



Truckee Meadows Water Authority & Water Supply for the Greater Truckee Meadows Region

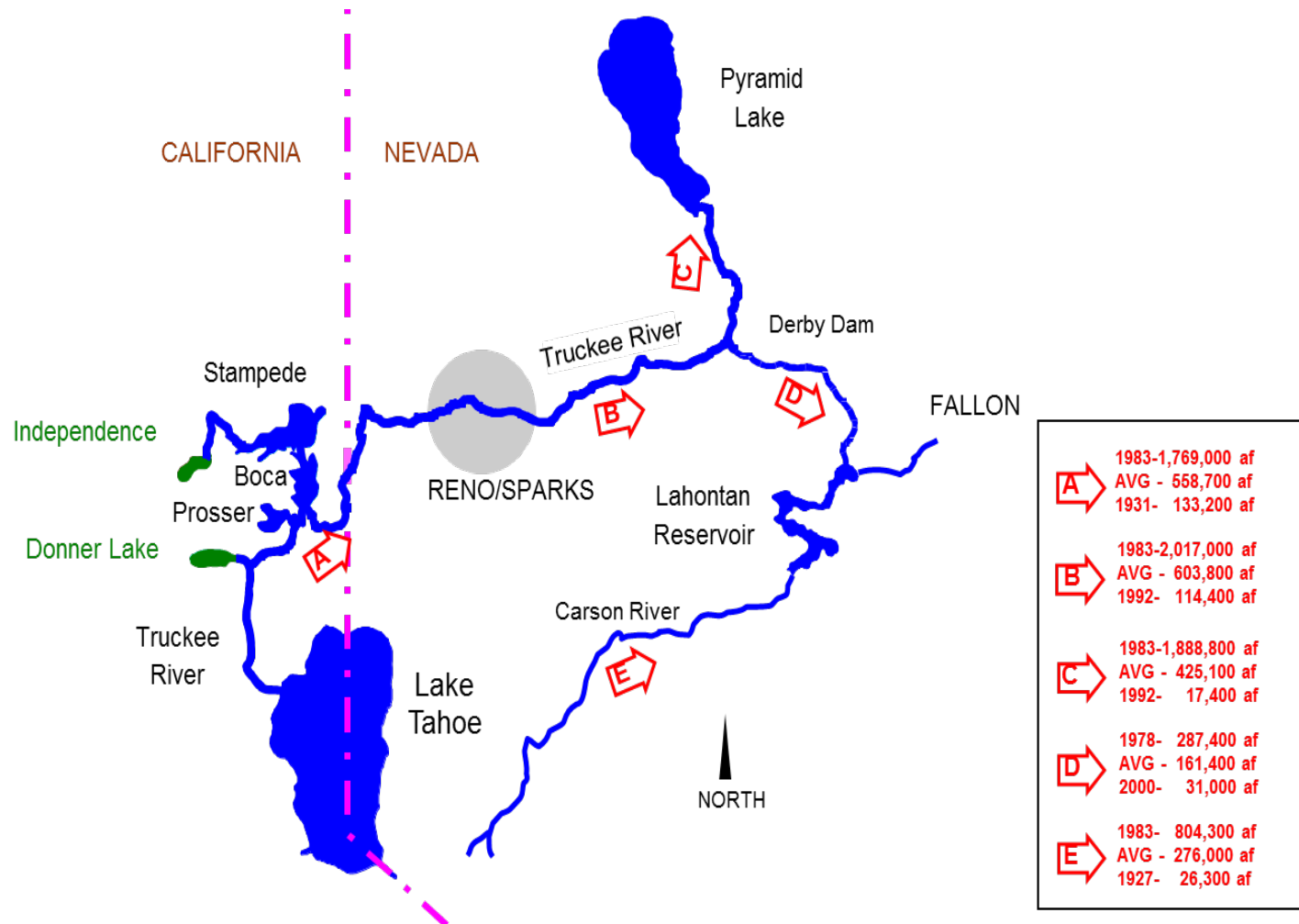
Presentation by John A Erwin

Director Natural Resources

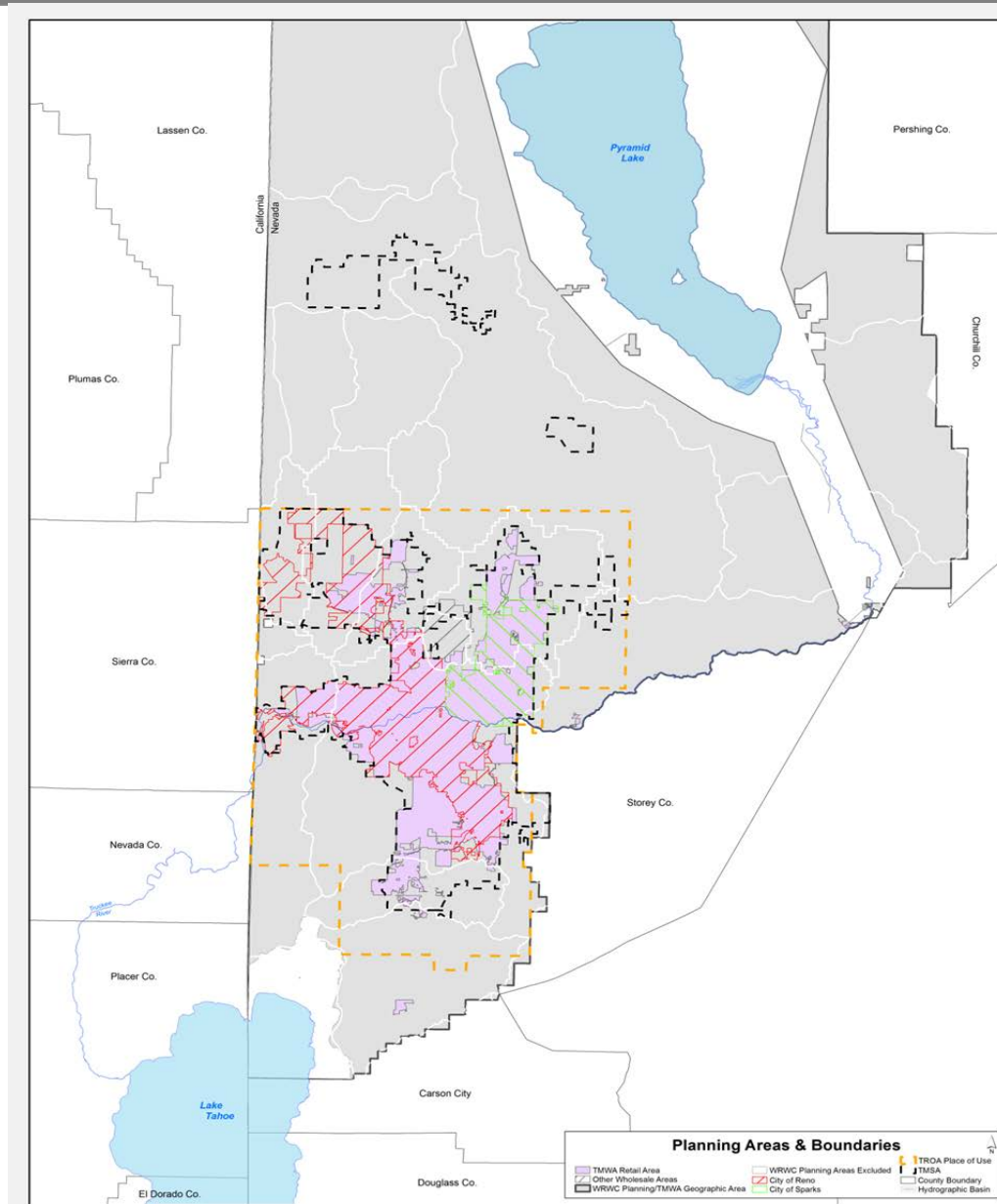
EXHIBIT H - WATER
Document consists of 22 pages.
Entire exhibit provided.
Meeting Date: 4-22-16

