

Benefits

Wells with an approved wellhead protection program are eligible for money-saving chemical monitoring waivers. Also, protecting your source saves you the added expense of water treatment associated with contamination. Ultimately, the protective measures you take help protect your investment, ensure healthy drinking water, and improve consumer confidence!

For more information on drinking water source protection, please contact:

Source Water Protection Program
 Drinking Water & Groundwater Bureau
 N.H. Department of Environmental Services
 PO Box 95
 Concord NH 03302-0095
 (603) 271-0688
www.des.nh.gov/dwspp

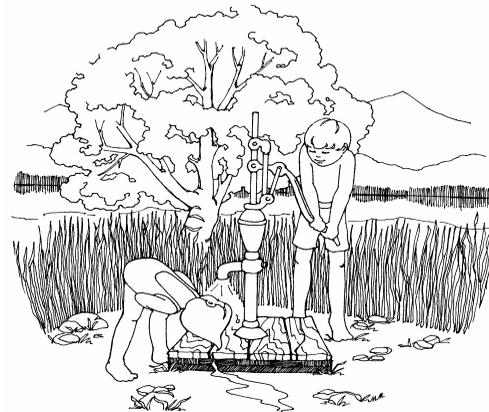


For More Information about ...

Land Conservation	http://des.nh.gov/organization/divisions/water/dwqb/dwspp/land_acqui/index.htm
Chemical Monitoring Waivers	http://des.nh.gov/organization/divisions/water/dwqb/dwspp/waivers/index.htm
Land use Controls	http://des.nh.gov/organization/divisions/water/dwqb/dwspp/ordinance.htm
BMPs for Groundwater Protection	http://des.nh.gov/organization/divisions/water/dwqb/dwspp/bmps/index.htm
Source Protection for Municipalities	http://www.neiwpc.org/sourcewateroutline/

Wellhead Protection Basics

Five Steps to Protect Your Source(s) of Water



A Reminder for Public Water Systems – Protection Begins with the System Owner and Operator.

To achieve better source protection, follow these five, which are explained in further detail below:

1. *Familiarize yourself with the established protection areas around the well.*
2. *Examine activities in your protection areas.*
3. *Practice good management procedures.*
4. *Talk with municipal officials.*
5. *Educate staff and water users about the importance of clean water.*

1. Be Familiar with Protection Areas

Sanitary Protective Radius

This area should receive the greatest attention. The sanitary protective radius is a 75- to 400-foot radius around the well that under current law *must* be controlled by the water supplier through ownership or easements. The extent of the sanitary protective radius depends on the maximum daily amount of water withdrawn from the well. Know the extent of your sanitary protective radius, and be sure only activities that are both directly related to your water system and non-threatening to the water quality occur within the radius.

Wellhead Protection Area

The area under which groundwater flows to a producing well is known as the wellhead protection area (WHPA). For bedrock wells, the WHPA is a circle whose radius depends on the maximum daily amount of water withdrawn from the well. For till and gravel wells, the WHPA has been calculated based on existing hydrogeologic information.

Sanitary Protective Radius for All Community Wells

Daily Volume (gal)	Min. Radius (feet)
0-750	75
751-1,440	100
1,441-4,320	125
4,321-14,400	150
14,401-28,800	175
28,801-57,600	200
57,601-86,400	250
86,401-115,200	300
115,201-144,000	350
>144,000	400

Wellhead Protection Area for Bedrock Wells

Daily Volume (gal)	Radius (feet)
0-7,200	1,300
7,201-14,400	1,500
14,401-28,800	2,050
28,801-43,200	2,850
43,201-57,599	3,600
>57,599	4,000

2. Examine Activities

DES considers certain activities and types of businesses potential contamination sources (PCSs) because they store or handle significant quantities of substances that can contaminate groundwater. Public water supply wells with PCSs in their wellhead protection areas are more likely to have detectable amounts of contaminants in their water.

Hazardous substances such as gas, oil or solvents that spill or leak onto the ground can contaminate groundwater, increase treatment cost and/or impact public health. Determine where these threats are located and the risk they pose to your source. To help you, DES has compiled *Source Assessment Reports* for each PWS. To view these reports visit www.des.nh.gov/dwspp/dwsap.htm, or call DES at (603) 271-0688.

Examine Activities (continued)

When identifying PCSs, be sure to include:

Underground Storage Tanks (USTs) – Leaking oil and gasoline USTs contaminate soil and groundwater. If a UST is located within the sanitary protective radius of a well, remove it to a location outside the sanitary protective radius and check for signs of previous spills or leaks (call DES regarding UST closure rules). If you need to store fuel to power an emergency generator, use natural gas or propane. Any heating oil tanks in the larger WHPA should be above-ground or in basements on an impermeable surface and contained in an area large enough to hold the complete liquid volume should a spill occur.

Herbicides, Pesticides, and Fertilizers –

Herbicides and pesticides must not be used or stored within your sanitary protective radius. If you use them outside of but near the sanitary protective radius, be careful to follow specific restrictions, registration requirements, and storage guidelines, which vary depending upon the quantity and types of products you choose to apply. Fertilizers are potential sources of nitrates and bacteria; don't use them within the sanitary protective radius. Contact DES for more information on best management practices and additional fact sheets regarding these topics.

Septic Systems – Septic tanks, leach fields, etc., should be removed and placed *outside* the sanitary protective radius of a well. Septic systems outside of but near the sanitary protective radius should be well-maintained. Inspect septic tanks every year and pump when needed. Never pour hazardous household chemicals down the drains. Do not use septic system cleaners.

