



Tuolumne County and The Human Right to Water

November 18, 2020

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Discussion Outline

- Tuolumne County Demographics and Why it is Unique to the Human Right to Water
- Tuolumne Utilities District Overview
- Climate Change and its Relation to Water Supply
- Water Affordability & the Principle of Economy of Scale
- Infrastructure Challenges in a Rural Disadvantaged Environment
- Funding Challenges & Needs
- Potential Solutions to Bridge the Funding Gap

Tuolumne County (Tuo Co)



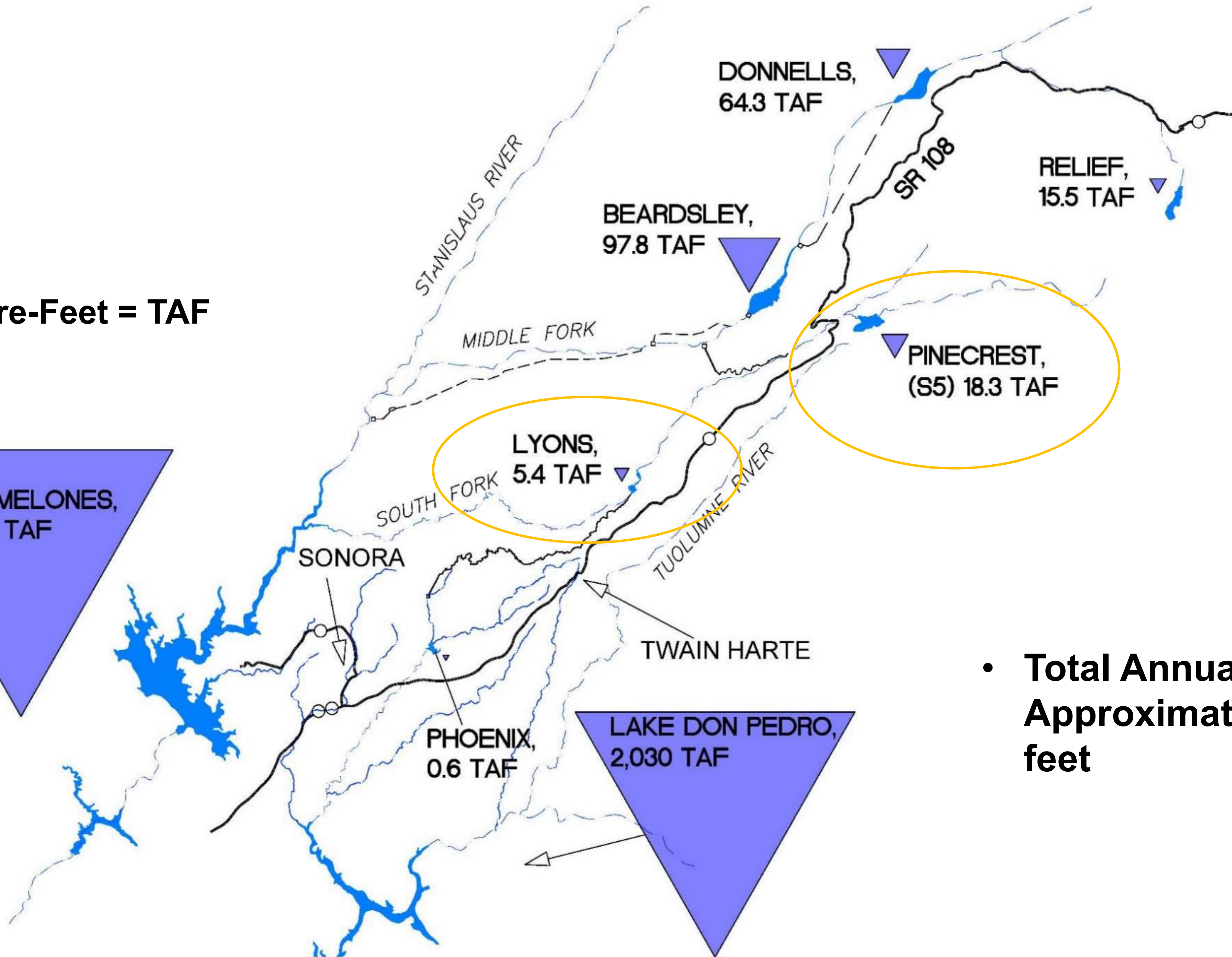
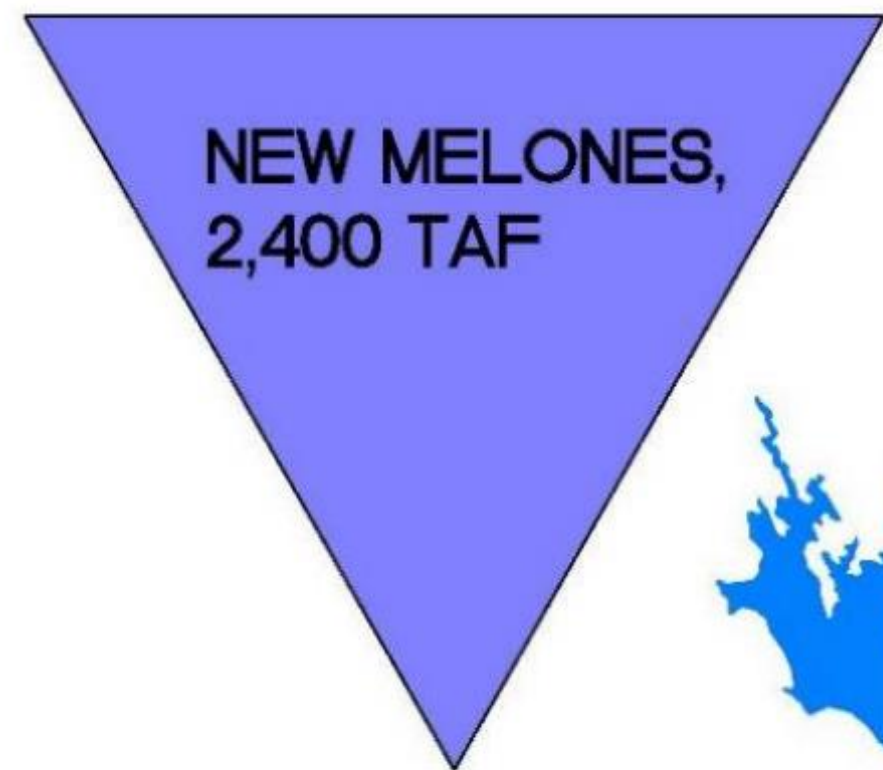
- Predominantly rural area
- Population – approximately 55,000
- Tuo Co Incorporated – 1850
- County boundary – 2,274 square miles
- City of Sonora, single incorporated city
- Two federally recognized tribes
- Nearly 80% – Federal, state, local governments own the land
- Variable geography: Elevation extends from valley floor to the crest of the Sierra Nevada