April 22, 2016

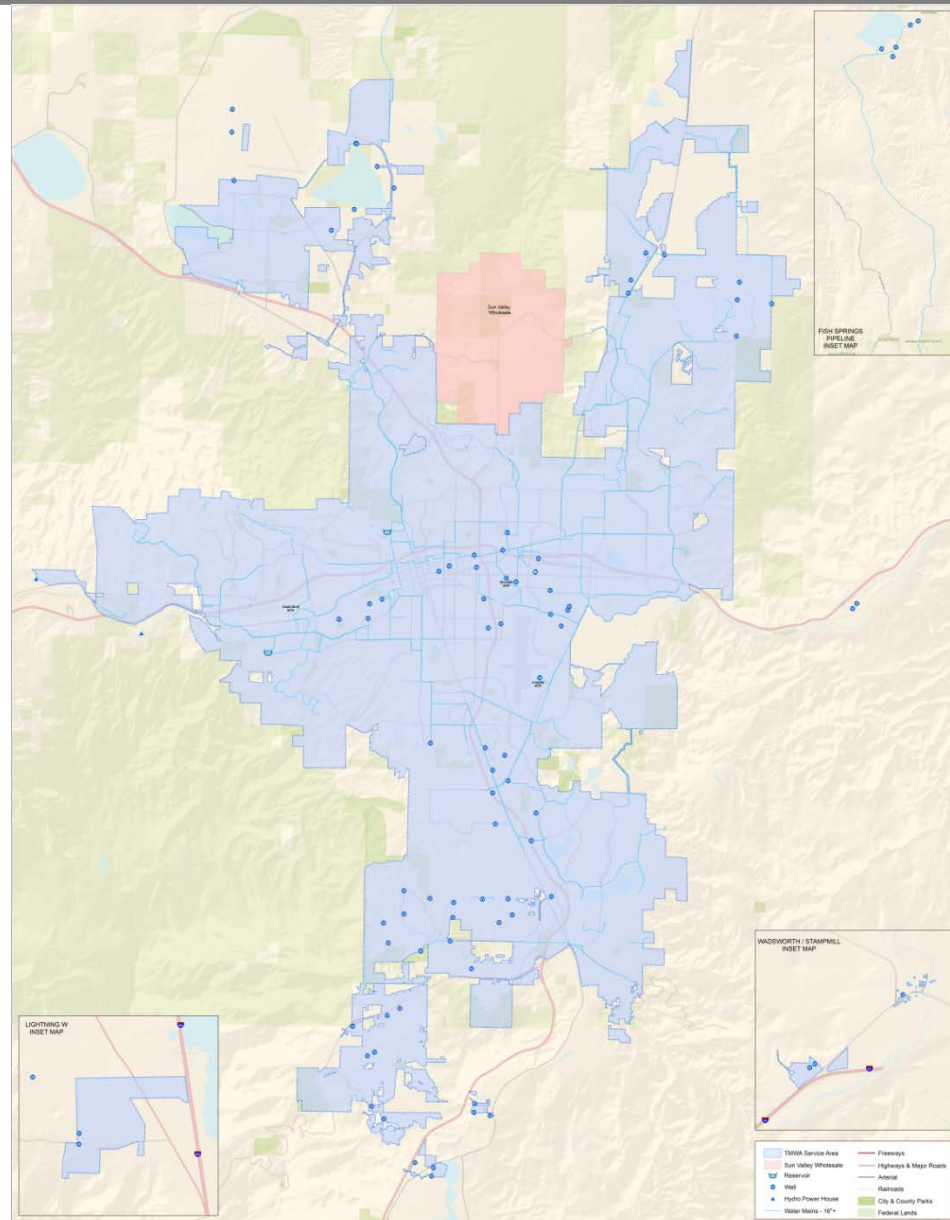
The Truckee and Carson River Systems



TMWA Planning Spheres



TMWA Retail/Wholesale Area



FACTS AND FIGURES (Consolidated Utility)

Population Served:

- Retail – 380,000 (117,000 active connections)
- Wholesale – 15,000

Water Sources:

- Surface (Truckee River) – 2 plants (80% of total supply)
- Ground - 92 wells (20% of total supply)

Upstream Storage - 27,000 AF (Independence/Donner)

Renewable Energy - 3 operating hydroelectric plants

Annual Revenue - \$97 MM water sales, \$3.5 MM hydro

TMWA's Source Water Rights

SURFACE WATER:

- Decree rights: “40” CFS (28,959 AF) & Hunter Creek (9,847 AF)
- Converted Irrigation Rights: ~72,000 AF)
- Production: ~68,000 AF (2013) & ~57,000 AF (2015)

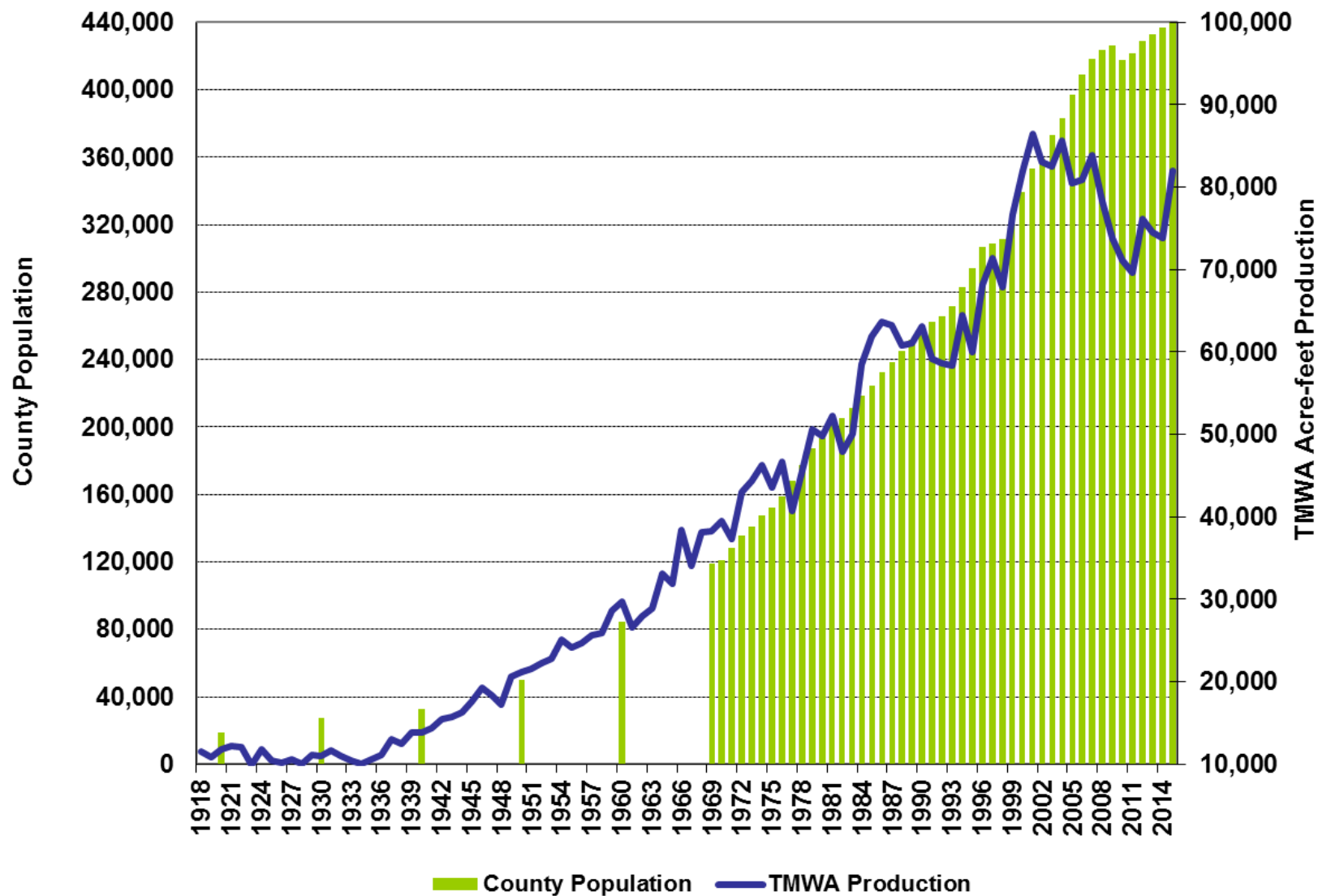
GROUNDWATER:

- ~42,000 AF (multiple GW basins)
- Production: ~17,000 AF (2013) & ~25,000 AF (2015)
- Recharge: ~1,600 AF (2013) & ~4,000 AF (2015)

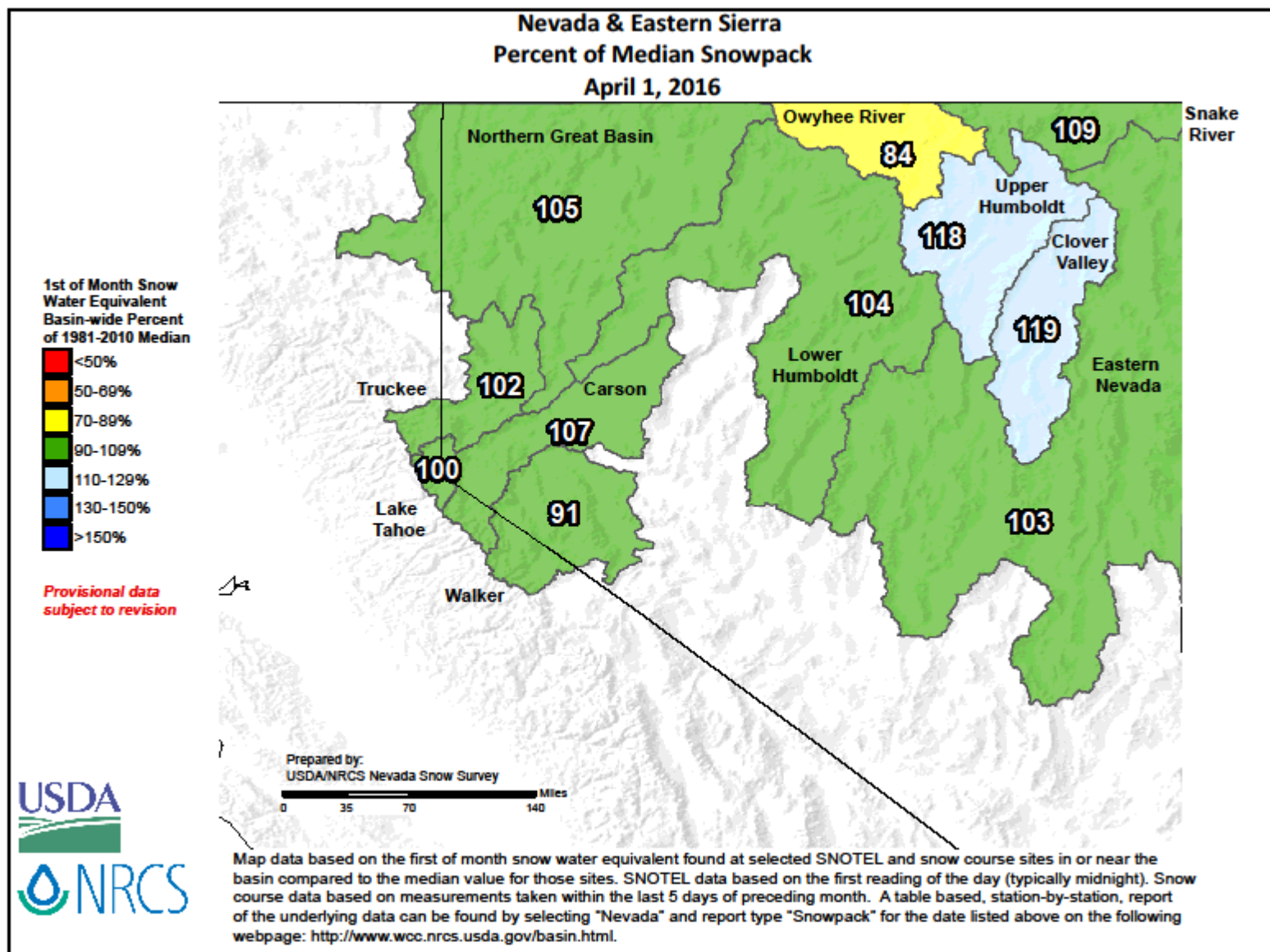
STORAGE:

- TMWA owned: Independence Lake (17,500 AF) & Donner Lake (9,500 AF)
- TROA potential: estimates as high as 70,000 AF