Storage Areas – Do not store, either indoors or outdoors, hazardous substances, such as gasoline, garden chemicals, paints, deicers/salt, motor oil, or antifreeze) within a sanitary protective radius. Outside the sanitary protective radius, store them in a secure building equipped with an impermeable floor and with adequate spill containment equipment.

Parking and Vehicle Use – Do not establish a parking area within the sanitary protective radius. Perform maintenance and washing of vehicles outside the sanitary protective radius. Keep any vehicles that must operate within the sanitary protective radius in good repair to prevent leaks and spills. Thoroughly clean up any leaks or spills immediately.

Public Water System Activities – Your water system may be carrying out some of the potentially harmful activities listed above. In addition, your system may use hazardous substances or produce hazardous waste. Inspect your facilities, record what is being used, and be sure hazardous materials are stored and disposed of properly.

For example, at a school, be sure that:

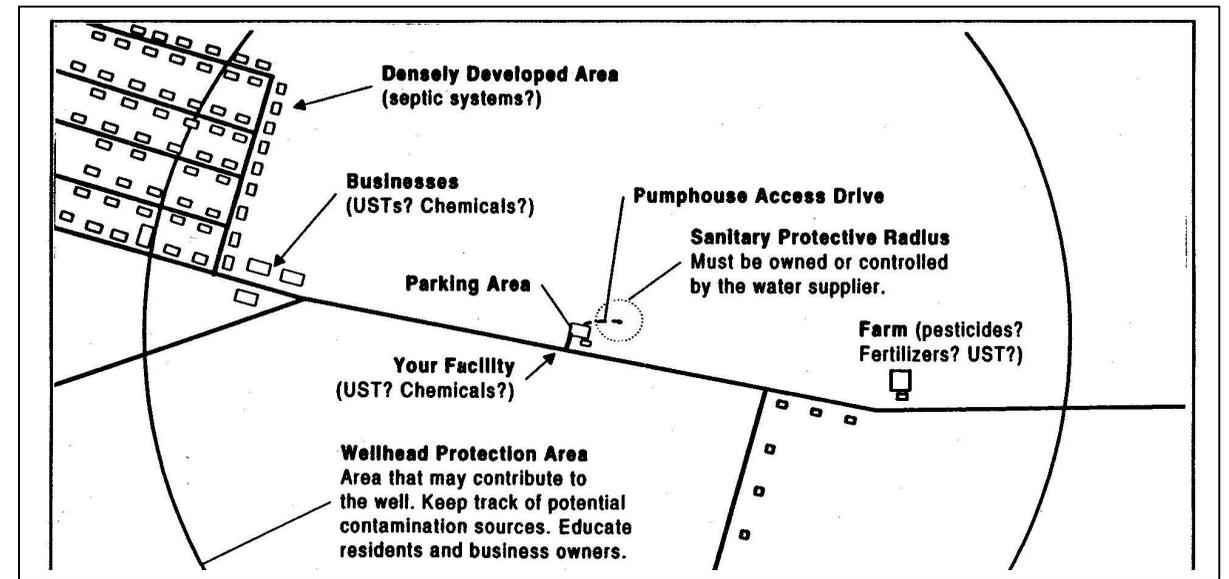
- Art supplies are properly stored and hazardous wastes produced by the art studio are not discharged down the sink.
- Laboratory chemicals are properly stored and disposed;. Waste oils and antifreeze from the automotive shop are properly labeled, stored, and disposed.

3. Good Management

A well must be secure and protected. To ensure the safety and purity of the well, follow the *do's and don'ts* listed below:

DO:

- Regularly inspect activities in the sanitary protective radius.
- Restrict access to the well.
- Clearly label any hazardous materials (essential to your treatment system) located near the well.
- Cap and/or screen all vents, access ports, and other openings of the well.
- Check the condition of sanitary seals and replace those that are not intact.
- Slope parking areas and concrete pads under storage areas away from the well, periodically check their condition, and repair any permeable areas.
- Safeguard chemical feeders from inadvertent physical disturbances or tampering.



- Use a properly constructed sample tap and take other measures to avoid cross-connections.
- Inspect backflow prevention valves and replace as needed.

DON'T:

- Allow the installation of floor drains that discharge to a drywell or any surface leaching system (except for water system backflush) within the sanitary protective radius.
- Store any type of chemical in or near the well house.
- Allow hoses to be submerged in swimming pools or slop sinks.

4. Talk to Municipal Officials

Be sure that town officials know you operate a public water system. Explain the exact location of your well, your sanitary protective radius, and your WHPA. Discuss the results of your Source assessment report. You may be able to work with town officials to educate residents and businesses within your WHPA and to reduce threats from town-wide activities such as road salting. Ask that your WHPA be included in any groundwater protection planning efforts. If you are concerned about a particular activity near your well, ask the health officer or code enforcement officer for help in informing the property owner about best

management practices for groundwater protection. For more information, contact DWGB at 271-0688.

5. Educate

It is critical to water supply protection that the public be aware of a wellhead protection area. Post signs at access routes entering the WHPA to inform visitors that they are entering a sensitive area. Use periodic mailings to educate residents and businesses in your WHPA about the importance of protecting groundwater. Inform your staff and your water users about potential threats; they may help you locate and resolve a problem. Community systems are required to include a summary of their source assessment report in their annual consumer confidence report. DES can provide you with sample notices to post within your facility to remind your staff that they are within the protected area of a water supply.