



Recycled Water Regulations in Oregon

<http://www.deq.state.or.us/wq/reuse/reuse.htm>

AWWA-PNWS

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Technical Program

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Policy & Perception

Oregon Revised Statutes

ORS 468B.015 (1)

[I]t is ...the public policy of the state to conserve the waters of the state through innovative approaches, including but not limited to the appropriate reuse of water and wastes.



Photo: Bandon Dunes Golf Course (from www.bandondunesgolfcourse.com)



Policy & Perception

Oregon Administrative Rules

OAR 340-055-0007

It is the policy of the Environmental Quality Commission to encourage the use of recycled water for domestic, agricultural, industrial, recreational, and other beneficial purposes in a manner which protect public health and the environment of the state. The use of recycled water for beneficial purposes will improve water quality by reducing discharge of treated effluent to surface water, reduce the demand on drinking water resources for uses not requiring potable water, and may conserve stream flows by reducing withdrawal for out-of-stream use.



Policy & Perception

Policy History

- **2003 Legislative Session.** Senate Bill 820 required DEQ to work with interested parties to develop a report on opportunities and barriers associated with wastewater reuse in urban areas.
- **March 2005 Governor's Executive Order.** Water reuse as an integral component of economic development, water conservation, and environmental sustainability in Oregon.





Policy & Perception

Why does Oregon need water reuse?

- Increased demand for water, including irrigation uses for agriculture, pasture, plantation forestry, golf courses
- Irrigation water may be seasonally limited
- No other water may be available for a planned use
- Crop and soil productivity can be improved
- Water reuse is an integral part of long-term water resource management



Policy & Perception

Why municipalities pursue water reuse in Oregon

- Wastewater treatment facilities are facing more stringent limits on their discharges to surface waters.
- Most of Oregon's rivers and streams are fully appropriated.
- Population growth and economic development increase the demand for water conservation
- More stringent federal regulations are creating increased costs for producing and distributing drinking water



Policy & Perception

Barriers to water reuse

- Multiple state and local agency regulations
- Feasibility of irrigation uses
- Economics – costs of distributions systems to end users
- Regulatory oversight and responsibility of residential and commercial use
- Public Perception



Policy & Perception

Public perception on water reuse

- We need to think of water as a resource, not a waste product, regardless of where it comes from
- We live in a state that generally has an abundance of water
- “Other” water than potable water may be viewed with suspicions
- Urban development issues pushing into rural lands



Policy & Perception

Categories of water reuse in Oregon

- Recycled Water
- Industrial Process Water
- Graywater





Other Reuse

Industrial Process Water

- **Definition:** wastewater contaminated by industrial processes but not including non-contact cooling water or storm runoff
- **Use: Irrigation of process water**
 - General Permits
 - < 25,000 gpd, seasonal
 - 142 permits (mostly wineries)
 - Individual Permits
 - Larger Food Processors
 - 19 permits
- Implemented through guidance





Other Reuse

Graywater

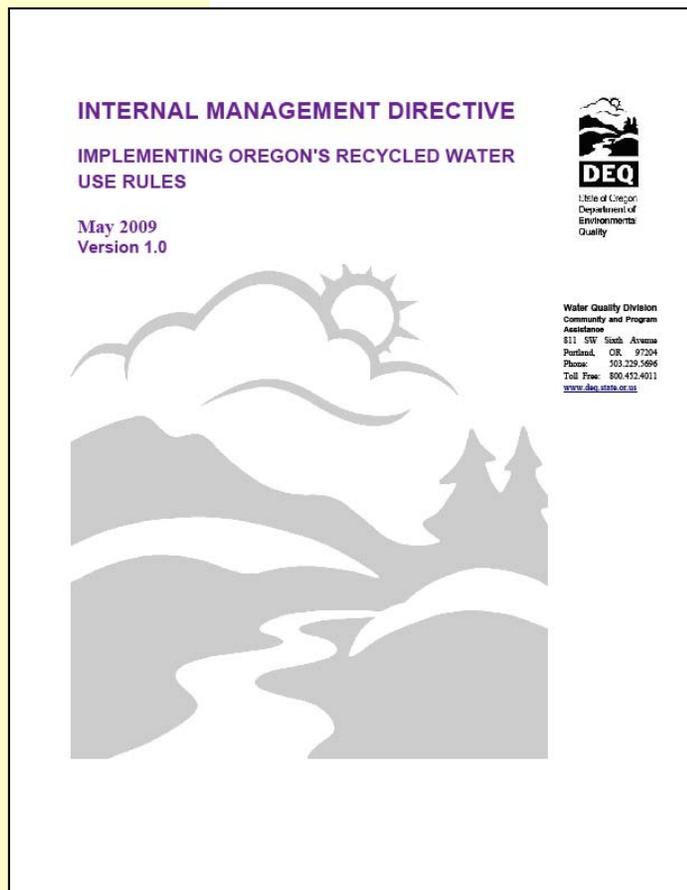
- **Definition:** shower and bath wastewater, bathroom sink wastewater, kitchen sink wastewater and laundry wastewater. Graywater does not mean toilet or garbage waste or wastewater contaminated by soiled diapers.