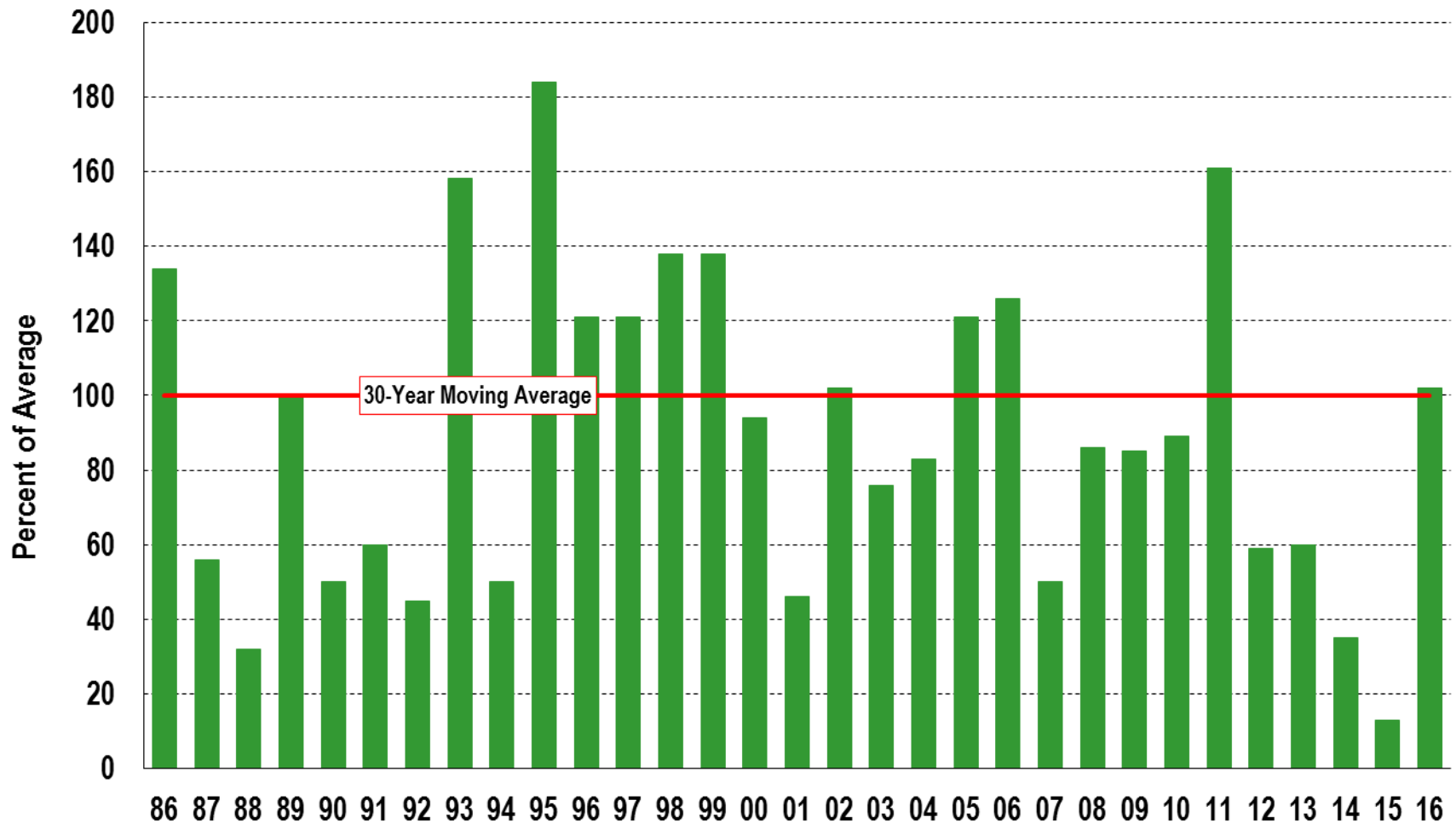
Washoe County Population & TMWA Water Production



