

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

WaterReuse Association



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 WaterReuse



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:

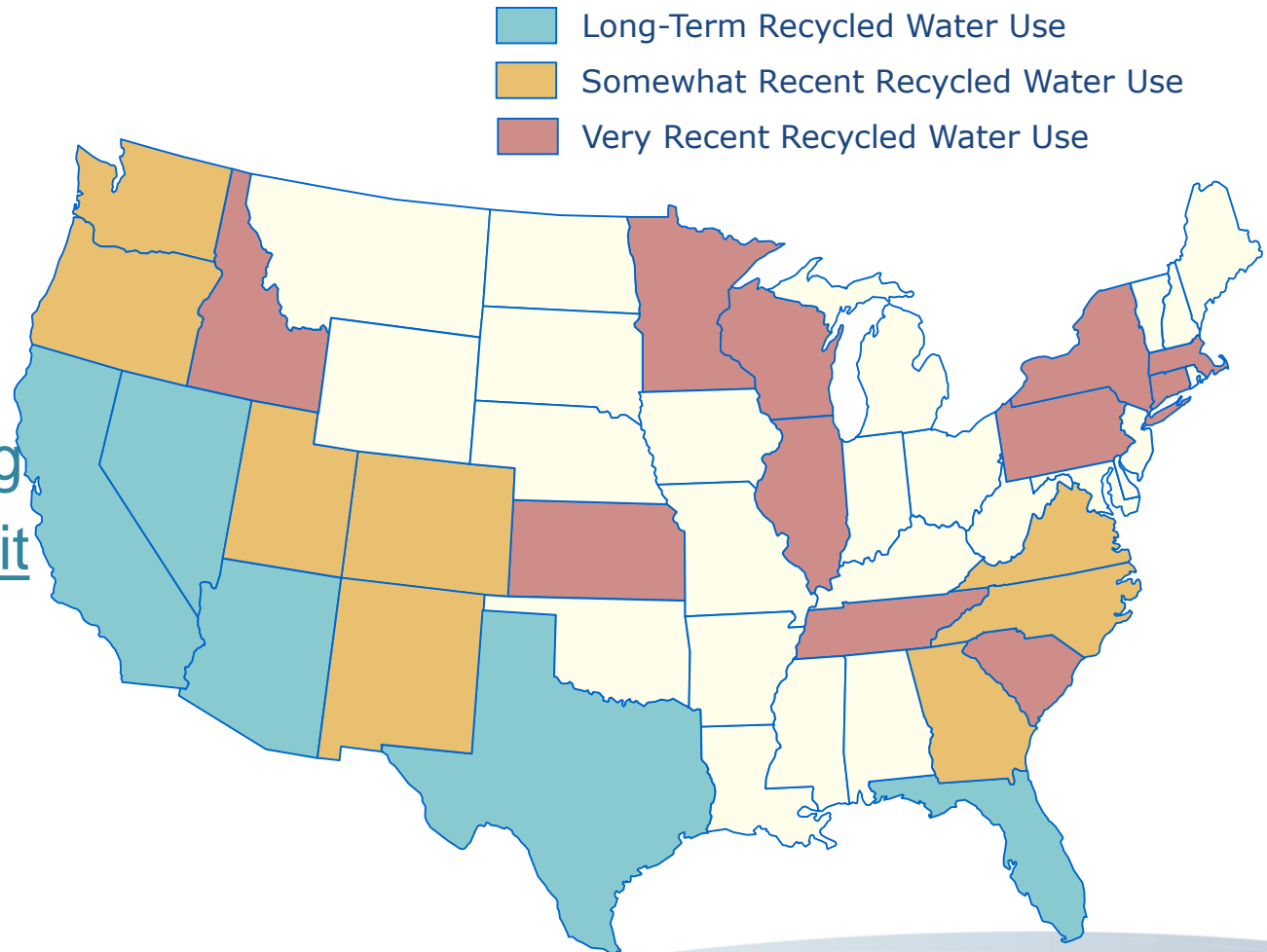
~~RCW 90.46.010 (15) “reclaimed water means water derived in any part from wastewater with a domestic wastewater component that has been adequately and reliably treated, so that it can be used for beneficial purposes.”~~
~~Recycled Water = Reclaimed Water = Reuse Water~~