Recycled Water

Internal Management Directive



- Consistent rule implementation
- Guidance for approving beneficial uses, alternative treatment, site specific conditions, etc.
- Clarify involvement of other state agencies
- Facilitate better communication with wastewater operators and end users



Recycled Water

Uses - Irrigation

Beneficial Purpose	Class A	Class B	Class C	Class D	Nondisinfected
Irrigation					
Fodder, fiber, seed crops not intended for human ingestion, commercial timber	Yes	Yes	Yes	Yes	Yes
Firewood, ornamental nursery stock, Christmas trees	Yes	Yes	Yes	Yes	No
Sod	Yes	Yes	Yes	Yes	No
Pasture for animals	Yes	Yes	Yes	Yes	No
Processed food crops	Yes	Yes	Yes	No	No
Orchards or vineyards if an irrigation method is used to apply recycled water directly to the soil	Yes	Yes	Yes	No	No
Golf courses, cemeteries, highway medians, industrial or business campuses	Yes	Yes	Yes	No	No
Any agricultural or horticultural use	Yes	No	No	No	No
Parks, playgrounds, school yards, residential landscapes, other landscapes accessible to the public	Yes	No	No	No	No



Recycled Water

Uses – Industrial, Commercial, or Construction

Beneficial Purpose	Class A	Class B	Class C	Class D	Nondisinfected
Industrial, Commercial, or Construction					
Industrial cooling	Yes	Yes	Yes	No	No
Rock crushing, aggregate washing, mixing concrete	Yes	Yes	Yes	No	No
Dust control	Yes	Yes	Yes	No	No
Nonstructural fire fighting using aircraft	Yes	Yes	Yes	No	No
Street sweeping or sanitary sewer flushing	Yes	Yes	Yes	No	No
Stand alone fire suppression systems in commercial and residential buildings	Yes	Yes	No	No	No
Non-residential toilet or urinal flushing, floor drain trap priming	Yes	Yes	No	No	No
Commercial car washing	Yes	No	No	No	No
Fountains when the water is not intended for human consumption	Yes	No	No	No	No



Recycled Water

Uses – Impoundment or Artificial Groundwater Recharge

Beneficial Purpose	Class A	Class B	Class C	Class D	Nondisinfected
Impoundments or Artificial Groundwater Recharge					
Water supply for landscape impoundments including, but not limited to, golf course water ponds and non-residential landscape ponds	Yes	Yes	Yes	No	No
Restricted recreational impoundments	Yes	Yes	No	No	No
Nonrestricted recreational impoundments including, but not limited to, recreational lakes, water features accessible to the public, and public fishing ponds	Yes	No	No	No	No
Artificial groundwater recharge	Yes	No	No	No	No



Recycled Water

Monitoring Parameters and Frequency

	Class A	Class B	Class C	Class D	Nondisinfected
Former Level	IV	III	II	Enhanced I	I
Oxidized	0	0	0	0	0
Disinfected	0	0	0	0	
Filtered	0				
Turbidity (NTU)					
24-hr mean	2				
5% of time during a 24-hr period	5				
Maximum at any time	10				
Monitoring Frequency	hourly				
Total coliform (organisms/100 mL)					
7-day median	2.2	2.2	23		
Maximum in any sample	23	23			
Maximum in 2-consecutive			240		
Monitoring Frequency	daily	3/wk	1/wk		
E. coli					
30-day log mean				126	
Maximum in any sample				406	
Monitoring Frequency				1/wk	



Recycled Water

Plan review by OHA, Dept. of Health Services

Comment	Approval
<ul style="list-style-type: none">• Any proposed reuse of Class C, Class D, or nondisinfected water [OAR 340-055-0016(2)(b)].• Any proposed new beneficial purpose of Class C, Class D, or nondisinfected water not authorized in rule [OAR 340-050-0016(6)].	<ul style="list-style-type: none">• Any proposed use of recycled water for direct human consumption, regardless of treatment Class [OAR 340-055-0017(5)].• Any proposed use of recycled water, regardless of treatment Class, as a source of supply for a public pool, spa, or bathhouse [OAR 340-055-0017(6)].



