

## Introduction to Oregon's Drinking Water Protection Program

### Background

Oregon implements its drinking water protection program through a partnership between the Oregon Department of Environmental Quality and Oregon Health Authority. The program provides individuals and communities with information on how to protect the quality of Oregon's drinking water. DEQ and OHA encourage community-based protection and preventive management strategies to ensure that all public drinking water resources are kept safe from future contamination.

About 80 percent of Oregonians get their drinking water from public water systems. In Oregon, a public water system is defined as having greater than three hookups or serving more than 10 people year-round. OHA regulates public water systems. In terms of drinking water, 35 percent of Oregonians rely solely on groundwater (mostly small public water systems or private wells). About 10 percent rely solely on surface water. The remaining 55 percent rely on surface water and groundwater, most commonly with groundwater as an emergency backup supply or combination system. The combined groundwater-plus-surface water source systems are mostly large community water systems.

### Benefits of drinking water protection

Ensuring healthy drinking water sources is accomplished through drinking water protection efforts. Drinking water protection does not mean prohibiting other uses in a watershed or groundwater recharge area. It means identifying the highest risks that could potentially affect the public water system and seeking to reduce those risks. Drinking water protection has the potential to not only reduce risk of contamination but also reduce cost of treatment and reduce risk of local health impacts from contaminants that cannot be removed through standard treatment.

The prime incentive for local communities to voluntarily implement drinking water protection strategies is a more secure source of high-quality water. Other, perhaps more tangible, incentives include lower costs to the public by: reducing public water supply monitoring requirements and reducing the likelihood of costs for replacement and/or treatment of contaminated drinking water. Long-term assurances of a safe and adequate

drinking water supply also helps to protect property values and preserve the local and regional economic growth potential for the area.

Developing management strategies to protect a public water system is a cost-effective use of resources, since it is expensive to treat contaminated drinking water or to find an alternative source should a water supply be lost due to contamination. DEQ estimates the cost of developing a Drinking Water Protection Plan for a community of less than 500 to range from \$100 (with staff or donated time) to \$6,000 (with preparation by a consultant). This is quite different from the typical costs to investigate and install treatment for contamination of at least \$500,000. These numbers are based on actual costs of contamination response in 1992, at a small groundwater-supplied public water system in Marion County. A U.S. Environmental Protection Agency study determined the ratio of contaminant cleanup costs to basic prevention ranges from 5:1 to 200:1.

### Source water assessments

The 1996 amendments to the federal Safe Drinking Water Act provided resources to DEQ and OHA to provide drinking water protection assistance to public water systems and communities. Source water assessments were completed between 1999 and 2005 for all Oregon public water systems that have at least 15 hookups or serve more than 25 people year-round. As a result, DEQ and OHA defined groundwater and surface water source areas which supply public water systems, inventoried each of those areas to determine potential sources of contamination, and determined the most susceptible areas at risk for contamination.

In 2016 and 2017, the agencies are completing Updated Source Water Assessments to provide the water systems and communities more detailed information on the watershed or recharge area that supplies their well, spring or intake. One goal in conducting source water assessments is to provide public access to the results. Additional information on Source Water Assessments and the Updated reports can be found at <http://www.oregon.gov/deq/wq/programs/Pages/DWPAssessments.aspx>



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DEQ and OHA have a combined drinking water protection database which includes much data about the location, delineation, inventory, sensitivity analysis and susceptibility analysis for each source assessed. This database serves as a repository for drinking water source data that's available to local governments, planners, state and federal agencies, consultants, communities and the general public. Data and other information about these source water assessments are available on the assessments page listed above and at <http://www.oregon.gov/deq/wq/programs/Pages/DWP-Maps.aspx>

As a result of the assessments, communities already have both a detailed map of where their water comes from and a list of the potential contaminant sources (natural and man-made) that may affect water quality. The assessments identify potential sources of contamination from both non-point and point sources. Individual communities can use the results to voluntarily develop strategies to protect the source area. The assessment report information allows communities to focus limited resources on higher-risk areas within a watershed or recharge zones for wells.

### **Helping communities protect their drinking water**

Using assessment results, members of the local community, local businesses or the water system can develop strategies to reduce contamination risks from those sources. Some strategies for protection can be implemented right away; others may require forming a "Drinking Water Protection Team" to develop an action plan. DEQ and OHA can provide technical assistance in drinking water protection strategy development and implementation. Management options implemented to reduce risk are highly individualized and should be developed by communities to meet their specific needs. Cooperative decision making by public officials, water systems, public interest groups, business, agriculture and individual citizens can create a powerful, long-lasting partnership that encourages implementation and public acceptance of drinking water protection.

