



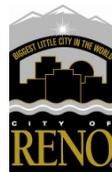
OneWater Nevada
Our Sustainable Water Future

Regional Reclaimed Water Feasibility Study

Presentation to the Washoe County Board of County Commissioners
December 18, 2018



University of Nevada, Reno



Today's Discussion

- 💧 Reclaimed Water Uses in the Truckee Meadows
- 💧 Advanced Reclaimed Water Projects in the United States
- 💧 Regional Reclaimed Water Feasibility Study
- 💧 Collaborations
- 💧 ***OneWater Nevada***
- 💧 ***Nevada Water Innovation Institute***



Current Reclaimed Water Uses in the Truckee Meadows

- 💧 Water sourced from regional water reclamation facilities
- 💧 Decades of water recycling experience
- 💧 10 % of total area water supply
- 💧 Regulated by the State of Nevada Division of Environmental Protection



State of Nevada Reclaimed Water Regulations

💧 **Categories A thru E water quality**

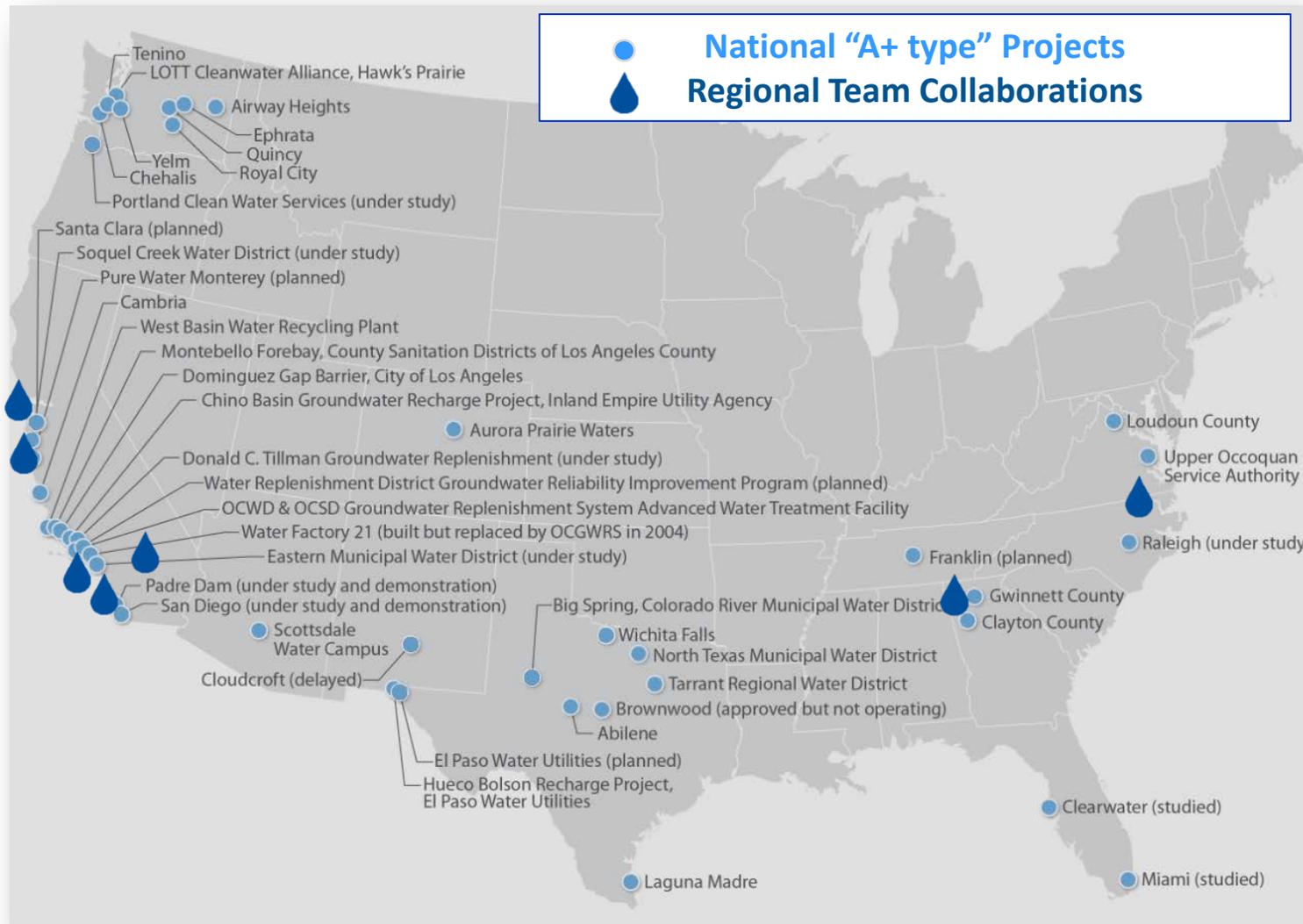
- Standards for non-potable uses
- Safe for environment, recreation, and industrial uses