April 1 2016 Regional Snowpack Results

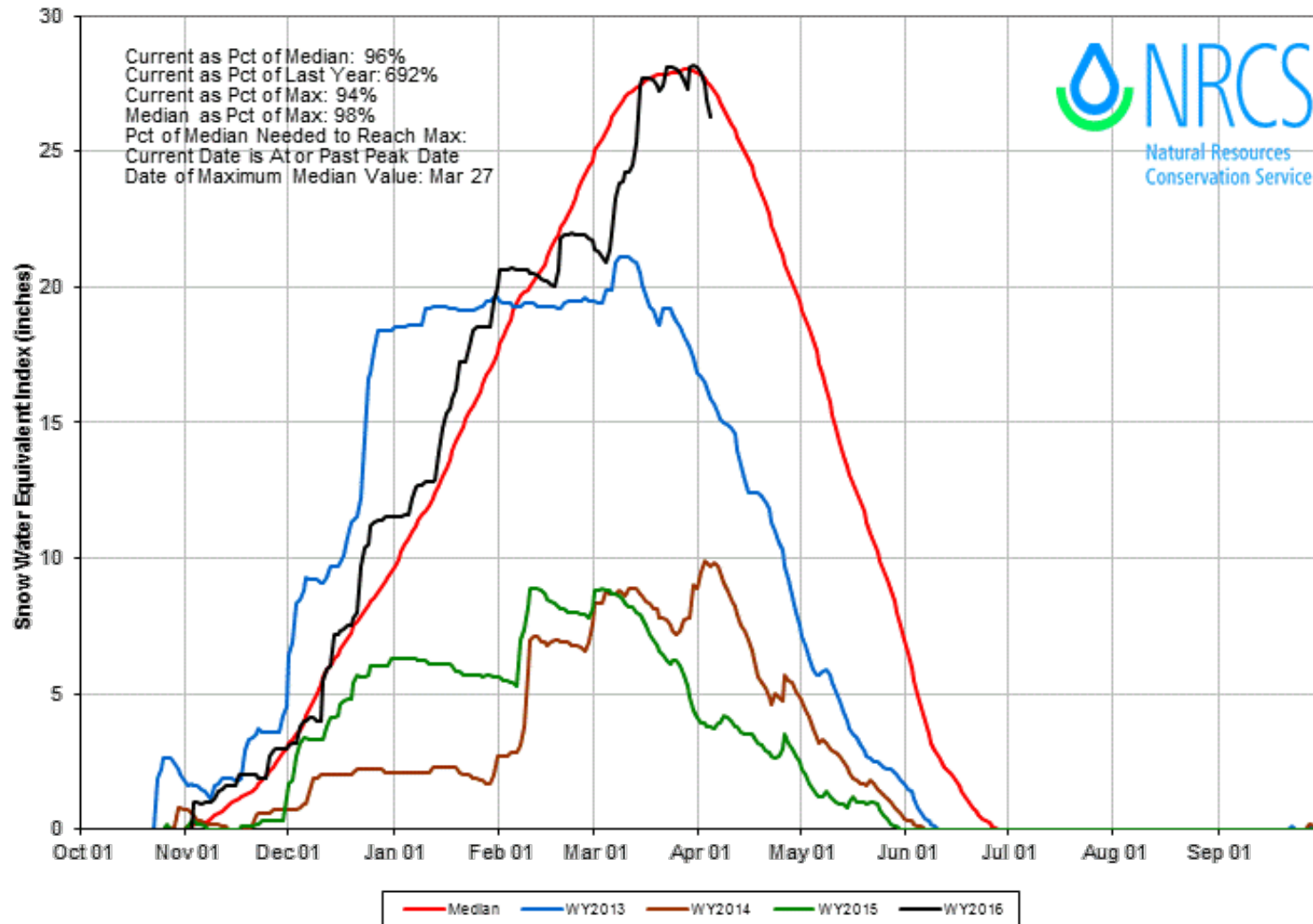


April 1 Truckee River Snowpack Comparison

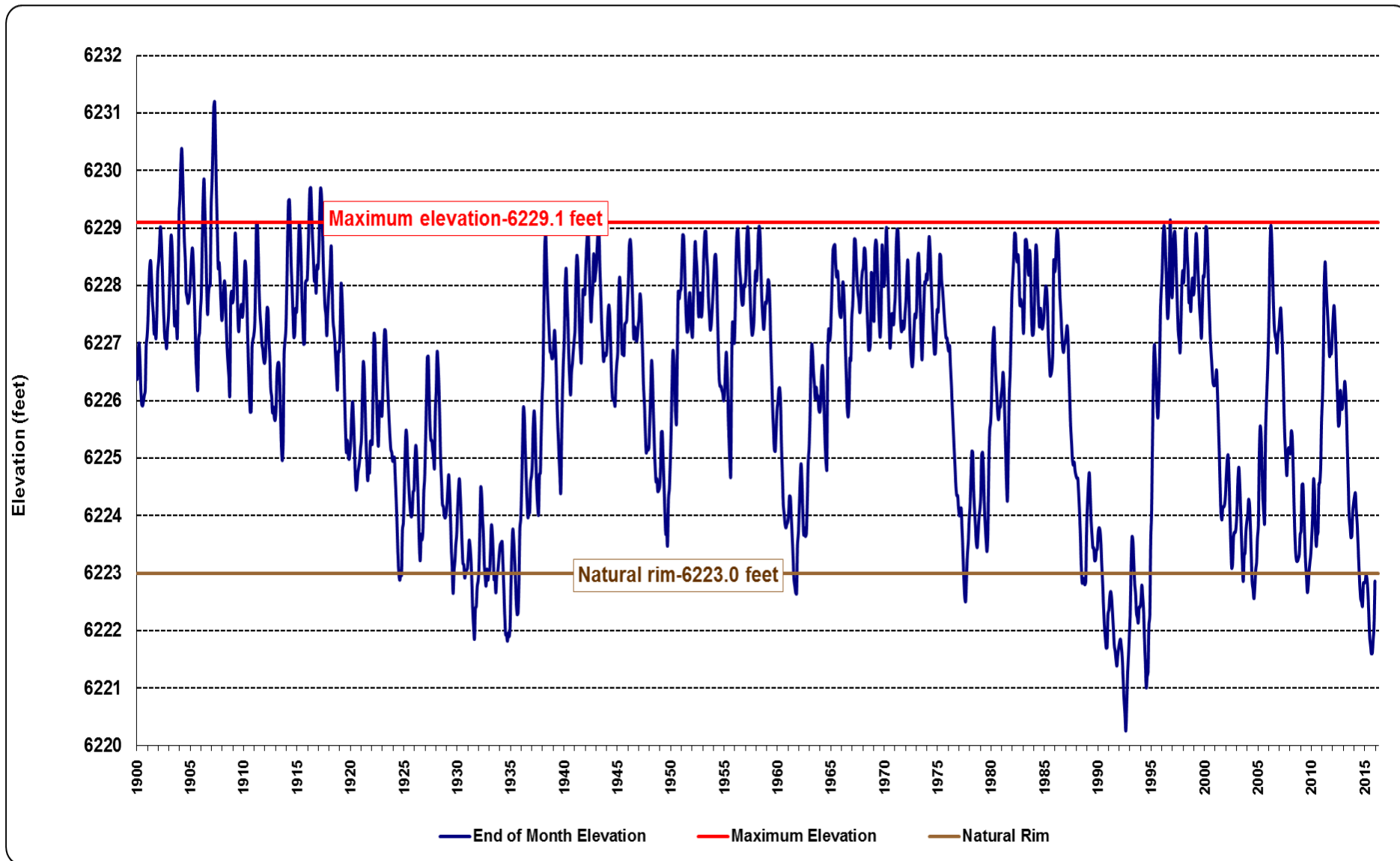


Truckee River Snowpack Summary (Apr 2016)

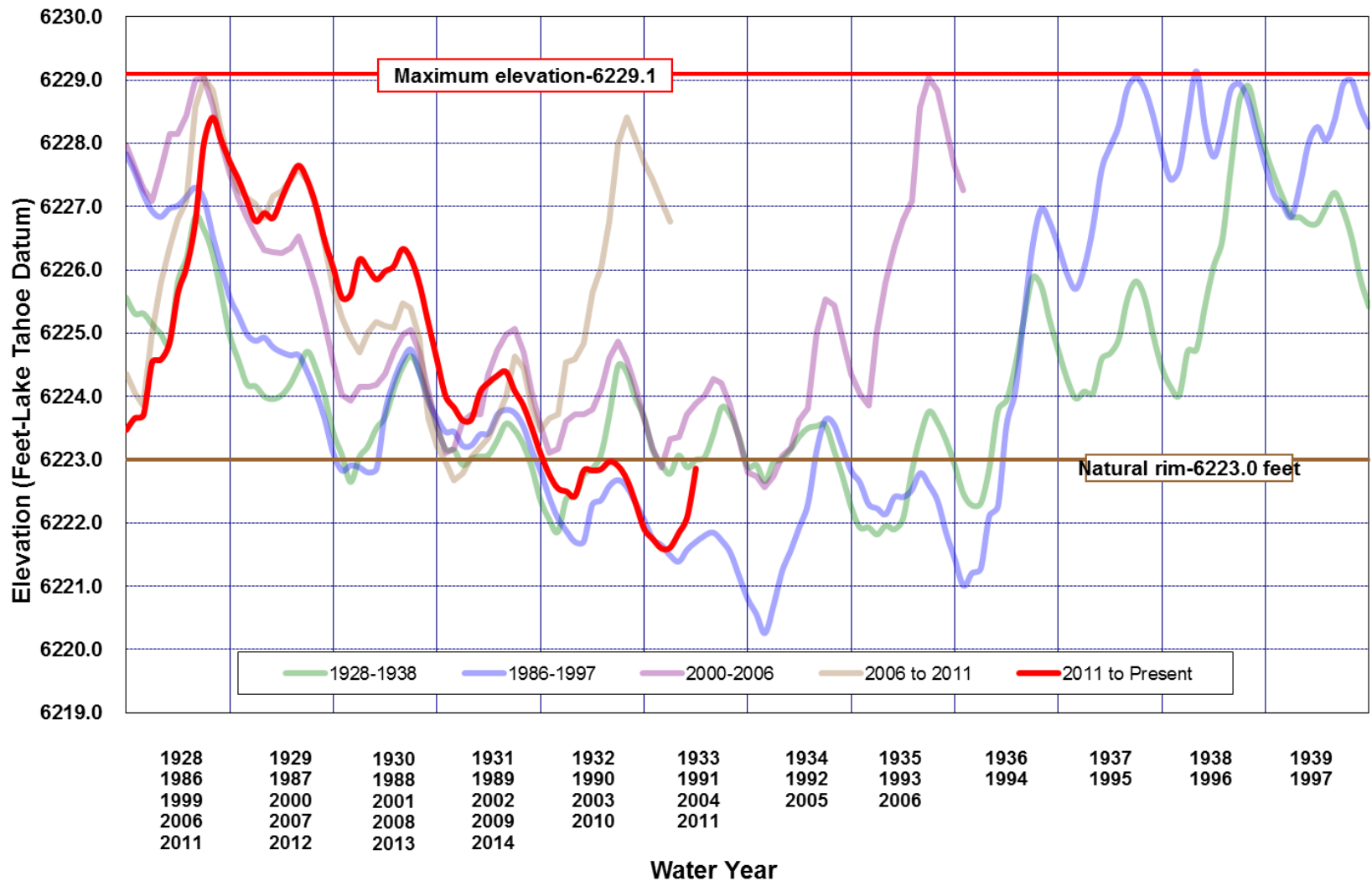
*TRUCKEE RIVER Time Series Snowpack Summary
Based on Provisional SNOTEL data as of Apr 04, 2016*



Lake Tahoe Elevations (1900-Present; EOM)

