Introduction to Recycled Water: Establishing a Common Understanding

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Welcome!!!

Thank You!
• Attendees
• Planning Volunteers
• WRA Staff
• Speakers and Moderators
• Exhibitors and Sponsors
• Partners
To engage our members in a national movement for safe and sustainable water supplies, to promote acceptance and support of recycled water, and to advocate for policies and funding that increase water reuse.

www.watereuse.org
PNW Section of WateReuse

Board Meeting
Third Wednesday of Every Month
1 PM PST

ALL ARE WELCOME
Recycled Water
Types of Water

Drinking water
  • Fit for human consumption

Graywater
  • Untreated non-toilet wastewater

Rainwater harvesting
  • Captured stormwater for irrigation

Recycled (Reclaimed) water
  • Highly treated wastewater
  • Safe for many uses
  • Meets strict standards set by the State
Recycled Water Defined

OAR 340-055-0010 (13) “Recycled Water means treated effluent from a wastewater treatment system which as a result of treatment is suitable for a direct beneficial purpose.”

Terminology:

RCW 90.46.010 (15) “reclaimed water means water derived in any part from wastewater with a domestic wastewater component that has been adequately and reliably treated, so that it can be used for beneficial purposes.”

IAC 58.01.17 200 (33) “Water that has been treated by a wastewater treatment system and is used in accordance with these rules.”

(35) “(Reuse) The use of recycled water for irrigation, ground water recharge, landscape impoundments, toilet flushing in commercial buildings, dust control, and other uses.”
Recycled Water Drivers

- Lack of Potable Water Supply
- Green Building/Environmental Consciousness
- Drought Proofing
- Discharge Permit Requirements
Reasons to Use Recycled Water

Helps balance supply and demand
- Irrigation demand seasonality
- Drought resistant source
- Supplemental water source to complement water right limits

Environmental & economic benefits
- Reduces discharges to receiving waters
- More water left in rivers for fish
- Provides nutrients for plant growth
Drivers - Regulatory

More stringent water quality standards
  • Nutrients
  • Toxics

TMDLs
  • Reliance on point sources

Environmental restrictions
  • Temperature
  • Mixing Zones
  • ESA considerations
Recycled Water Treatment

Treatment Steps:

- Sewage
- Stormwater
- Discharge to River
Classes of Recycled Water

A

B

C

D
Classes of Recycled Water

- **A**: Oxidized, Coagulated, Filtered Disinfected
  - <2 NTUs
  - 2.2 per 100 mL TC

- **B**: Oxidized, Disinfected
  - 2.2 per 100 mL TC

- **C**: Oxidized, Disinfected
  - 23 per 100 mL TC

- **D**: Oxidized, Disinfected
  - 240 per 100 mL TC
Uses of Recycled Water

- Nonpotable Reuse
- Indirect Potable Reuse
- Direct Potable Reuse
- Based on class of water
Nonpotable Reuse (A to D)

- Irrigation
- Industrial
- Toilet Flushing
- Wetland Enhancement
- Stream Flow Augmentation
Indirect Potable Reuse (A to D)

- De Facto Reuse
- Groundwater Recharge
- Reservoir Augmentation
Direct Potable Reuse (A)

- “Toilet to Tap”
- Full Advanced Treatment (FAT)
Current Recycled/Reclaimed Facilities/Permits

Washington State: 28
Oregon State: 120
Idaho State: 135
Conference

- Technical tour
- Regulator’s summit
- Single track program
  - Panel Discussions
- PNW Section board meeting
- WateReuse Exchange
- Art and Poetry Contest
Roadmap

- Feasibility
- Planning
- Design
- Operations
- Funding
- Public Outreach
Roadmap

Where are you involved with recycled water?

Feasibility  Planning  Design  Operation  Funding  Public Outreach
Conclusion

Have Fun!
Network!
Enjoy Yourself!
Celebrate Recycled Water!