💧 **Category A+ water quality**

- **Meets all State and Federal drinking water standards**
- Quality achieved through advanced water treatment and natural purification processes
- Intended for storing water in groundwater aquifers
- Governor Sandoval's *2015 Drought Forum*: improve Nevada's drought response

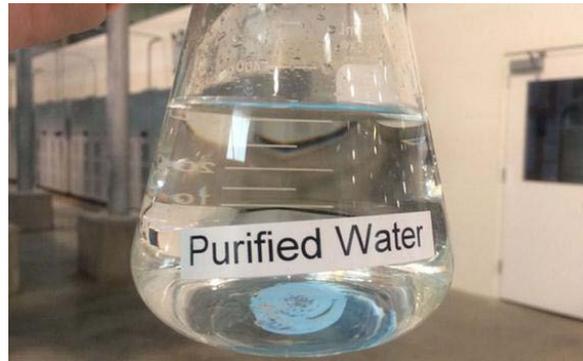


National “A+ type” Reclaimed Water Programs



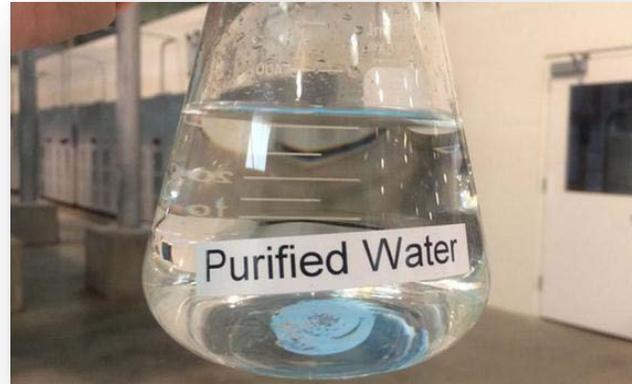
Silicon Valley Advanced Water Purification Facility

- 💧 In service since 2016
- 💧 Operated as a drinking water demonstration facility
- 💧 10 million gallons per day
- 💧 Expanding sustainable water supplies
- 💧 Public education center



Conditions for Success: Building Legitimacy

- 💧 Clear Purpose
- 💧 Public Engagement
- 💧 Regional Effort
- 💧 Regulatory Pathway
- 💧 Demonstration Project
- 💧 Hydrogeologic Investigations
- 💧 Independent Expert Panel
- 💧 Feasibility Study
- 💧 Regional Water Authority Leadership



Regional Reclaimed Water Feasibility Study

💧 Purpose

- Determine if Nevada's newly adopted Category A+ for reclaimed water offers water management opportunities for the Truckee Meadows Region.

💧 Key Questions

- What would be the social, economic, and environmental impacts?
- How to ensure A+ water would be a safe, sustainable, and a reliable resource?
- Can local aquifers be used for long-term water storage?
- How to encourage public engagement?



Regional Reclaimed Water Feasibility Phase Activities

Project Development

Nevada Regulations

Community Outreach

Treatment Technologies

Demonstration Projects

Hydrogeologic
Investigations

Funding

*5-Year Study created
from recognized best
practices*



University of Nevada, Reno Leadership

- ◆ Krishna Pagilla, PhD
 - Program Chair, Civil and Environmental Engineering
 - Internationally recognized water expert
- ◆ Examining social, economic, and financial aspects
- ◆ Leading scientific and technical evaluations
- ◆ Leading water quality and public health evaluations
- ◆ UNR offers a broad range of independent expertise
- ◆ 3 PhD candidates dedicated to feasibility study



Demonstrations and Investigations



*Advanced Water Treatment Pilot Test
South Truckee Meadow
Water Reclamation Facility*



*Groundwater Investigation
Cold Springs
Water Reclamation Facility*



Demonstrations and Investigations

💧 Treatment Technology Demonstration Projects

- 2017 - 2019 at South Truckee Meadows Water Reclamation Facility
- 2019 - 2020 at Reno-Stead Water Reclamation Facility
- 2019 - 2020 at Cold Springs Water Reclamation Facility

