








OneWater Nevada
Our Sustainable Water Future

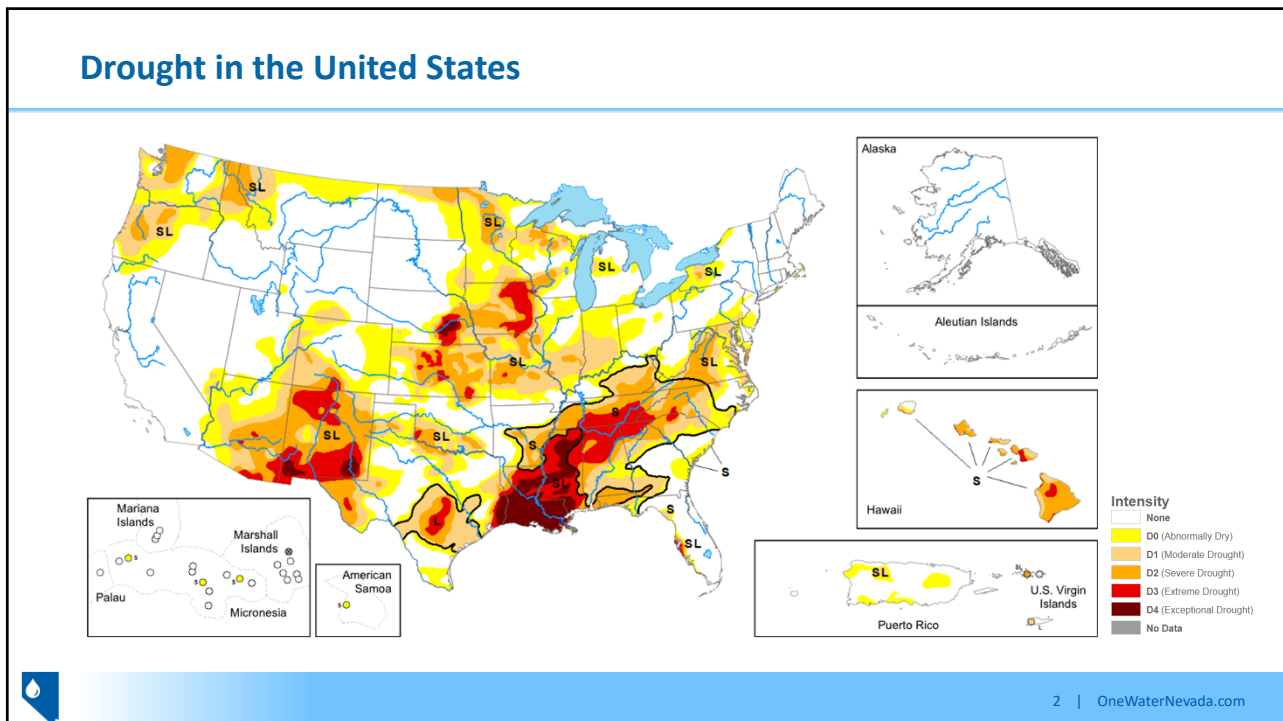
A OneWater Approach to Managing Northern Nevada's Water Resources

