



SOURCE WATER PROTECTION AREAS

What is a Source Water Protection Area?

The City of Dover relies on wells to supply drinking water to our residents. Wells of all types, municipal and private, pump water from under the ground. This groundwater comes from rain or snow that seeps below ground and pools in cracks or spaces in the soil, sand and rock. These underground sources of water are known as aquifers. The level of groundwater rises and falls depending on the season, temperature, amount of rain or snow and the amount of water withdrawn from the aquifer.



A wellhead is simply the physical structure of the well above ground. A wellhead protection area is the area around the wellhead where land use activities have the potential to affect the quality of water that flows into the well.

The amount of land involved in a Source Water Protection Area is determined by a variety of factors such as the way the land rises and falls, the amount of water being pumped, the type of aquifer, the type of soil surrounding the well and the direction and speed that groundwater travels.

Source Water Protection Area

The blue dots at the center of the diagram shows the location of our municipal wells. The colored rings show the different amounts of time it takes for water to travel from the surface to the well. The red is the "Inner Management Zone"; the 1-year time of travel to the wells. The blue is the 5-year time of travel to the wells.



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Why does Source Water Need Protection?



Pollutants can sometimes seep into the ground and contaminate the water in a well. Source Water Protection is a good way to prevent municipal drinking water from being polluted because it requires the management of activities that could contaminate the area supplying water to a public well. Much can be done to prevent groundwater contamination. Source Water Protection Committees develop plans for protecting municipal drinking water. They look at potential sources of contamination, rank them based on their potential to contaminate groundwater. They then determine the best method of managing existing and future land and water used that pose a significant risk to drinking water. Protecting the area around a well, helps protect a healthy supply of water now and in the future.

Potential Sources of Contamination in Source Water Protection Areas

Pollutants from a variety of activities on the land can seep into the ground and move toward a well. Examples of activities that could negatively affect groundwater if not managed properly include:

- Chemical storage
- Private and abandoned wells
- Storage and spreading of road salt
- Animal feedlots
- Use and spilling of fertilizers and pesticides
- Accidental spills of hazardous materials
- Septic systems
- Underground storage tanks
- Underground pipelines or sewers
- Landfills

What are The Benefits of Protecting Source Water Areas?

A very clear benefit of protecting Source Water is protecting public health. In addition, preventing drinking water contamination in the first place costs a lot less than cleaning it up after there is contamination. There are a number of ways Source Water Protection impacts our day-to-day lives and reduces the costs to maintain and provide good water supplies:



- Not having to drill new wells when old ones become contaminated
- Avoiding the need to clean up contaminated groundwater
- Reducing the cost of water treatment
- Ensuring a long-term supply of clean water
- Ensuring a positive climate for economic growth

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What can You do to Protect Local Source Water Areas?

Everything is connected through the water cycle and it is important to remember everyone lives downstream. What you do today can affect local water quality. Here are some things you can do to protect your groundwater from contamination:

Conserve water. Not only is conserving water helpful to maintaining a constant supply of drinking water, too little water in a source can mean contaminants are more concentrated and, therefore, may be above acceptable levels.

Be an avid recycler. Recycling paper products, glass, metals and plastics cuts down on pollution and also reduces the amount of water we use. Manufacturing recycled paper uses 58% less water than making paper from virgin wood pulp. Making glass from recycled materials cuts related air pollution 20% and water pollution 50%.

Dispose of hazardous waste properly. Take unused paints, cleaners, and pesticides to your local hazardous waste facility. Take used engine oil to recycling facilities. Use drop cloths or tarps when working with hazardous materials such as paints, driveway sealers or wood stain to prevent spills from leaking into the ground. If a spill occurs, clean it up with an absorbent material such as kitty litter or sawdust and scoop the contaminant into a container.

Use non-toxic products for cleaning and environmentally-friendly soaps, shampoos and personal care products. Remember that what you use in your house goes back down your drain.

Clean up pet waste which contains nutrients and pathogens that can run into storm sewers during a rain storm.

Prevent pollutants from entering into runoff by reducing or eliminating the use of pesticides, fertilizers, sidewalk salts and by not over-watering your lawn. If you run an agricultural operation and haven't already, consider developing and implementing a Nutrient Management Plan.

Take care when refueling gas tanks for cars, lawn mowers, chainsaws, weed trimmers, tractors or other machinery to avoid spilling fuel on the ground. Also take care when changing engine oil. One gallon of gas or oil can contaminate a million gallons of groundwater.

Take your car to commercial car washes designed to prevent pollutant runoff from entering storm sewers. Use commercial car washes that use water efficient sprays, reducing their water consumption.

Stay informed and get involved in your local source protection process.