Who TUD Serves



- Tuolumne Utilities District (TUD) is the regional water and wastewater utility spanning a service area of 1,400 square miles
- Water connections: 14,275 (Raw water and Treated); Sewer connections: 6,115
- Serves multiple disadvantaged communities

1,000 Acre-Feet = TAF

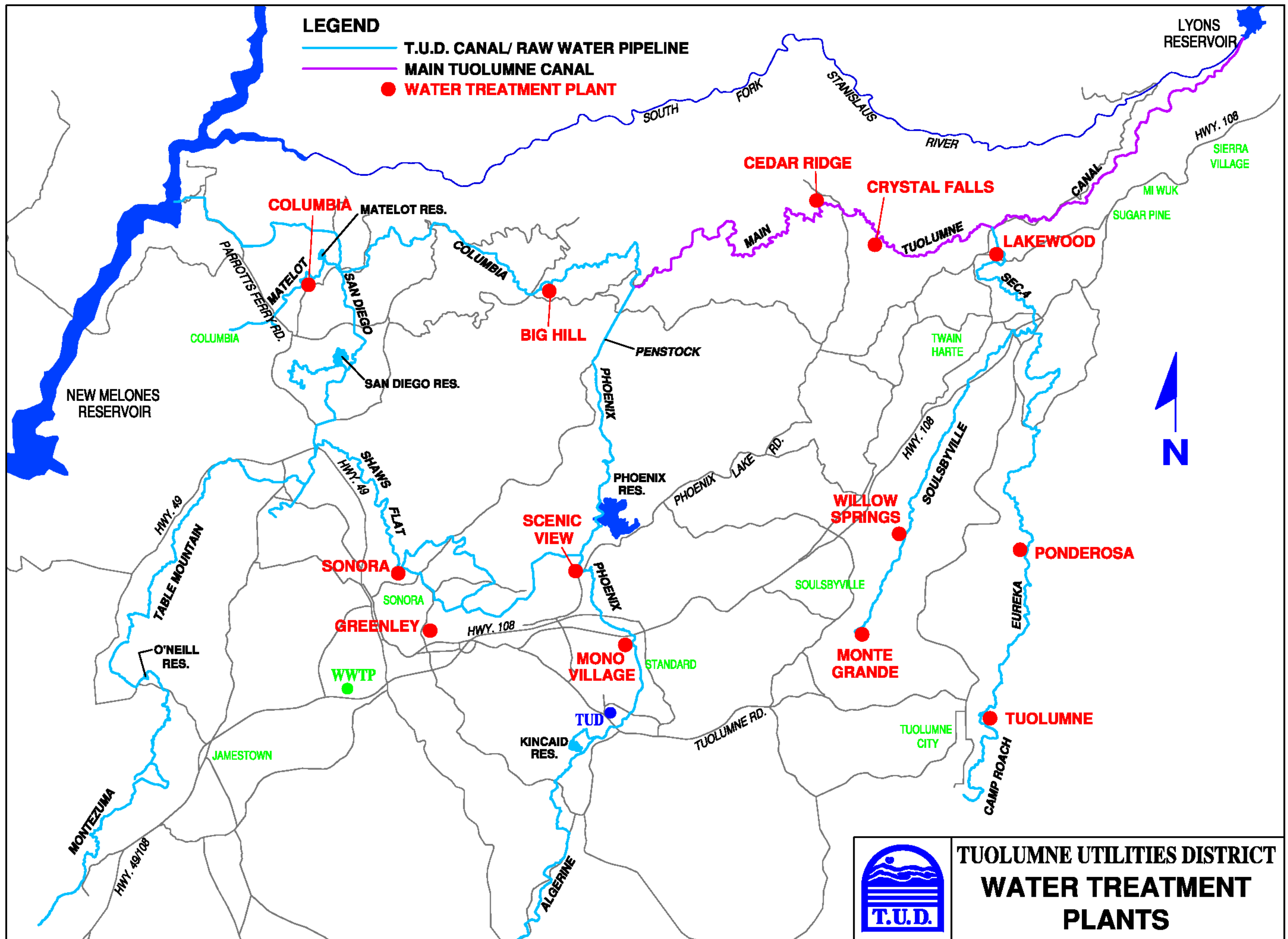


- **Total Annual Water Storage:
Approximately 23,000 acre-
feet**

Water Supply Vulnerability



- Tuolumne Main Canal Gold Rush Era Wooden Flume
- 16-mile Wooden Flume Built in 1860
- Primary Water Conveyance Still in Use Today
- 95% of water supply conveyed through Main Canal
- Tuo Co at Risk – Paradise #2?
- Ranked #1 county for fire risk by the CA Dept. of Insurance for Wildfire Loss in Residential Property in the Wildland-Urban Interface
- Single source of surface water supply
- No groundwater backup; Fractured rock geology