Nevada WaterReuse
January 29, 2024

 University of Nevada, Reno
 






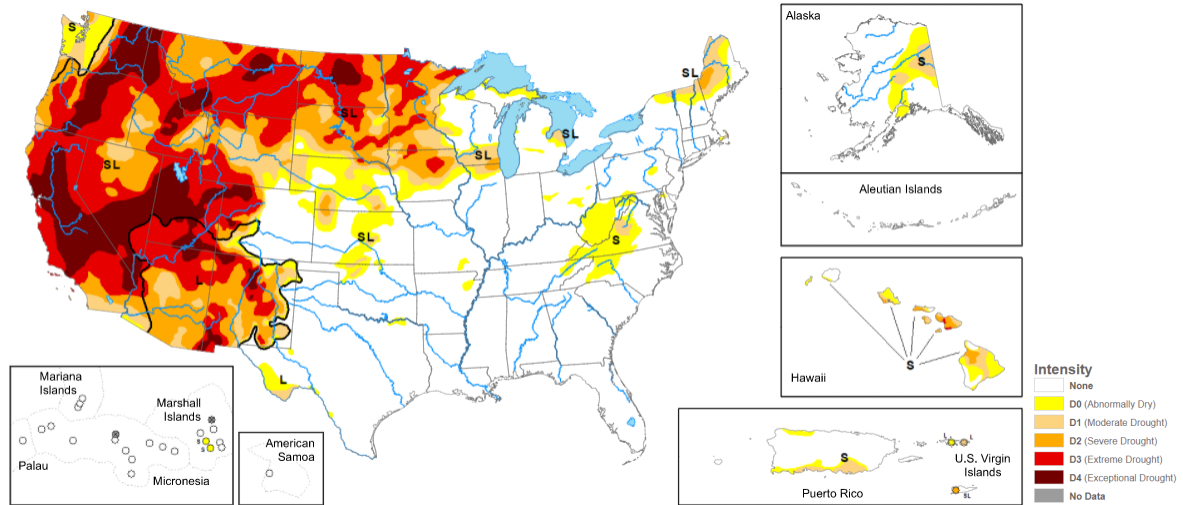
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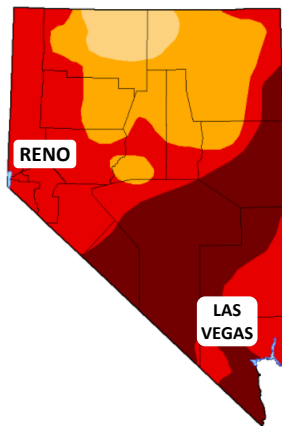
Drought in the United States



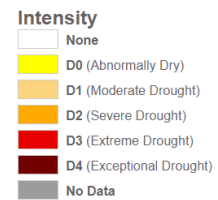
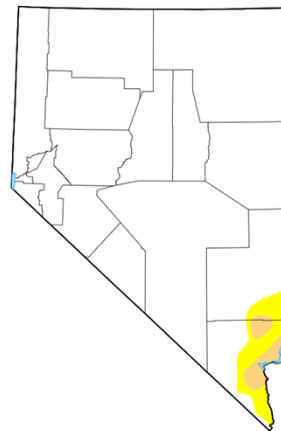
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Drought in Nevada

2021



2023



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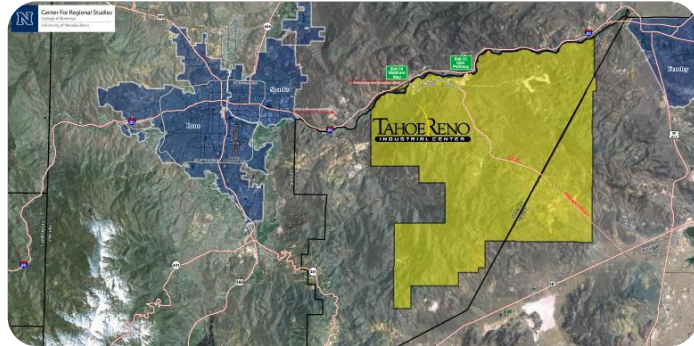
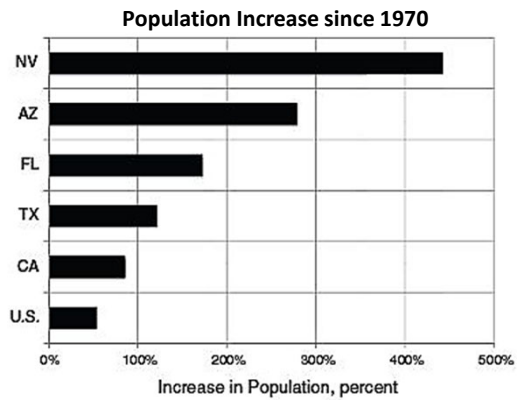
Drought in Southern Nevada



Drought in Northern Nevada



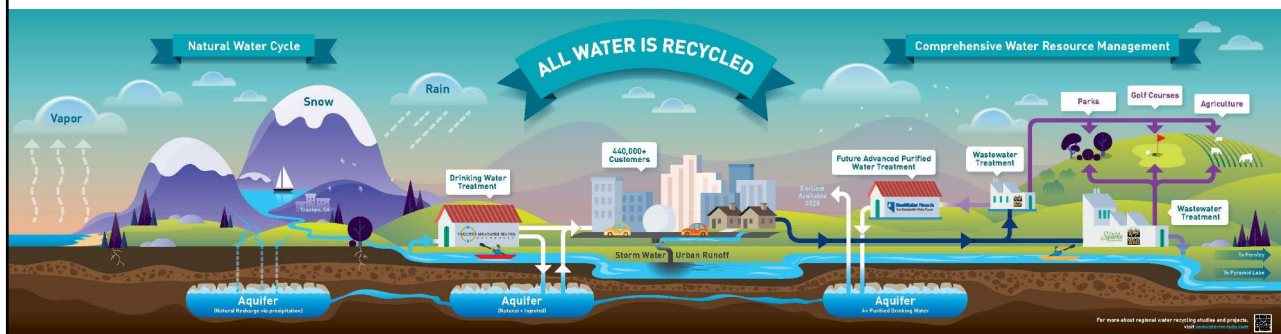
Water Users in Northern Nevada



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All Water is Recycled: The Water Cycle