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

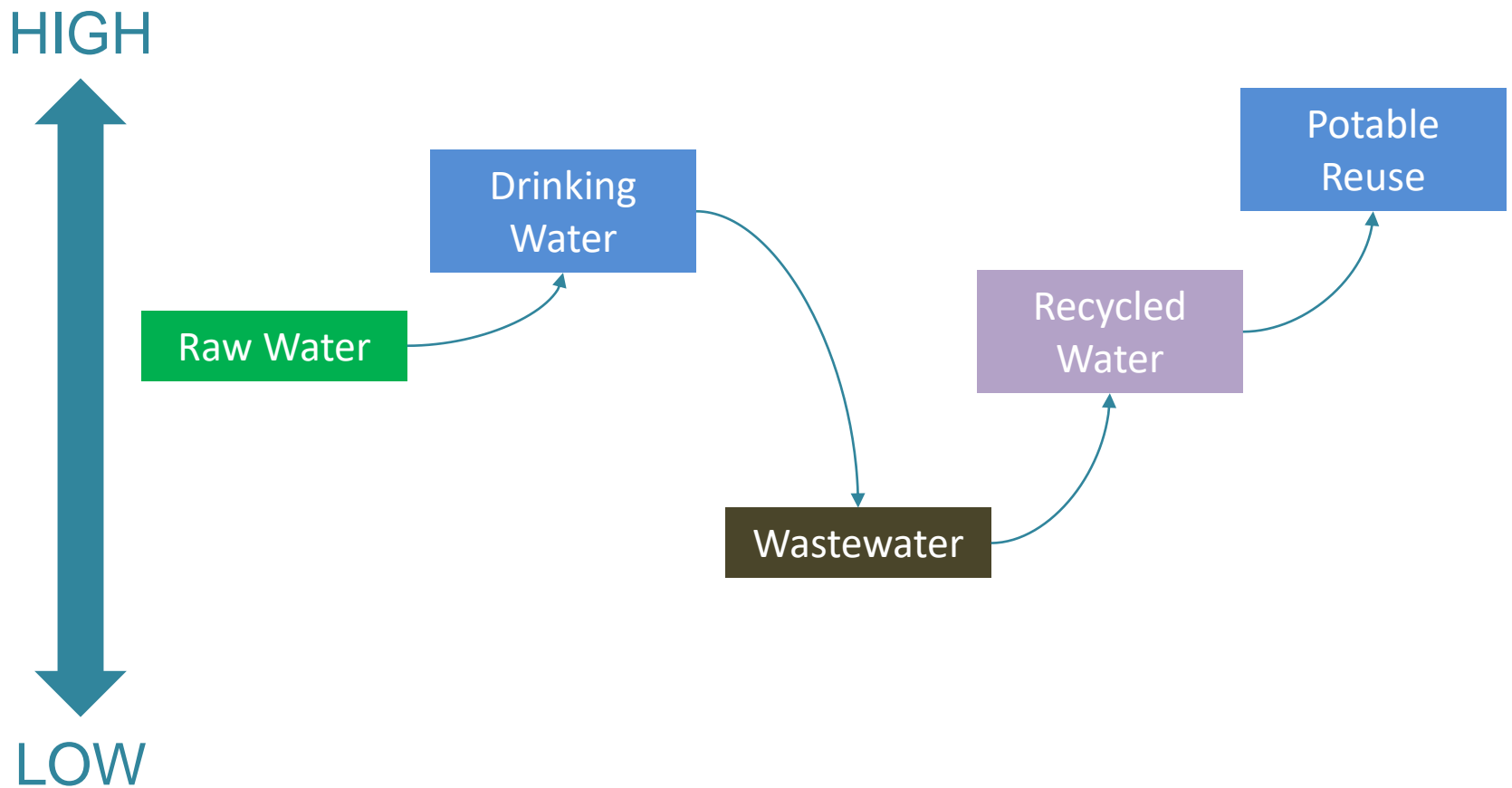
TMDLs

- Reliance on point sources

Environmental restrictions

- Temperature
- Mixing Zones
- ESA considerations

Quality of Water



Recycled Water Treatment

Treatment Steps:



Sewage



Stormwater



Discharge to River

Classes of Recycled Water

A

B

C

D

Classes of Recycled Water

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

A

- Oxidized, Disinfected
- 2.2 per 100 mL TC

B

- Oxidized, Disinfected
- 23 per 100 mL TC

C

- Oxidized, Disinfected
- 240 per 100 mL TC

D

Uses of Recycled Water

- Nonpotable Reuse
- Indirect Potable Reuse
- Direct Potable Reuse
- Based on class of water

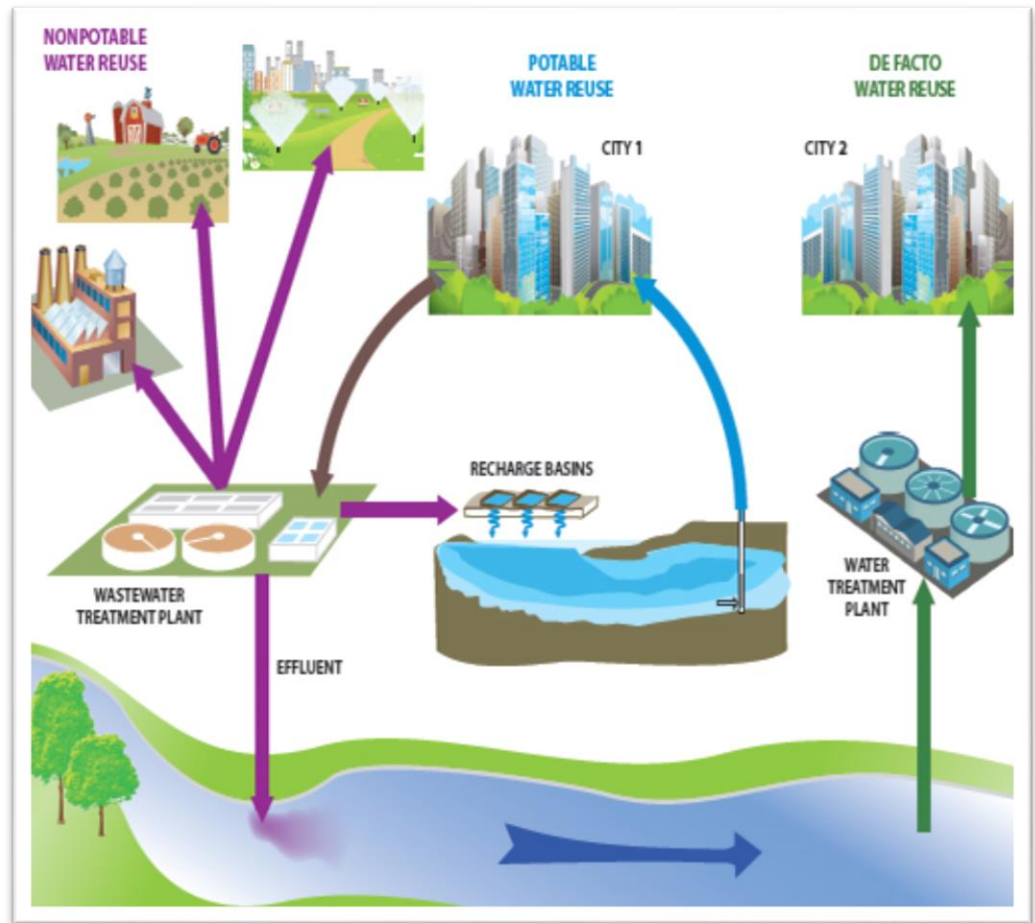
Nonpotable Reuse (A to D)

- 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



Conference

- Technical tour
- Regulator's summit
- Single track program
 - Panel Discussions
- PNW Section board meeting
- WaterReuse 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!