Water Management

- 71 miles of ditch, flumes and tunnels
- 14 Surface Water Treatment Plants
- 51 Wells (Minimal production/quality)
- 75 Treated Water Storage Tanks
- Numerous pressure reducing valves / pumping stations
- 320 miles of water distribution lines

Long-Term Strategic Initiatives

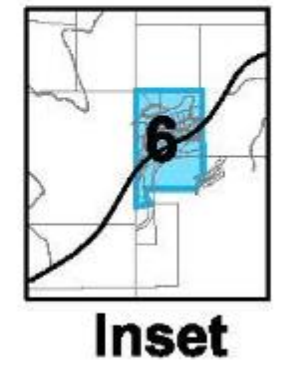
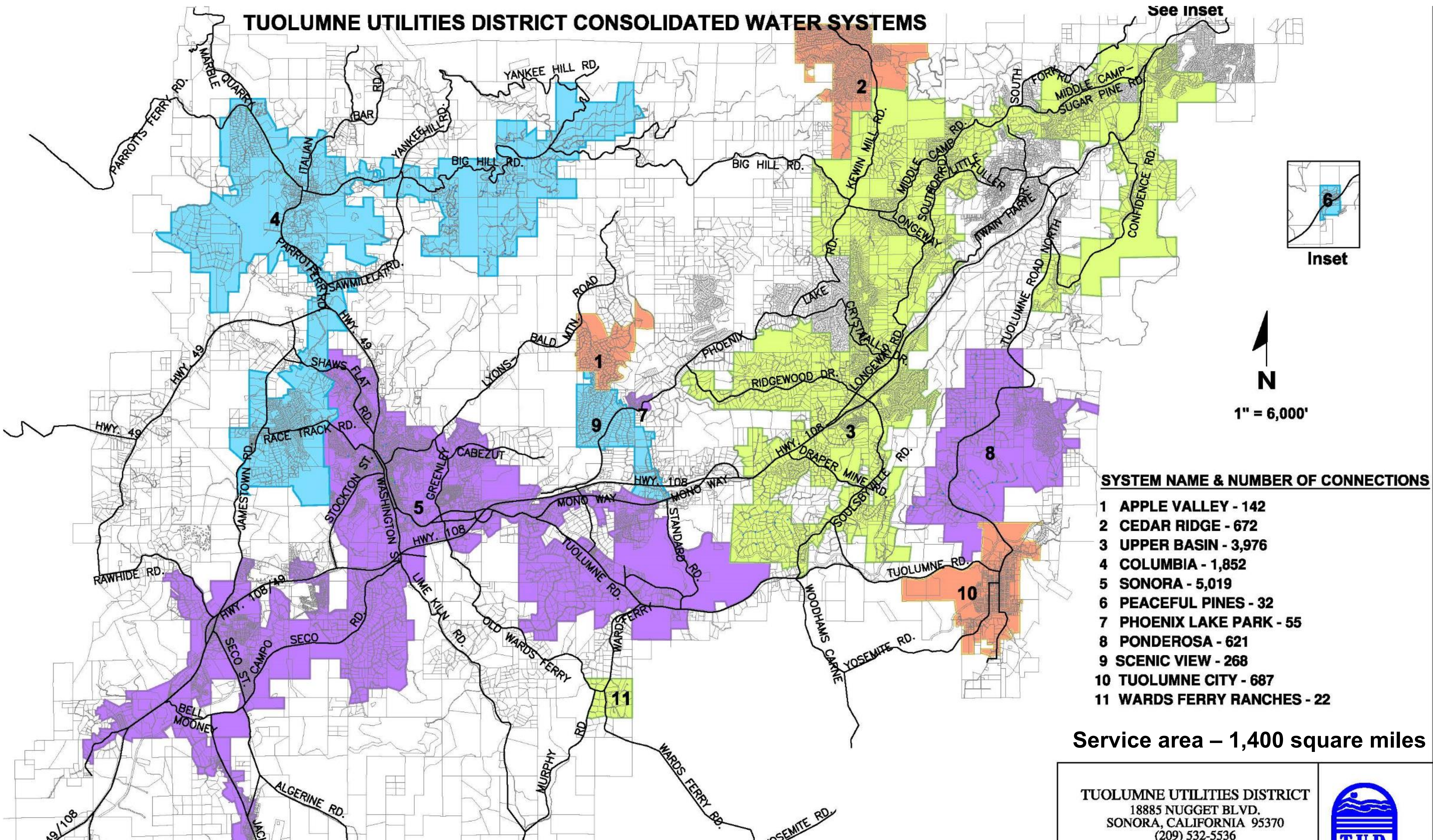
- Diversified points of diversion
- Diversified water supply sources
- Consolidate and regionalize water treatment plants
- Interconnectivity of water systems
- Maximize water demand management
- Maximize water recycling