💧 Groundwater Aquifer Investigations

- 2018 - 2019 at American Flat Road
- 2018 - 2020 at Bedell Flat



Bedell Flat, Washoe County Nevada



Collaborations and Funding Support

- ◆ Regional Agencies
- ◆ University of Nevada, Reno
- ◆ Bureau of Reclamation
- ◆ The Water Research Foundation
- ◆ National Science Foundation
- ◆ Technology Providers
- ◆ Local Private Partners



Independent Expert Panel

- ◆ National and International Experts
- ◆ Assisted State of Nevada establish A+ reclaimed water regulations in 2016
- ◆ Vast technical and communications expertise
- ◆ Expert guidance and critical review on each activity



Robinson

Salveson

Campbell

Mosher

Karimova

Crook

Hultquist

Millan



Feasibility Study Next Steps

💧 Technical Work

- On schedule to complete study in 2020
- Treatment technology field demonstrations
- Independent expert panel input

💧 Community Elements

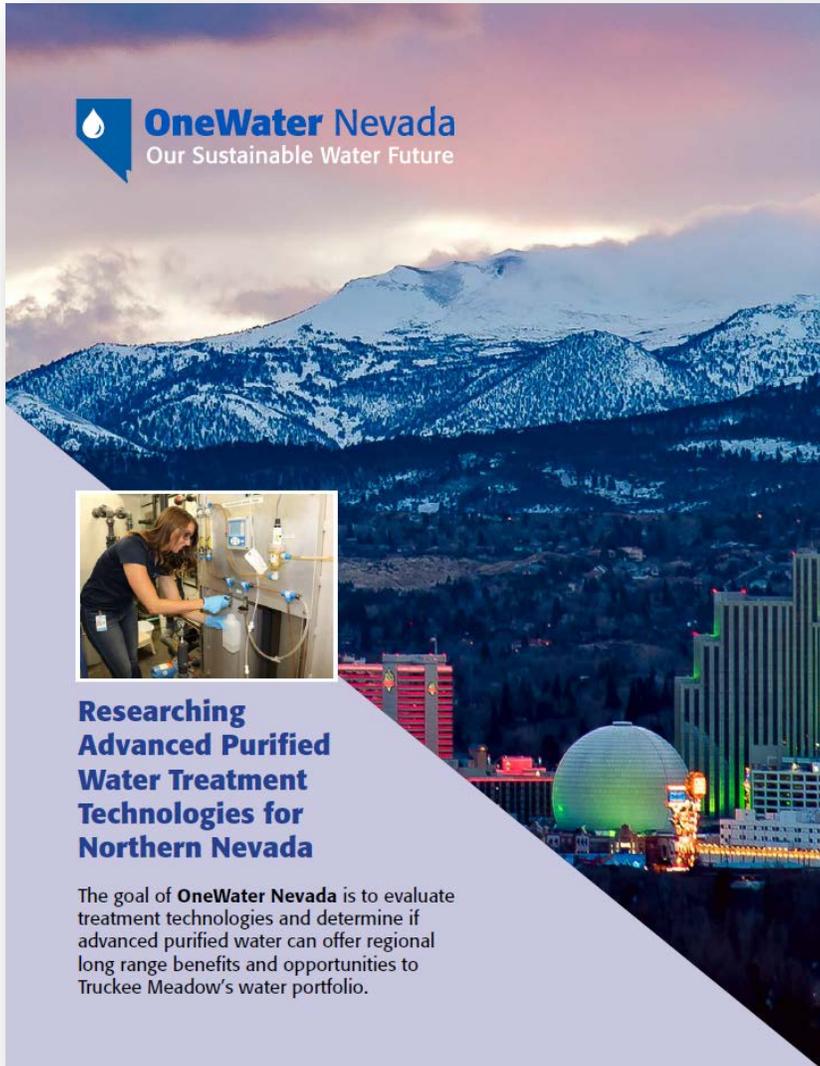
- Regulatory agency engagement
- Broadening public education opportunities
- Gathering public officials input
- ***Community leaders field trips***



OneWater Nevada



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Our Sustainable Water Future



**Researching
Advanced Purified
Water Treatment
Technologies for
Northern Nevada**

The goal of **OneWater Nevada** is to evaluate treatment technologies and determine if advanced purified water can offer regional long range benefits and opportunities to Truckee Meadow's water portfolio.



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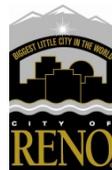
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University of Nevada, Reno



Vision

A nationally and internationally recognized innovation institute, solving real-world problems in the water sector and providing opportunities for economic growth and water resiliency.

Nevada Water Innovation Institute

*Innovative Partnership
Creating
Water Management
Solutions*



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