Maine Center for Disease Control and Prevention
An Office of the Department of Health and Human Services

Source Water Protection
A Guide for Public Water Systems

Maine CDC Drinking Water Program • 11 SHS Augusta, ME 04330 • 287-2070 • www.medwp.com

The Importance of Source Protection

The ideal water source is a pure source of water in a remote, forested natural area with no nearby sources of pollution. Most water sources, however, are geographically located near more densely populated areas. As a result, drinking water sources are vulnerable to contamination from harmful chemicals and/or biological organisms (bacteria and viruses). Contamination often comes from activities on the land near the source of water. Water systems, no matter how small or large, must produce safe water through a "multiple barrier approach". This approach includes protecting the source, providing proper disinfection and treatment, cleaning and maintaining water pipes and tanks that carry and store water after treatment, and monitoring water quality from source to tap. Source protection is the first and most important of these barriers. If pollutants never reach a surface water (lake, river, stream) or groundwater (well) source, they will not be present in the water Mainers consume, even if other barriers fail. Additionally, treating a contaminated drinking water source is typically much more costly than protecting it from contamination.

Levels of Source Protection

Drinking water source protection is a layered approach and different for every system. Even the smallest systems can start with basic, key pieces and work upward and outward. As source water protection areas can be quite large, the farther you move outwards from your source (intake or well), the more important it is to engage others to help you serve safe and sustainable drinking water.

Source Protection Basics

For smaller groundwater systems:

To Assure the Best Source Protection, Consider the Following:

1. **Well casing is seated into rock and grouted**. Earthen surface seal (where well casing meets the ground) is present, intact, and mounded around the casing, so water can't pool.
2. **Sanitary seal well cap is fitted with an intact insect screen.**
3. **The area within 300 feet of the well is clear of potential contaminants. Take inventory of the area:**
   - No petroleum or other toxic storage or use;
   - No septic systems;
   - Ideally, no structures other than the well. (If other structures are present, the items stored within them are safe and securely contained);
   - Immediate well area is surrounded with fencing, as appropriate. If vandalism is a concern, consider armoring the well (i.e. locking well cap).
4. **If you do not own the 300 foot radius around your well, ensure you have a relationship with your neighbor(s):**
   - Your neighbor(s) understands that the activities that could put your well (and theirs) at risk;
   - Your neighbor(s) is willing to grant you an easement on the area in your primary protection area;
   - Your town has an ordinance guiding land use in your protection area for future development;
   - If there are activities near your well that could contaminate groundwater, they are well managed; and
   - You encourage your neighbors to take care of their septic tanks, petroleum, and chemicals with as much care as you do.

Next Level Source Protection

For community groundwater and surface water systems:

1. **If there are no local wellhead/watershed ordinances,** talk to your town officials about developing one. The DWP has a model ordinance and can offer technical assistance.
2. **Make sure your Code Enforcement Officer knows about your water system** and applicable state laws on development and risk management in a source protection area.
3. **With an ordinance in place, work with your neighbors and Code Enforcement Officer** to minimize the risk of current activities, by assuring that:
   - Existing petroleum and chemical uses are well-managed and monitored;
   - Pesticide use and over fertilization are avoided during lawn care and gardening;
   - Septic systems are well-maintained and pumped regularly;
   - Exposed soil is stabilized, construction sites use appropriate erosion control and manage fuels and lubricants carefully;
   - Existing industrial and auto repair activities use best management practices (see *Best Management Practices for Groundwater Protection below);* and
   - Any new above ground home heating oil tanks replaced or installed are double walled.

Advanced Source Protection Work

For larger community water systems:

1. **Develop alliances with conservation groups** to help plan for long-term water sustainability;
2. **Help conservation groups find resources to protect land** in your source protection area;
3. **Acquire land or easements in your source protection area**: use the DWP's Land Acquisition Loans Program if funds are needed;
4. **Consider acquiring an alternate source in case of contamination or shortage**: interconnection, a new well in a different area; and
5. **Work with forest landowners and farmers in your protection area.** Ensure they have good management plans and are capable of making a return on their land, so it's less likely to be developed.

DWP Resources Available for Source Water Protection:

Resource	*About*	*Contact*
Land Acquisition Loans	Low interest loans for community and non-profit non-community water systems for the purchase or legal control of land within source protection area	Eli Pellegrino Grants and Outreach Coordinator eli.pellegrino@maine.gov 441-7122
Source Protection & Water System Asset Security Grants	Grants to community or non-profit, non-community public water systems using surface water or groundwater to protect public drinking water sources and assets.	Eli Pellegrino Grants and Outreach Coordinator eli.pellegrino@maine.gov 441-7122
Model Wellhead Protection Ordinance	Guidelines for developing and drafting a groundwater protection ordinance	Susan Breau Hydrogeologist susan.breau@maine.gov 592-6981
Best Management Practices for Groundwater Protection	A guide to encourage educated decisions, informed practice, and directed planning in regard to groundwater protection, particularly in the vicinity of public drinking water supply wells.	Susan Breau Hydrogeologist susan.breau@maine.gov 592-6981