New Mono Vista Water Storage Tank, June 2020
(One step closer to water storage tank consolidation)

TUOLUMNE UTILITIES DISTRICT CONSOLIDATED WATER SYSTEMS

See Inset



N
1" = 6,000'

SYSTEM NAME & NUMBER OF CONNECTIONS

- 1 APPLE VALLEY - 142
- 2 CEDAR RIDGE - 672
- 3 UPPER BASIN - 3,976
- 4 COLUMBIA - 1,852
- 5 SONORA - 5,019
- 6 PEACEFUL PINES - 32
- 7 PHOENIX LAKE PARK - 55
- 8 PONDEROSA - 621
- 9 SCENIC VIEW - 268
- 10 TUOLUMNE CITY - 687
- 11 WARDS FERRY RANCHES - 22

Service area – 1,400 square miles

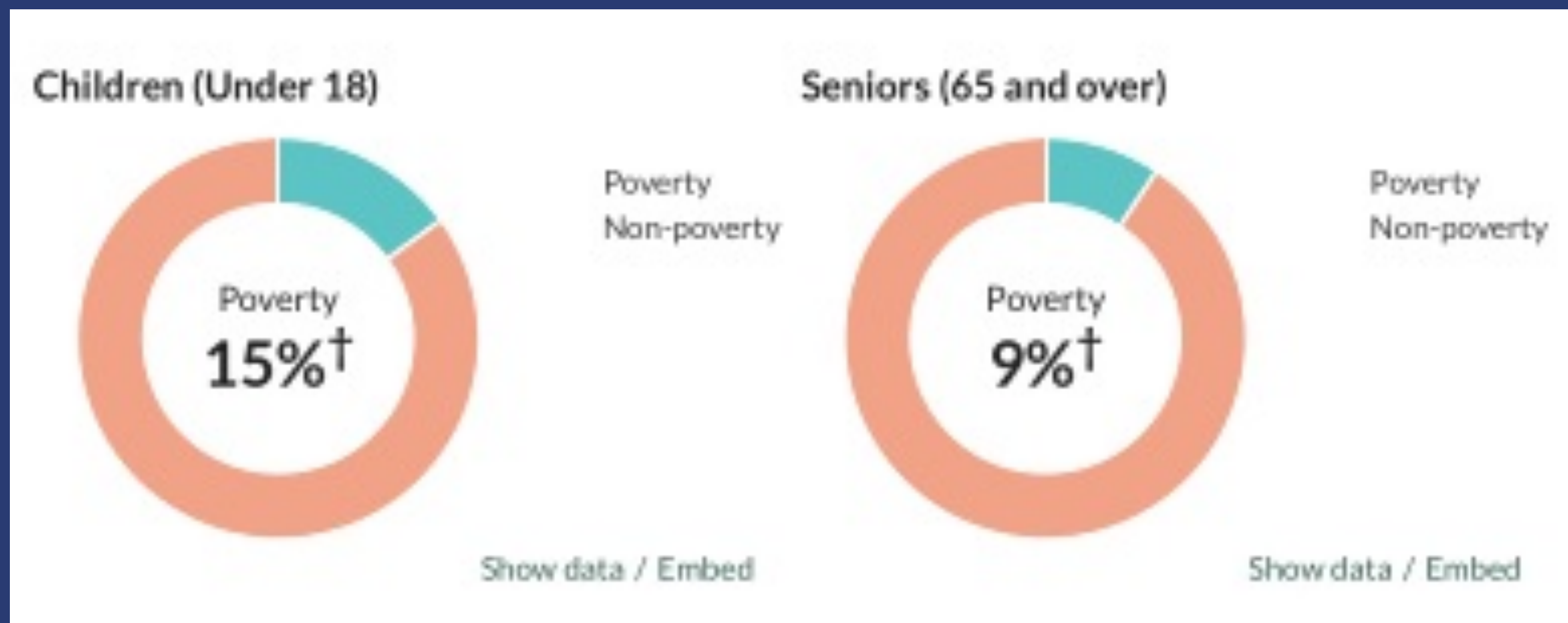
TUOLUMNE UTILITIES DISTRICT
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Water Affordability

