

Reusing Water in Oregon



State of Oregon
Department of
Environmental
Quality

Summary

DEQ's mission is to be a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water. Developing programs that allow water reuse while ensuring the protection of human health and the environment is one approach DEQ uses to achieve this mission. Water reuse means using water again that has been previously used for another purpose. Using recycled water for irrigation or other uses reduces the demand on drinkable water for uses that don't require highly treated water. The quality of reused water determines how it can be used and what restrictions may be in place.

The value of reusing water

Water in the environment continually moves through a repeating cycle. Here in the United States, public drinking water is obtained from a source, treated to very high standards, used for a single purpose, discharged to a wastewater treatment system, and then the treated wastewater is discharged to a river or stream or is applied to land. Reusing appropriately treated wastewater for irrigation, industrial, commercial and construction applications helps conserve water supplies and help improve our surface water quality.

Types of reuse water

DEQ identifies three general categories of water for reuse:

Graywater refers to water from showers, baths, bathroom sinks, kitchen sinks and laundries. Graywater can be reused for limited activities, such as subsurface irrigation, with minimal treatment.

Recycled water refers to treated effluent from a municipal wastewater treatment facility. Oregon recognizes five classes of recycled water that can be reused for specific beneficial purposes based on various levels of treatment.

Industrial wastewater refers to treated effluent from an industrial process, manufacturing or business, or from the development or recovery of any natural resource. An example of industrial wastewater is water derived from the processing of fruit, vegetables or other food products.

Recycled water in Oregon

Recycled water has been used in Oregon since the development of wastewater treatment facilities. Oregon first developed state regulations in 1990 to create a framework for the beneficial reuse of water and to

ensure the protection of public health and the environment. These regulations were updated in 2008.

Oregon now has over 140 recycled water systems across the state. From large municipalities in the Portland and Eugene areas to small towns in rural communities, recycled water is being used for irrigation, industrial cooling, and other beneficial uses.

Oregon is not the only state using recycled water. Washington and Idaho have very similar programs, and most other states either have an established water reuse program or in the process of developing one.

Permits controlling water reuse

Homeowners and small businesses can reuse graywater for toilet and urinal flushing with the appropriate plumbing permit from a local building department. Outdoor reuse of up to 1,200 gallons per day of graywater can occur by carefully planning reuse activities and obtaining a general Water Pollution Control Facility graywater reuse and disposal system permit from DEQ.



Recycled water irrigating plants outside an office building.

Municipal wastewater treatment facilities are required to manage and operate water reuse projects under an agency-approved recycled water management plan. These plans are specific to each facility and part of a facility's National Pollutant Discharge Elimination System or Water Pollution Control Facilities permit. Each proposed plan is reviewed by DEQ. Based on the proposed treatment and reuse, DEQ will consult with or request a full review by other state agencies such as the Oregon Health Authority, Oregon Water

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Resources Department, and Oregon Department of Fish and Wildlife. Site-specific conditions, such as application rates, site soil conditions, setbacks to sensitive features, signage and other limitations may be required to ensure protection of public health and the environment.

Some industrial facilities can reuse their wastewater for other purposes with minimal treatment, while others may require more sophisticated treatment before meeting land application standards. Any industrial facility that reuses their effluent water outside of their industrial process must develop an operations, monitoring and management plan that must be reviewed and approved by DEQ before land application begins. The plan becomes an enforceable portion of the facility's water quality permit.

Allowed uses for recycled water

Although water reuse activities are limited to non-drinking water purposes, Oregon's regulations authorize a wide-range of uses, including irrigation of crops and pastureland, irrigation of urban landscapes such as golf courses, playing fields, and business parks, industrial cooling, dust control, street sweeping, and artificial groundwater recharge. Specific water reuse activities depend on the water treatment and resulting quality. More reuse activities can occur with higher-quality water.

Does recycled water put me at risk?

State regulations have been developed to ensure public health and the environment are not adversely affected by reusing water. These regulations require that each reuse program is reviewed and approved by DEQ before water can be reused. They also require regular sampling and monitoring activities combined with reporting procedures to ensure each reuse program is meeting regulatory guidelines and protecting the surrounding communities.

New research is continually being conducted to determine what effects chemicals may have on human health and the environment. As a result, DEQ continues to monitor and evaluate the water reuse program and stays attuned to this new science to ensure today's practices are protective of Oregon's communities and natural resources.

Public involvement

DEQ provides a public notice for recycled water use plans, new permits or permit renewals through GovDelivery. This includes permits with existing recycled water programs. You can sign up to receive these notices online at <https://public.govdelivery.com>. You can select the topics and counties you're interested in tracking. Based on the permit, there is either a minimum of 30 or 35 days to submit written comments. DEQ may provide a public hearing depending on the permit and conditions.

If DEQ receives comments that provide additional information to indicate the reuse program would not meet state standards, DEQ may request the water quality permit holder revise the plan and resubmit, which may restart the process outlined above. If DEQ does not receive substantive comments, and the plan meets state requirements, DEQ will approve the plan.

For more information

Visit <http://ordeq.org/water-reuse>

Alternative formats

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email deqinfo@deq.state.or.us.



Recycled water irrigating agricultural land.