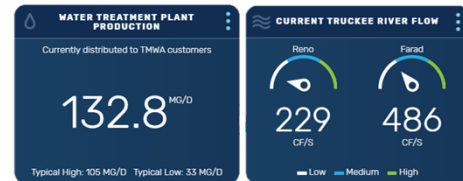


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Potable Water in the Truckee Meadows

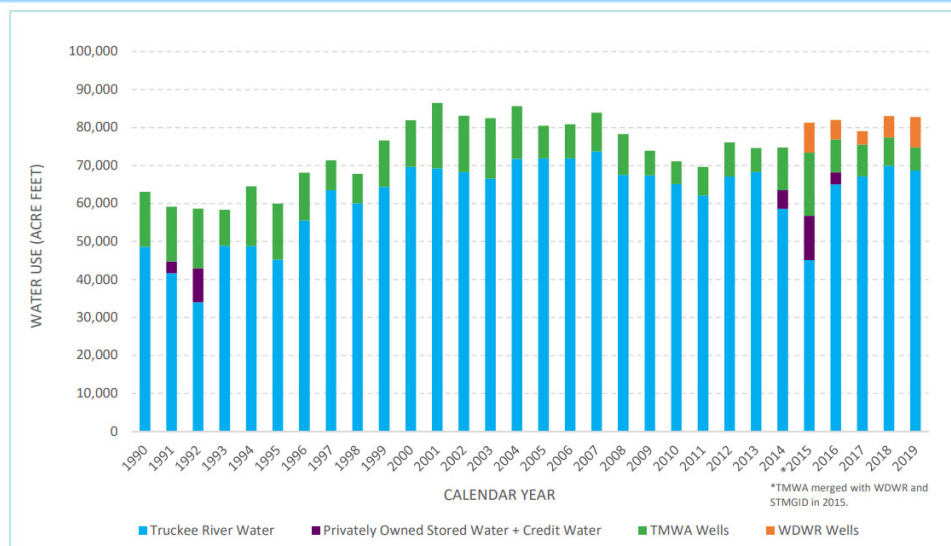
- ◆ Conjunctive use of surface water, groundwater and drought reserves
- ◆ Truckee River is the primary source of water
 - 80-85% of region's drinking water
- ◆ Truckee River Operating Agreement
- ◆ 90+ production wells
 - Pumped during spring/summer months
 - Includes imported groundwater
- ◆ Aquifer storage and recovery
 - 9,000 AFA recharge goal during winter months
- ◆ Advanced Purified Water Feasibility



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TMWA Conjunctive Use



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Wastewater in the Truckee Meadows

- ◆ 5 regional water reclamation facilities
- ◆ Capacities range from 200,000 gpd to 30+ MGD
- ◆ Owned/operated by Washoe County, City of Reno and City of Sparks
- ◆ Effluent reuse provides beneficial use of treated wastewater



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Reclaimed Water in the Truckee Meadows

- ◆ Region has decades of experience using reclaimed water for irrigation and industrial uses
- ◆ 8,000 AFA of reclaimed water used for irrigation
 - 10% of total regional water supply
- ◆ Category A and B quality



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TRI Center Effluent Pipeline

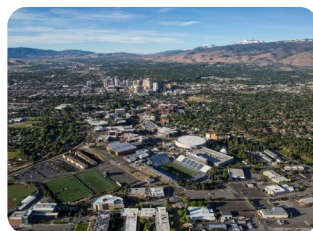
- 💧 13 mile, 24-inch effluent pipeline from TMWRF to TRI Center
 - Delivers to a 2,000 acre-feet lined reservoir and 1 MG tank
- 💧 Reduces nitrogen loading to the Truckee River from TMWRF
- 💧 Can provide 4,000 AFA for industrial use
 - TRI GID has no effluent discharge to the Truckee River
- 💧 Planned polishing facility to meet industrial water requirements
- 💧 TMWA managing water rights that make up return flow
- 💧 Effluent management is challenging