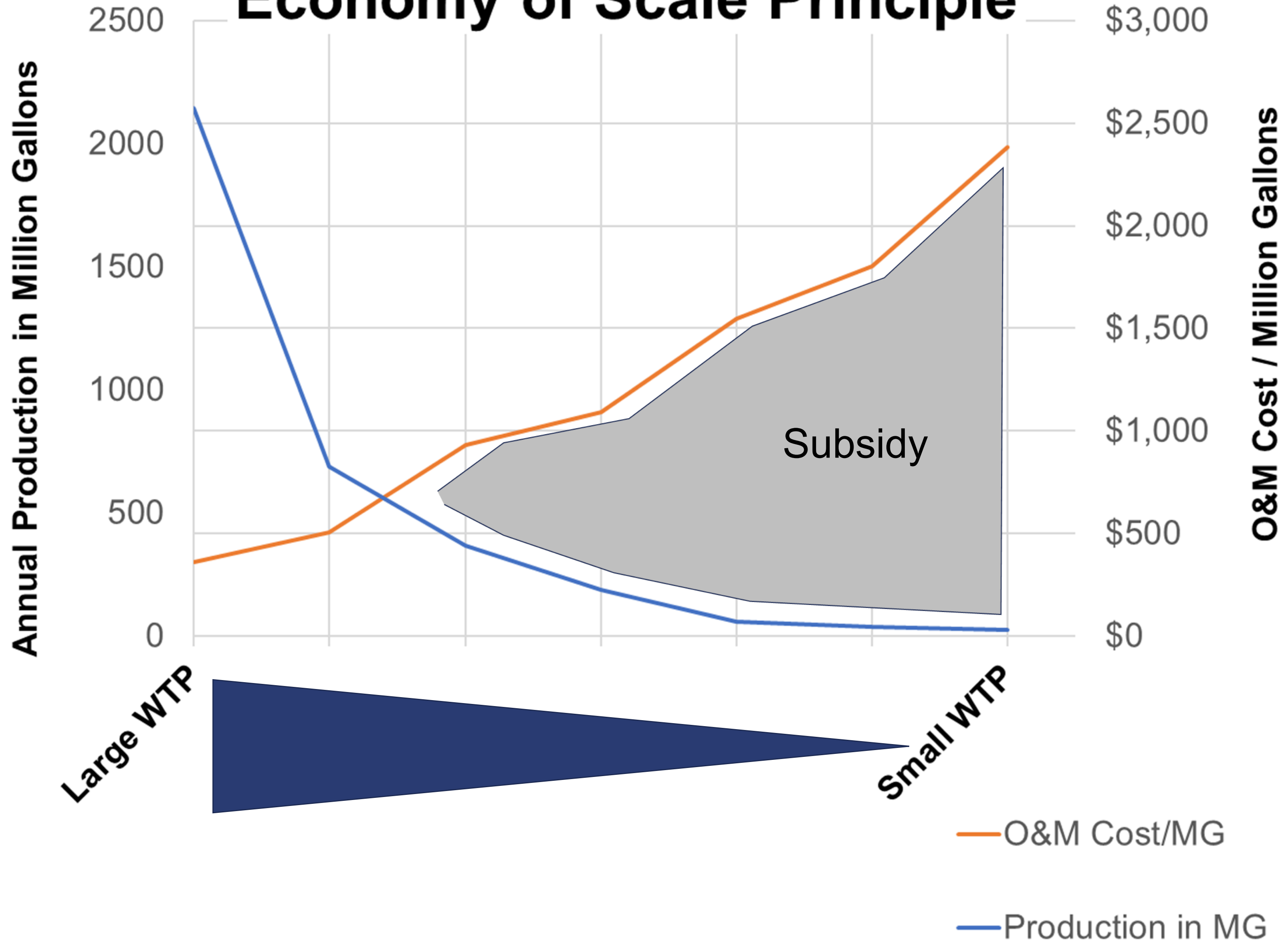
Tuolumne County – Poverty (2018)