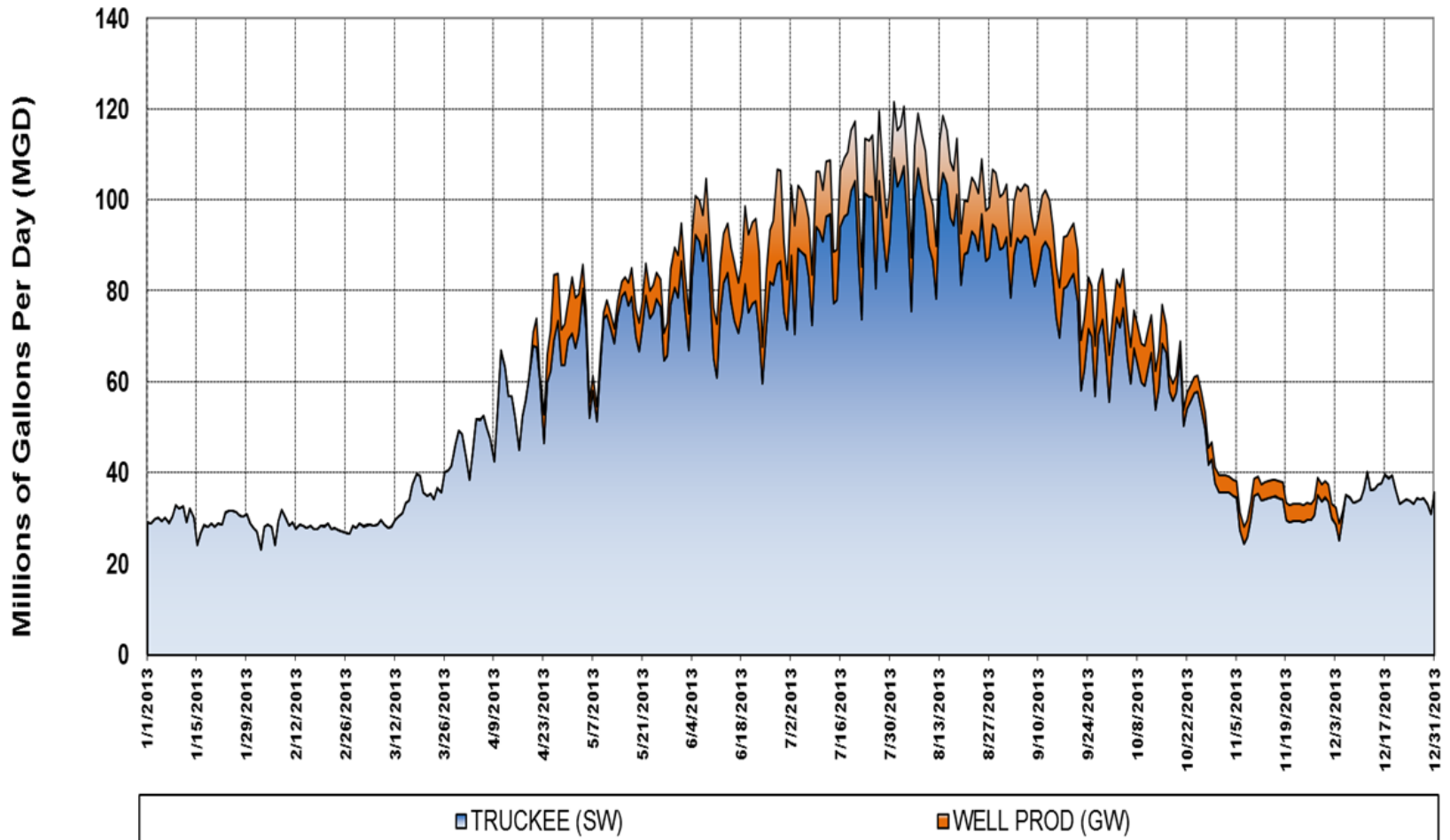


Lake Tahoe Elevation During Droughts



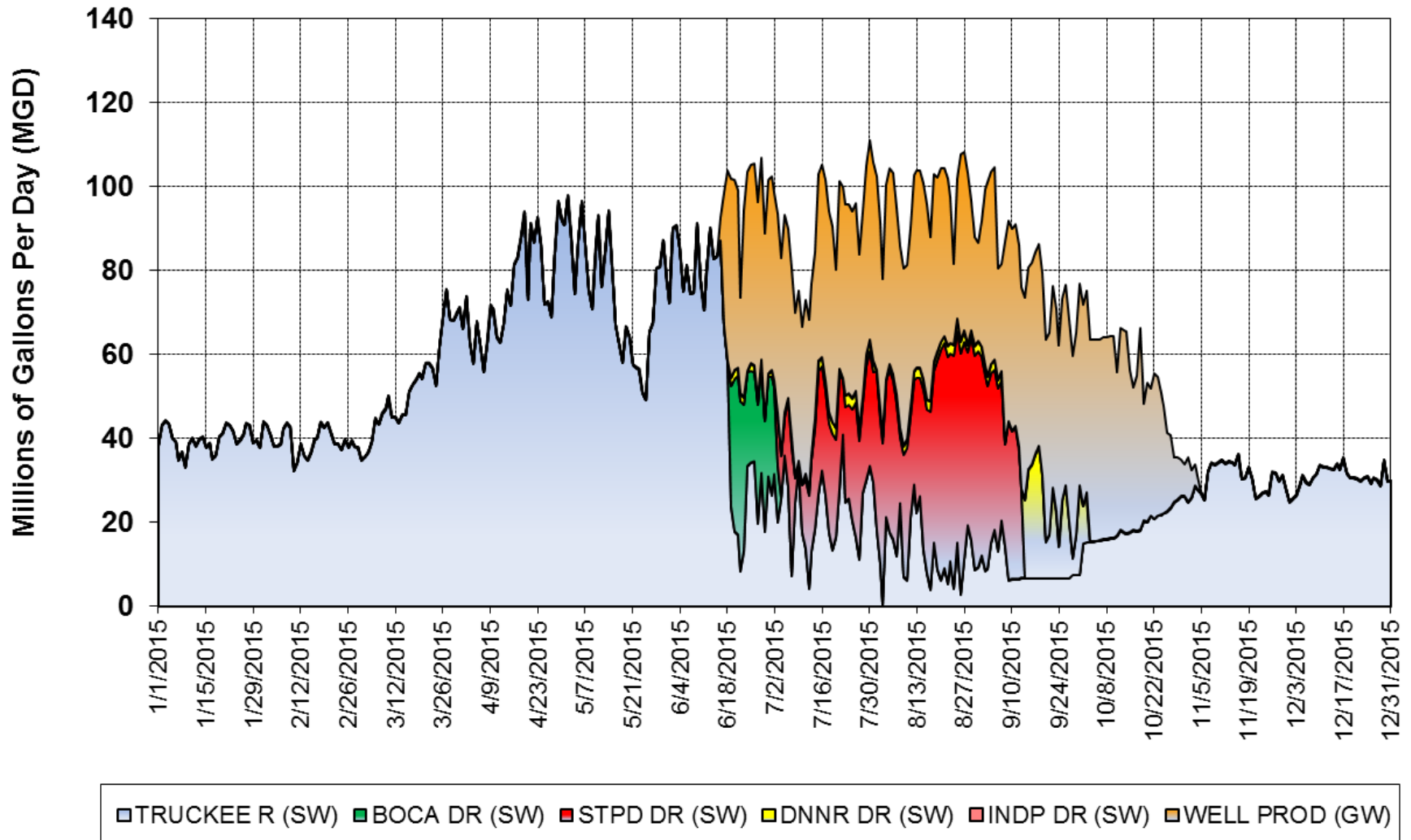
Non-Drought Year Supplies

2013 TMWA ACTUAL SOURCES OF SUPPLY



Critical Dry-Year Supplies

2015 TMWA ACTUAL AND PROJECTED SOURCES OF SUPPLY (through 9/8)



Truckee River Operating Agreement (TROA)

A negotiated agreement between 5 signatory parties to change the way the Truckee River System is operated to provide multiple benefits to users while protecting existing water rights

