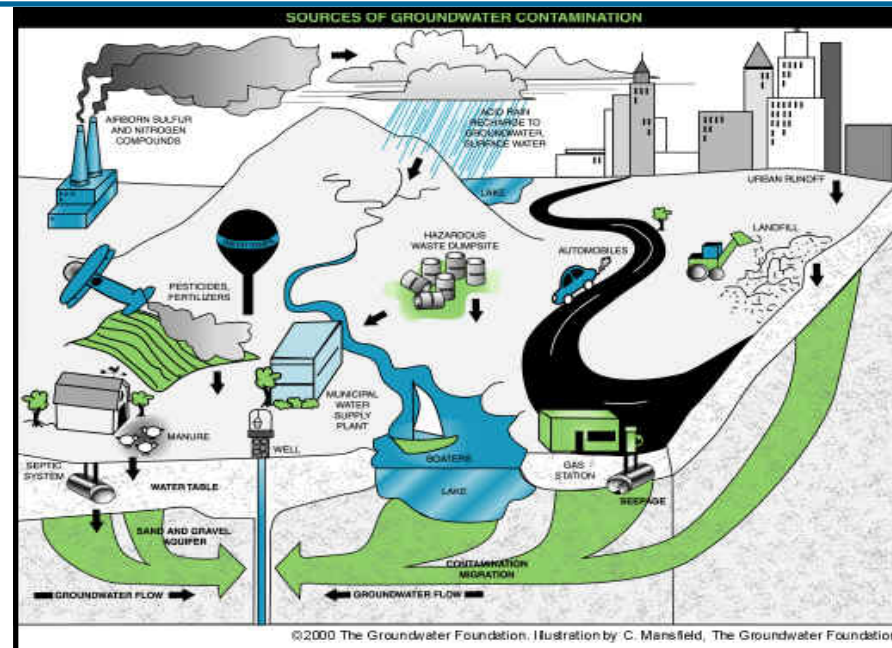
## A COMMUNITY EFFORT TO PROTECT PUBLIC WELLS...

The City of North Mankato relies on ground-water for their drinking water supply. The City operates five wells. These wells draw water from a groundwater aquifer located several hundred feet underground. Groundwater aquifers are vulnerable to contamination from human land surface activities.



The City of North Mankato is working with their citizens to protect drinking water supplies by carrying out Well-head Protection plan implementation. This plan was prepared in conjunction with several local, county and state agencies. The Minnesota Department of Health is the lead agency for the State's program and will assist communities with defining wellhead protection areas and developing plans to protect wells. Minnesota Rural Water Association, in cooperation with the U.S. Environmental Protection Agency, provides technical assistance to public water suppliers to help meet the system's Wellhead Protection Goals.

For more wellhead protection information, contact the MN Rural Water Association at (800) 367-6792.



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## MOST MINNESOTANS GET DRINKING WATER FROM WELLS

Wellhead Protection is a way to prevent drinking water from becoming polluted by managing possible sources of contamination in the area which supplies water to a public well. Wellhead Protection will be an ongoing need for communities. Everyone has an important part to play in protecting drinking water wells—today and for the future. Become involved in implementation of the WELLHEAD PROTECTION PLAN for your community. Contact one of the listed agencies for additional information, or call your community's water department.

## HOW DO WELLS BECOME POLLUTED?

Wells become polluted when substances that are harmful to human health get into the groundwater. Water from these wells can be dangerous to drink when the level of pollution rises above health standards. Many of our everyday activities can cause pollution. Much can be done to prevent pollution, such as wise use of land and chemicals. The expense of treating polluted water or drilling new wells can also be avoided. Help avoid drinking water contamination by being an environmentally aware citizen.