Poverty: 13.3% Average Persons Below Poverty Line



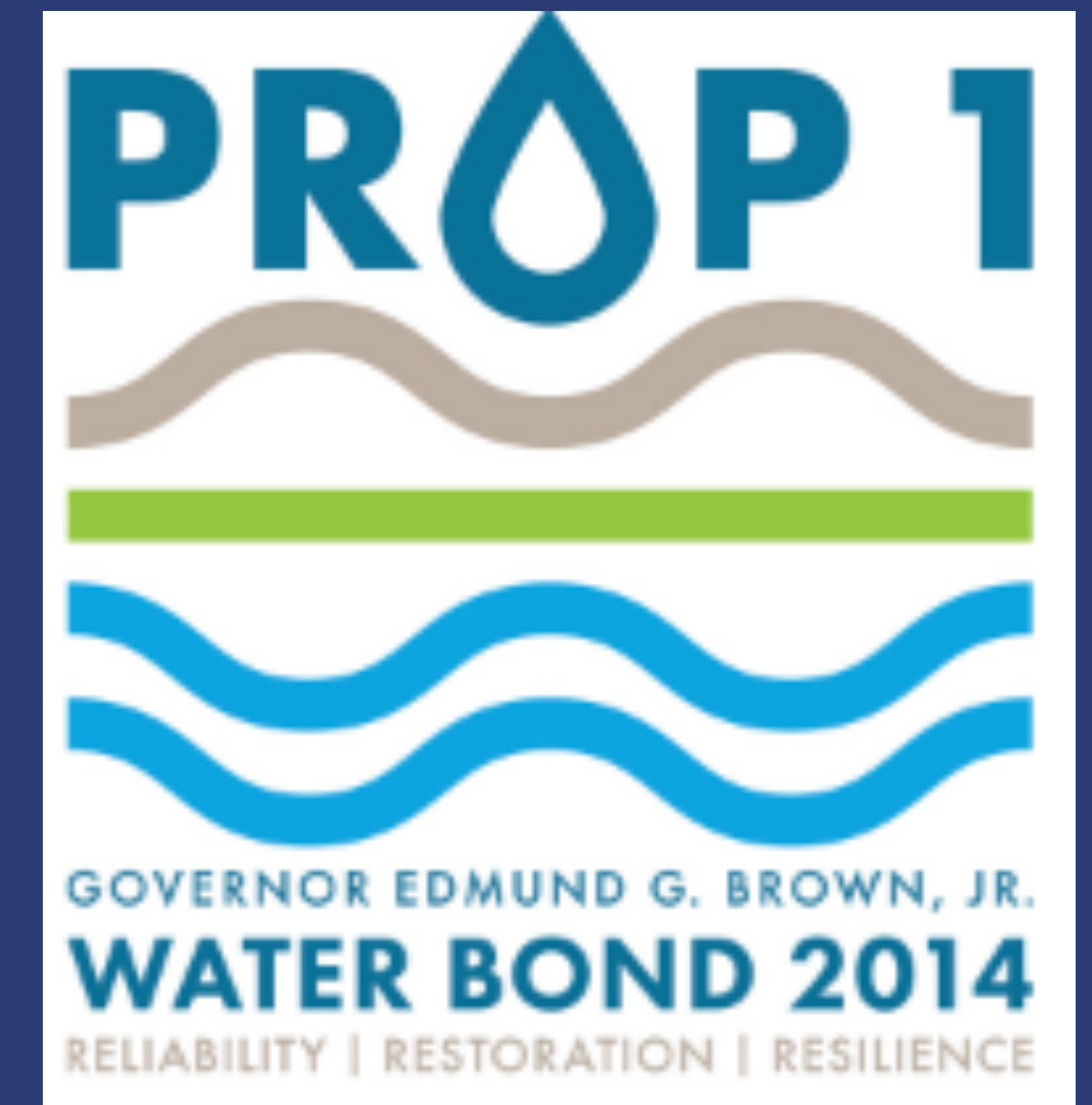
- Median household income (MHI) – \$51,427
- Median age – 48
- Poverty indicator – 13.3%
- Why the demographics are important: TUD water rates \geq 2% MHI
- > \$70 million (\$) in deferred capital improvements, not including strategic initiatives