- United States
- State of California
- State of Nevada
- Pyramid Lake Paiute Tribe
- Truckee Meadows Water Authority

Decades in the making (original documents signed May 19, 1989)
TROA went into effect December 1, 2015

Truckee River Operations: Pre- vs Post-TROA

Old Rules:

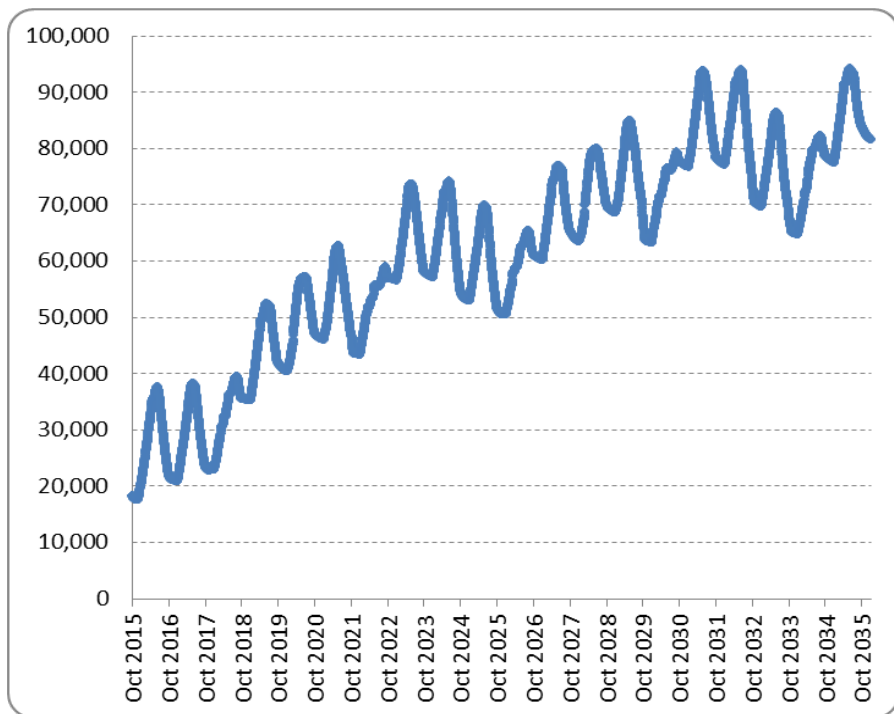
- Based on agreements and decrees from the 1930s and 1940s
- Rigid flow regime: water, if available in Lake Tahoe and Boca Reservoir, must be released to meet a set daily flow requirement at the CA/NV state line (500 cfs most of year)
- Basis of operation: hydroelectric generation, agriculture and paper mill

New rules:

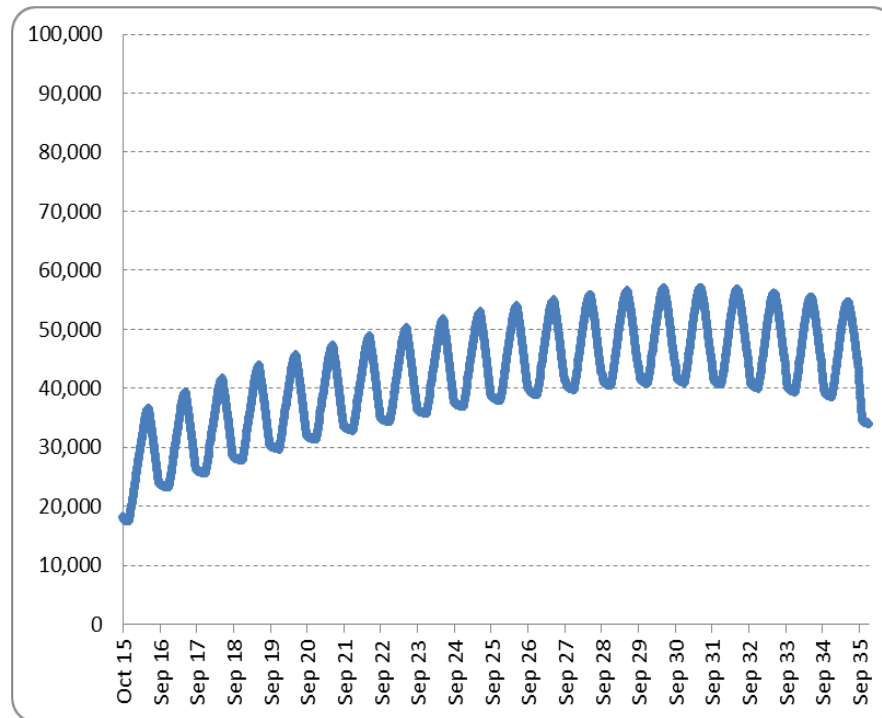
- Altered flows to allow users to store consumptive portion of water rights in upstream reservoirs for later release
- Nevada get 90% and California get 10% of waters of Truckee River
- Improved spawning flows species recovery, water quality, recreation pools, and riparian habitat
- Enhanced minimum reservoir releases and hydroelectric plant bypass flows
- TMWA's excess/unexercised storage turned over in non-drought situations for species recovery

TROA Operations: TMWA Reservoir Accumulations

Back-to-Back 1987-1994 Hydrology



20 Years of 2015 Hydrology



Under TROA operations, TMWA continues to accumulate water in upstream reservoirs through severest drought conditions.