DEQ and OHA also can provide technical assistance to communities. Other agencies will also be involved in providing technical assistance as protection strategies or plans are developed. For example, on farm lands, the Oregon Department of Agriculture provides assistance under Senate Bill 1010. In developing recommendations for protecting drinking water

source areas, DEQ and OHA seek to maximize use of existing programs in Oregon such as pollution prevention technical assistance (DEQ), sanitary survey results (OHA), household hazardous waste collection (DEQ), agricultural water quality protection (ODA), water conservation education (Oregon Water Resources Department), and rural water quality outreach (OSU Extension Service.).

Protecting a community's drinking water supply can also encourage all stakeholders to participate in an issue which directly affects everyone in that community. This often leads to more public involvement in other significant local decisions concerning future livability issues, such as land-use planning. In communities already developing and implementing Drinking Water Protection Plans, the process has brought many diverse interests together on a common goal and strengthened local rural and urban relationships.

### **Oregon drinking water protection strategies**

Implementation of a successful drinking water protection program at the state level involves several key elements.

Most importantly, it's essential to have consensus on the need for drinking water protection. Oregon state agencies must work together to recognize the importance of protecting these source areas and be strong partners with local communities committed to ensuring their citizens safe drinking water.

A second key element is to develop a long-term strategic plan for source water protection that ensures progress toward achieving the greatest level of public health protection, with a realistic understanding of the number of staff and agency resources available for the program.

Lastly, to ensure accountability, it's important to develop performance measures that determine whether the program is using limited resources in the most effective way. Oregon's benchmarks play a role in this, as well as EPA's national goals and measures.

To effectively promote and accomplish drinking water protection, it's important that public water system operators and local community officials are actively engaged in land management issues in their source areas. Source Water Assessments provide communities with a discrete area to focus on protecting. The assessments are designed to produce a map of the areas most vulnerable to contamination for a public water system. DEQ seeks to share this information

with counties and communities so they can take action to minimize risks in these areas. Water quality protection (in any program) is best achieved by engaging Oregonians to take actions beyond compliance. The basis of most new water quality protection planning is to involve, empower and provide incentives to private landowners to make voluntary commitments to watershed restoration and habitat restoration. Developing strategies to protect a watershed or groundwater recharge area that serves a public water system uses the same approach. Voluntary actions by private landowners can assist communities downstream or downgradient to provide safe drinking water.

DEQ's main focus is to encourage other programs to use designated sensitive areas as priorities within their programs. DEQ will continue to coordinate with other established programs, especially those within the agency, such as spill response, household hazardous waste collection, hazardous waste cleanup, underground storage tank cleanup and pollution prevention technical assistance, to focus on preventing contamination of public water supplies. It's important to also to address other water cycle components, such as groundwater issues within municipal watersheds, where groundwater may contribute to water quality problems in nearby surface waters.

There are similarities between the state's drinking water protection program and other water quality efforts, such as watershed streamside buffers to save endangered salmon. Many of these efforts can be coordinated to increase the likelihood of success. Where programs have complimentary goals and priorities, DEQ will work to leverage resources to accomplish water quality protection.

Several Oregon communities are working to develop and implement strategies to protect their drinking water source areas: Eugene, Springfield, Bandon, Hubbard, Portland, Gresham, Fairview, Salem, Sutherlin, Port Orford, Albany, Lebanon, Maupin, Molalla, Oak Grove, Crystal Springs, Sweet Home, Avion (Bend), Medford, Canby, Bend, Scappoose, Wheeler, the Clackamas River Water Providers and others. Some of these communities were working to protect their source waters years before source water assessments were mandated. In other cases, source water assessment reports provided key information to communities, allowing them to focus resources on higher-risk areas within watersheds or recharge zones for wells.

### **For more information**

Contacts for drinking water protection assistance can be made to:

- DEQ: Julie Harvey, 503-229-5664
- OHA, Tom Pattee, 541-726-2587, x24

Other drinking water protection contacts and more information on drinking water protection: <http://www.oregon.gov/deq/wq/programs/Pages/DWP.aspx>

### **Alternative formats**

Documents can be provided upon request in an alternate format for individuals with disabilities or in a language other than English for people with limited English skills. To request a document in another format or language, call DEQ in Portland at 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696; or email [deqinfo@deq.state.or.us](mailto:deqinfo@deq.state.or.us).