Economy of Scale Principle



IRWM Collaboration

- Tuolumne-Stanislaus IRWM Authority (T-S IRWMA)
- T-S IRWMA one of 48 IRWM regions in the state
- IRWM original intent: To be regionally self-sufficient
- Conflict would be managed internally
- Funding to be secured through Statewide propositions
- Success has been marginal
- The T-S IRWMA is working towards a solution with the Mountain Counties region to fund a Disadvantaged Community Program (DAC)



Regulations Impact Water Systems

Urban Water Use Efficiency



- **June 2022** - State Water Board adopts urban water use efficiency standards, performance measures, and variances.
- **Jan 1, 2027** - Urban water suppliers shall achieve the urban water use objective.

- Regulation compliance ability: Impact on small vs. large utilities
- Increase cost of service
- Reduce water consumption
- Reduction in revenues
- Economy of Scale deteriorates
- Increased need to raise water rates
- Vicious loop impacting rural utilities

Climate Change and Drought Conditions

- Tuo Co highly vulnerable
- Small reservoirs with no carry over storage
- High fire risk area
- Single source of surface water supply
- Fractured rock geology
- Drought 2014/15: (1) 50% Water Rationing
(2) \$2M revenue loss
(3) Numerous well failures
(Emergency \$1.6M state grant funded project to extend potable water main to 44 properties)



Quartz/Stent water main extension - 2016

Challenges to Providing the Human Right to Water

- Consistent reliable funding sources
- Improve economy of scale principle
- Technical/Managerial/Financial (TMF) barriers
- Proposition 218: Constitutional mandate that precludes utilities from providing low-income rate assistance



Potential Considerations

- Do more for less: Less bureaucracy; streamline enviro
- Streamline and develop a concierge grant funding program to facilitate and advocate for rural funding solutions
- Develop a market-based infrastructure investment solution
- Develop reliable state funding source
- Consider bottled water tax to consistently fund DAC communities



Thank you!



Questions

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