Future Challenges

I. Source water sustainability

- Climate variability
- Contamination avoidance for all source water supplies

II. Conjunctive use of resources

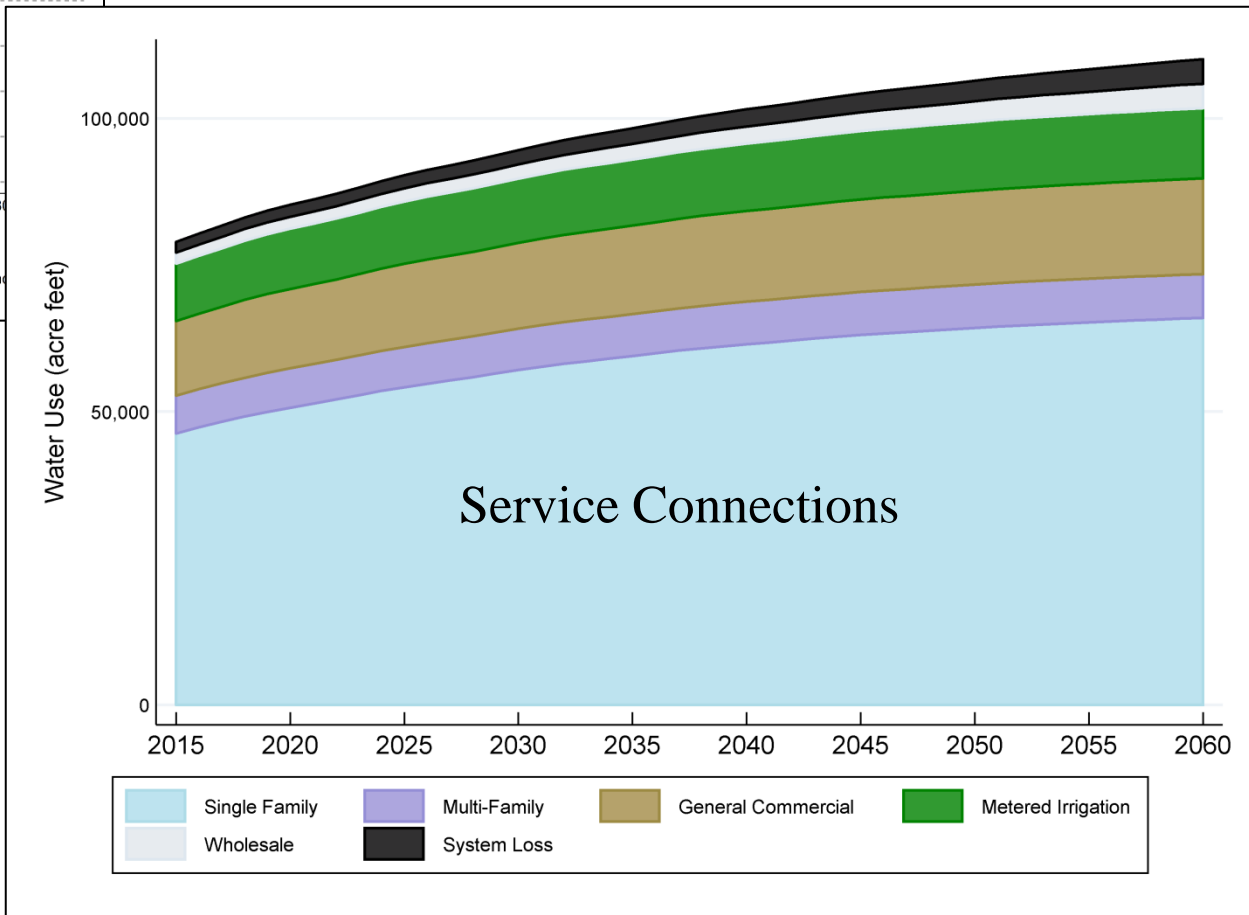
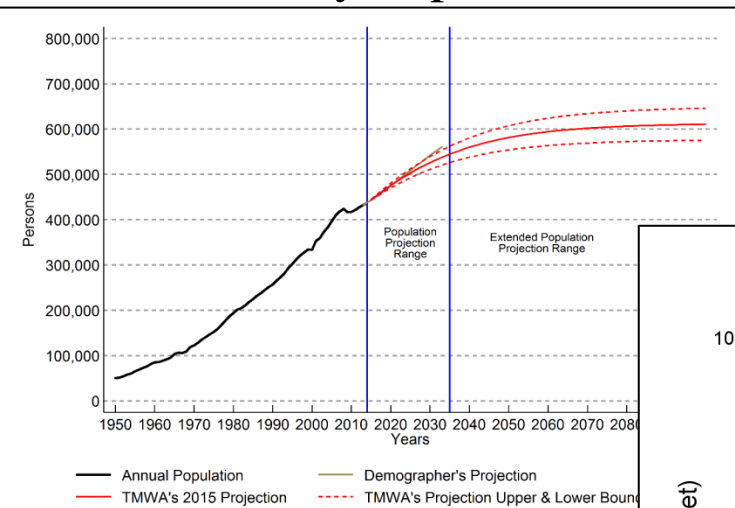
- TROA management of Truckee River supplies
- Groundwater use and recharge
- Creek resource development

III. Future utilization of Truckee River resources requires:

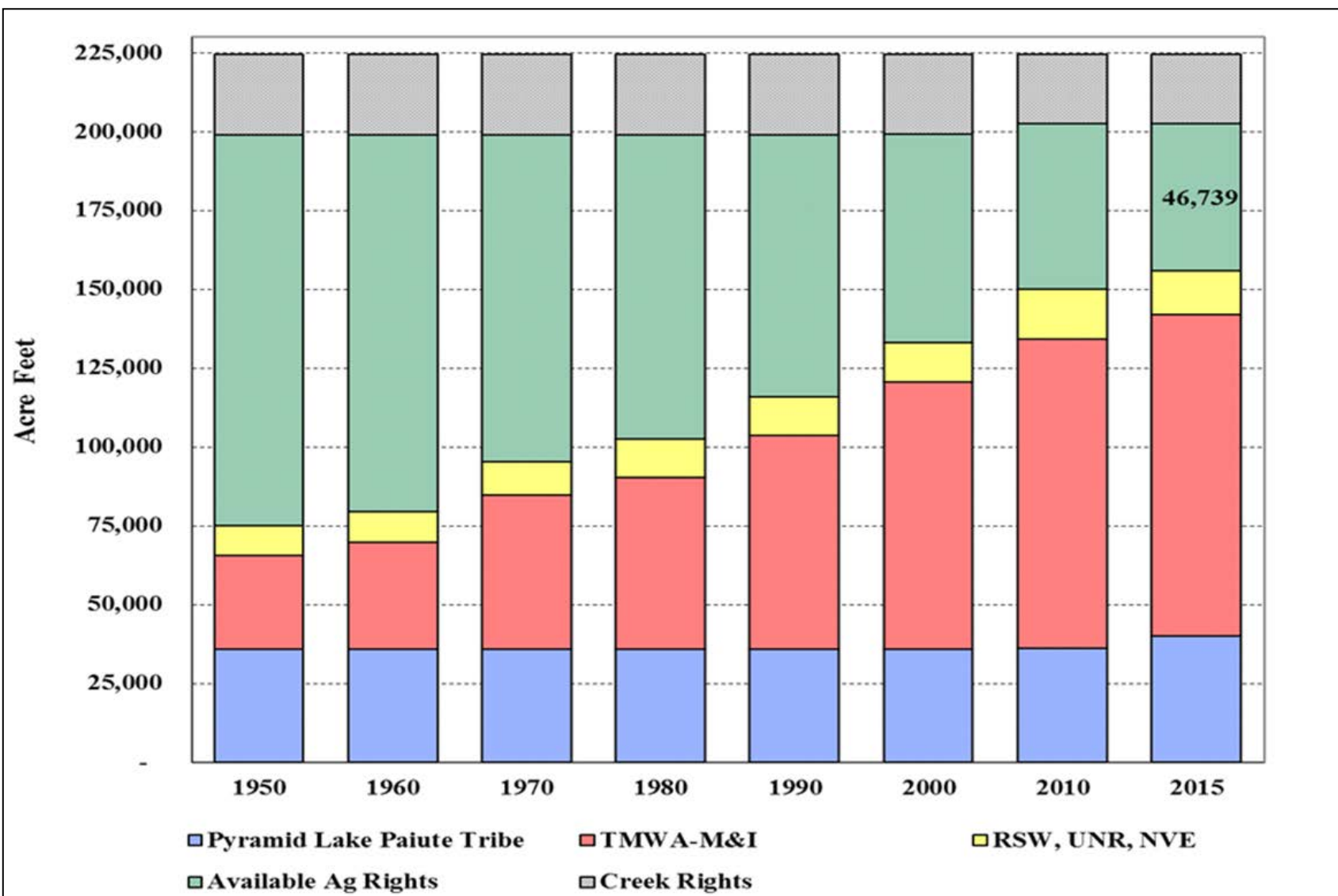
- Critical dry year supplies; TROA supplies up to 119,000 AF of demand (projected years past 2035)
- Acquisition of Truckee River water rights

Growth Projections

County Population



Available Truckee River Water Rights



Future Challenges (cont)

IV. Available future water supply projects

V. TMWA role in water issues for the greater Truckee Meadows region

- After consolidating all former Washoe County and South Truckee Meadows GID water facilities into TMWA , TMWA is purveyor to ~90% of the residents of Washoe County

Q&A