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Forming OneWater Nevada



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OneWater Nevada

- Regional collaborative effort to research and realize innovative water supply options and advanced water treatment technologies for northern Nevada
- Multi-agency effort without a master agreement
- Several key feasibility studies



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Palomino Valley Water Sustainability Study

- Groundwater historically over-pumped
- Provide reclaimed water for farmland irrigation
- Inject potable water to improve groundwater levels
- Determining if aquifer could be utilized as an underground reservoir
- Preserve farmland and open space



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APW Pilot Study

- ◆ **Goal: Determine if advanced purified water can provide long-term benefits for our region's water future.**
- ◆ 2017-2020 pilot demonstrations at local water reclamation facilities
- ◆ 3 trailers (10-15 gpm) with carbon based advanced treatment
- ◆ Injected for a 6-week period
- ◆ First Category A+ permit in Nevada
- ◆ Strict water quality goals and advanced monitoring
- ◆ UNR involvement



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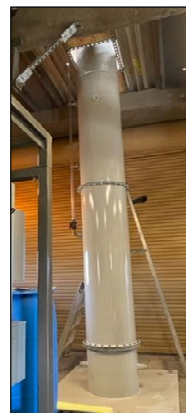
Additional APW Pilot Testing



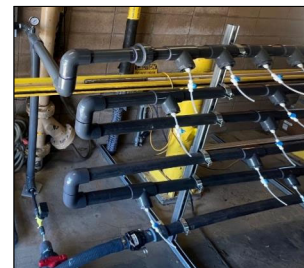
**Dissolved Air
Flotation**



Tube Settlers



Dual-Media Filter



**Ozonation and
Contactor**



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Advanced Purified Water Facility at American Flat

- ◆ Nevada's first Category A+ large scale project
- ◆ 2 MGD Advanced Purified Water Facility - RSWRF
- ◆ \$200 million +/-
- ◆ City of Reno and TMWA joint venture
- ◆ Suitable aquifer and hydrogeology
- ◆ Phased implementation approach



Conceptual Architectural Rendering



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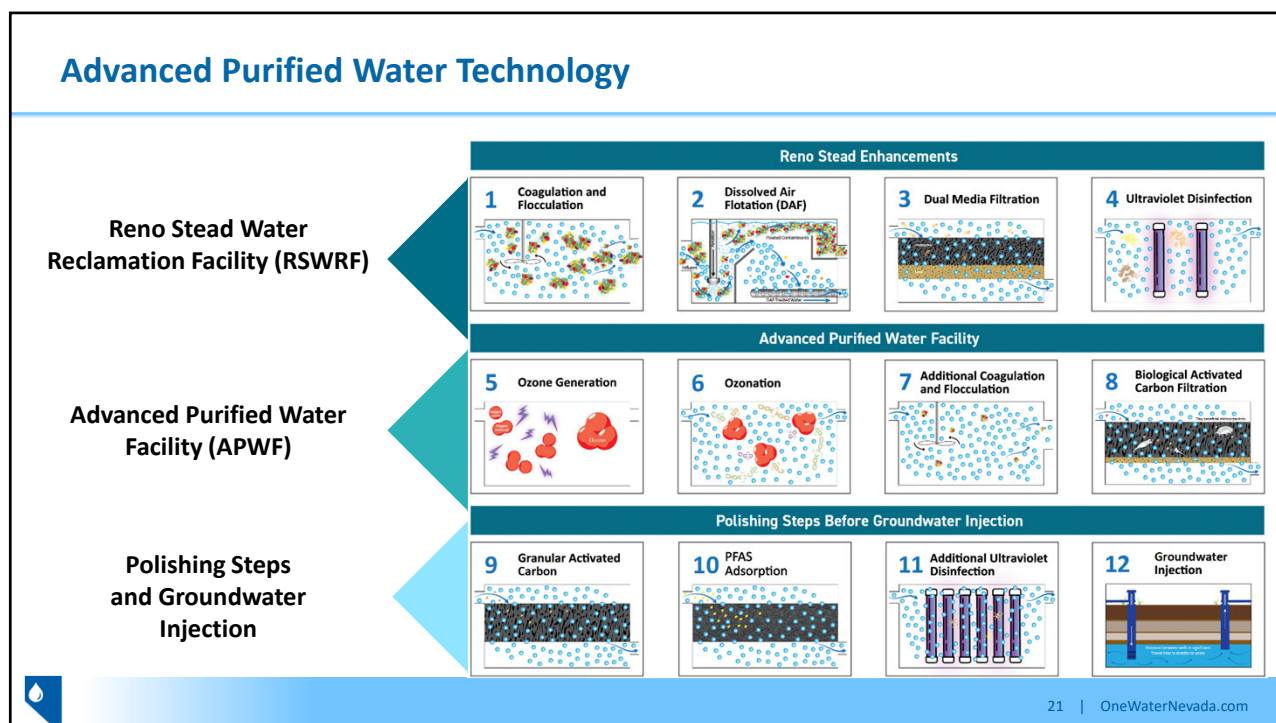
19