Registration of Recycled Water Use

- All users of recycled (or reclaimed) water must file a registration of recycled water use with WRD.
 - <http://www.oregon.gov/owrd/pubs/docs/forms/reclaimform96.pdf>
 - Submit the completed form to DEQ
 - DEQ will sign the form and forward it to WRD
- The permittee/user notifies the agencies of any changes in water volume or location

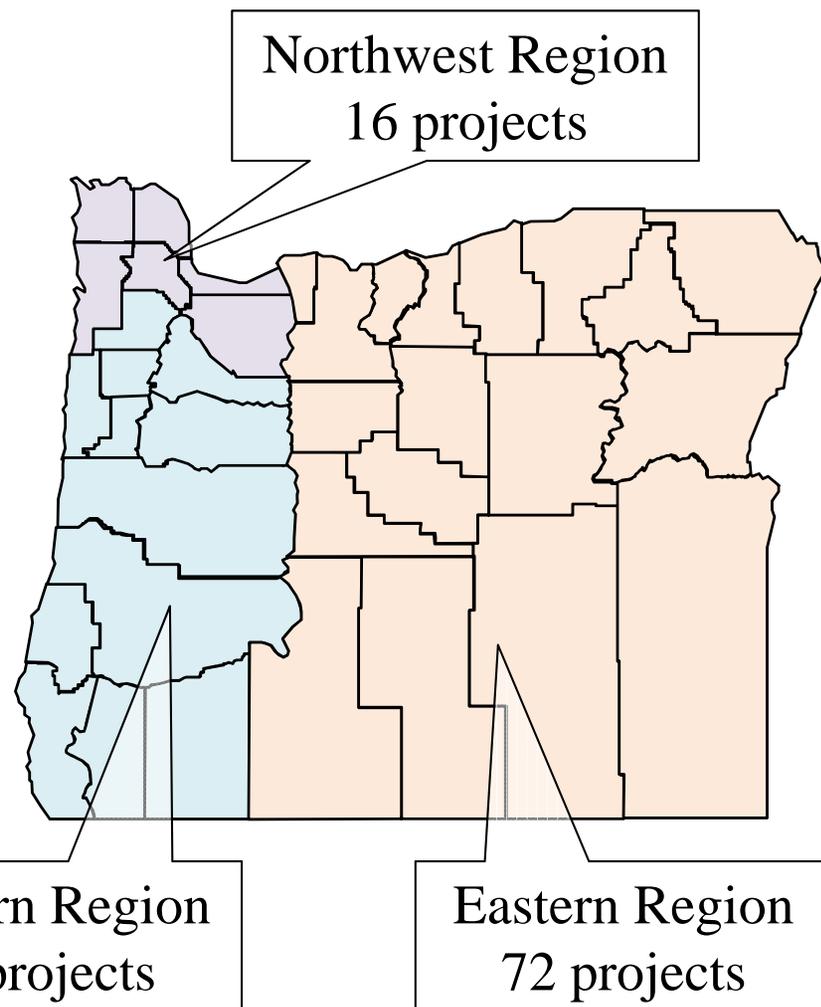




Recycled Water

Projects

- More than 120 municipal facilities operate recycled water programs in Oregon
- Seven SRF loan requests for proposed projects utilizing recycled water
- Ten SRF loan requests for proposed upgrades to recycled water systems or irrigation system improvements





Recycled Water

Projects – OHSU & Port of Portland

- Urban onsite reuse projects
- Wastewater treated on-site to standards
- Irrigation
- Cooling
- Lobby Gardens
- Toilet Flushing





State of Oregon
Department of
Environmental
Quality

QUESTIONS?

THANK YOU!

Photo courtesy of USDA NRCS