TMWA Update to Ward 3 NAB:

- Water Supply and Truckee River Operating Agreement
- Scheduled Infrastructure Projects
- Other Issues Affecting Your Water
Water Supply Update, as of March 29:

- 2017 was a record year
- 2018 snowpack will be below normal, but streamflow is likely to be close to normal
- March storms have added approximately 48% to the snowpack
- Some locations reporting more than 200 inches of snow in March
- All reservoirs are at maximum legal limit
- Normal Truckee River flows are expected for at least three years
- Normal TMWA operations this year
- No additional conservation measures are needed from customers

Keep being smart about your water use

Truckee River Water Negotiations: A History of Milestones

1902
Bureau of Reclamation starts Newlands Project
Created a water supply for Nevada farmers.

1909
Federal Control of Lake Tahoe Dam begins
Operated by the Federal Dam Master to present day.

1913
US vs. Orr Ditch Water Company
Court case begins.

1915
Truckee River General Electric Decree
Established seasonal Floriston Rates.

1935
Truckee River Agreement Signed
Established Lake Tahoe levels and the construction of Boca Reservoir.

1944
US vs. Orr Ditch settled
Established water rights on the Truckee River system.

1971
Interstate Compact (CA, NV) Approved
Yet fails to be ratified by Congress.

1990
Truckee-Carson-Pyramid Lake Settlement
Operating agreement between SPPCo and Pyramid Lake Tribe.

2008
Truckee River Operating Agreement
Signed by CA, NV, Pyramid Lake, US Dept. of Interior & TMWA.

2015
Truckee River Operating Agreement Implemented
After 26 years of negotiation, a comprehensive river operating framework begins.
TROA is a dynamic management framework to meet modern-day needs. Specifically for the Truckee Meadows, this means:

1. TROA allows for more efficient use of available reservoir storage when it’s needed most.

2. TMWA can retain stored water during drought cycles that is saved by conservation efforts, helping to bolster water supplies if dry conditions continue.

3. While minimum flow rates for the Truckee River must be maintained, portions of TMWA-owned water can be held back for later use.

### Use of the Truckee River

<table>
<thead>
<tr>
<th></th>
<th>Normal Water Years</th>
<th>Dry Water Years</th>
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</thead>
<tbody>
<tr>
<td>Truckee Meadows Water Authority</td>
<td>3%</td>
<td>9%</td>
</tr>
<tr>
<td>Truckee Carson Irrigation District</td>
<td>9%</td>
<td>45%</td>
</tr>
<tr>
<td>Pyramid Lake</td>
<td></td>
<td>81%</td>
</tr>
<tr>
<td>Others</td>
<td>7%</td>
<td>13%</td>
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Drought Contingency Response Plan
Presented to TMWA Board of Directors on Feb. 21, 2018

☑ TMWA has completed a two-year, Drought Contingency Planning project sponsored through a Bureau of Reclamation grant.

☑ The project is a stress test of TMWA’s resiliency to simulated extreme droughts that could potentially result from a changing climate.

☑ TMWA used a 15-year hydrologic scenario developed by the Water for the Seasons research team, including UNR, DRI and USGS, and input from stakeholder groups.

☑ The model results show that water shortages would not occur under the simulated drought, with or without additional reductions to customer demands.

☑ TMWA will evaluate additional climate change scenarios for our next Water Resource Plan update.
TMWA Storage Available with 12-Year Drought Scenario under TROA

Year 1 Storage
31,000 acre ft.

Year 9 Storage
75,226 acre ft.

Year 11 Storage
77,462 acre ft.

Projection = A 15-year hydrologic cycle with a 12-year drought scenario.
(modeling the drought of 2012-2015 plus the drought of 1987-1994)
TMWA Storage Available with 20-Year Drought Scenario under TROA

Projection = A 20-year repeated projection of the longest drought on record.
(modeling the drought of 1987-1994 back-to-back)

Year 1 Storage  
18,107 acre ft.

Year 9 Storage  
73,447 acre ft.

Year 20 Storage  
93,866 acre ft.
Scheduled and Recently Completed Infrastructure Projects
2018 TMWA Projects Scheduled

- Peavine Tank Replacement *
- Arrowcreek Drought Response, Phase 2
- Mainline Replacements:
  - 4th Street
  - Prater Way
  - South Virginia *
- Mt. Rose Treatment Plant *
- Verdi Main Extension
- Satellite Hills Booster Pump Station Replacement

*Active Now
Applied Diligence: Our Infrastructure

Capital Improvement Project Projections: Next 5 Years

Distribution System: 40.2%
Treatment Plant: 14.9%
Potable Water Storage: 11.8%
Groundwater Supply: 8.5%
Administrative Outlays: 6.5%
STMGID System: 6.4%
Customer Service Outlays: 4.7%
Raw Water Supply: 3.5%
Hydroelectric: 2.3%
Development-funded projects: 1.3%

2018 – 2022 Investment Estimate
$172.8M
Notable Past Projects

Wells Avenue Water Project
Replacement of aging water mains, auxiliary pipelines and fire hydrants.

Chalk Bluff Treatment Plant Expansion
Expanded treatment capacity by 14 million gallons per day (MGD). Increased production capacity to 90 MGD.

Highland Canal System and Mogul Bypass
Expanded water delivery from 55 MGD to 95 MGD. With installation of inverted siphon, saves $400K per year in pumping costs.

Zolezzi Pump Station Installation*
Delivers surface water from the Truckee River to South Reno.

Fish Springs Integration*
Delivers groundwater from Honey Lake Valley into TMWA's Stead/Lemmon Valley system.

* Both projects help stabilize levels in respective aquifers.
How do developers get water for new projects?

- Developers purchase existing water rights on the open market.
- There have been no new water rights since 1944. (Orr Ditch Decree established all water rights on the Truckee River.)
- Most water rights dedicated to TMWA for new development are agricultural rights that are converted to municipal use.
- Infrastructure and the amount of water rights needed for new development are determined by TMWA through an engineering review process.
- Water system improvements to serve new development are paid by development fees.
Water Rights In the Truckee Meadows

- Pyramid Lake Paiute Tribe
- TMWA-M&I
- RSW, UNR, NVE
- Available Ag Rights
- Creek Rights
Questions?

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