Site Map



20

Advanced Purified Water Technology

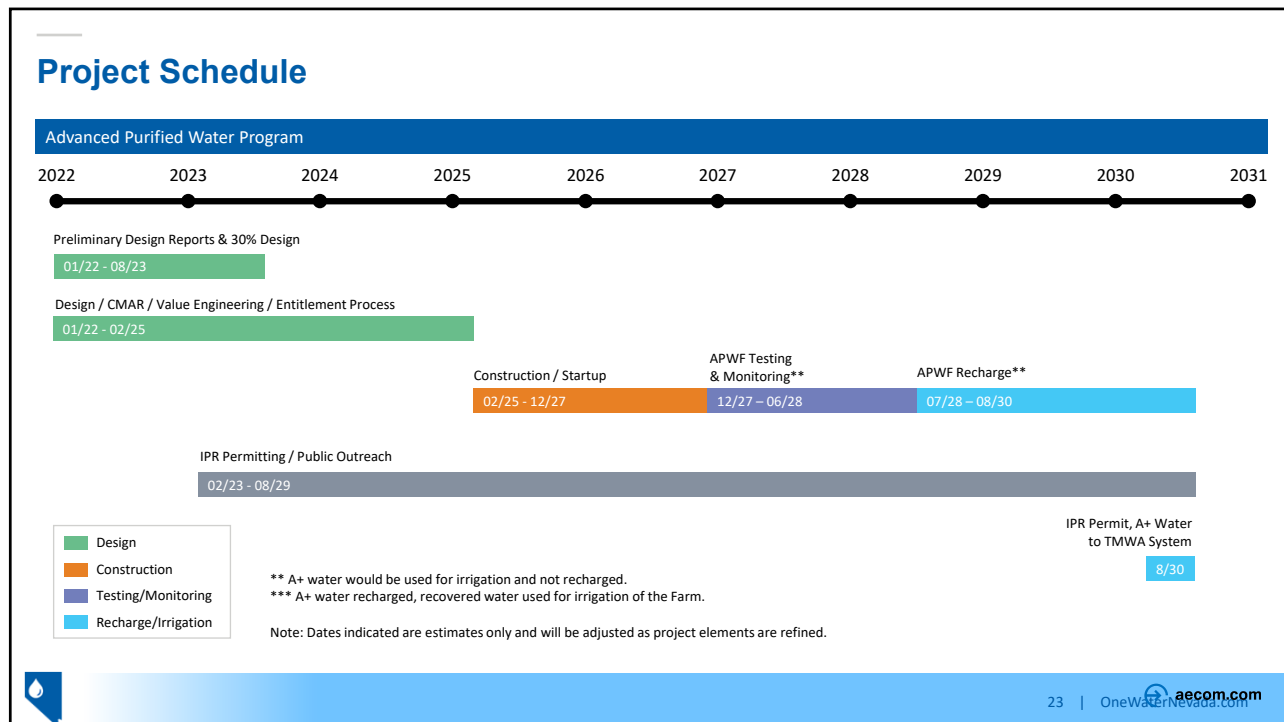


21

Ensuring Water Quality

- ◆ National advanced purified water efforts deemed safe
- ◆ Selected treatment train will meet all water quality objectives
- ◆ Unregulated constituents (PFAS, pharmaceuticals, personal care products, etc.)
 - Will meet all health guidance levels
- ◆ Phased approach
 - Irrigation of American Flat Farm

22




23


Lessons Learned

- ◆ University Utility partnership is invaluable
- ◆ Independent Expert Panel being available as advisors helped the project team
- ◆ Keep elected officials informed and engaged
- ◆ Connecting wastewater and drinking water operations creates success for the future
- ◆ Involve regulators in conversations early on
- ◆ Create a vision for the community
- ◆ Engage with communication experts
- ◆ Build from a trusted agency

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24












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Video: www.onewaternevada.com/links/



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