

TRUCKEE MEADOWS WATER AUTHORITY
DRAFT MINUTES OF THE JANUARY 20, 2016
MEETING OF THE BOARD OF DIRECTORS

The Board of Directors met on Wednesday, January 20, 2016, at Sparks Council Chambers, 745 4th Street, Sparks, Nevada. Chair Martini called the meeting to order at 10:02 a.m.

1. ROLL CALL

Members Present: Jenny Brekhus, Naomi Duerr, Vaughn Hartung, Jeanne Herman, Geno Martini, and Ron Smith.

Member Absent: Neoma Jardon

A quorum was present.

2. PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was led by Member Hartung.

3. PUBLIC COMMENT

There was no public comment.

4. APPROVAL OF THE AGENDA

Chair Martini continued agenda item #13, discussion on the TMWA Board of Directors Rules and Regulations.

Upon motion by Member Hartung, second by Member Smith, which motion duly carried by unanimous consent of the members present, the Board approved the agenda with the amendment to continue agenda item 13.

5. APPROVAL OF THE DECEMBER 16, 2015 MINUTES

Member Brekhus requested a change in reference to her comment on private membership organizations represented on the TMWA Standing Advisory Committee.

Upon motion by Member Brekhus, second by Member Hartung, which motion duly carried by unanimous consent of the members present, the Board approved the December 16, 2015 minutes with the amendment.

6. DISCUSSION AND ACTION ON ADOPTION OF RESOLUTION NO. 235, A RESOLUTION TO APPROVE THE COMPREHENSIVE ANNUAL FINANCIAL REPORT FOR FISCAL YEAR ENDED JUNE 30, 2015

Jeff Tissier, TMWA Chief Financial Officer (CFO), introduced Kristen Chinvarasopak, partner with Eide Bailly, who presented the required communications regarding the Comprehensive Annual Financial Report (CAFR) for FY2015. Ms. Chinvarasopak reported spending on services and supplies expenses was about \$23 million, approximately \$0.7 million under budget. The financial statements contain significant estimates which include liability and related disclosures of TMWA's OPEB plans, the new pension liability, the receivable recorded for delivered but unbilled water sales, and allocation of administrative costs to TMWA's capital assets. She reported they had one material audit adjustment in connection with their assistance to management in implementation of GASB Statement 68, the pension standard, and did not have any current year audit adjustments. She stated TMWA was in compliance with Nevada's Revised Statutes and Administrative Codes. The second report is a yellow book report on TMWA's internal controls, which identifies any weaknesses they might find in their assessment of TMWA's internal controls. They had one finding, a significant deficiency that warrants the Board's attention, on page 90, with respect to their assistance in preparation of the financial statements this year due to TMWA having had an extremely busy year; the adoption of GASB 68, incorporating GASB 69, in the merger of South Truckee Meadows General Improvement District (STMGID) and transfer of operations from the County. Mr. Tissier, the primary person responsible for financial reporting, has a great staff that provided great and easy to follow audit schedules, but he still has to prepare the financial statement and forward them to Eide Bailly. Their recommendation is to provide better segregation of duties, with individuals who are trained and available to prepare the statements so the CFO is in a position to review rather than prepare.

Member Hartung pointed out he sees the significant findings as an anomaly and not a consistent issue with Mr. Tissier or staffs work. Ms. Chinvarasopak agreed; TMWA's financial statements have been prepared by management since its inception. This was the first and only year they provided assistance due to the function of the unique circumstances in 2015.

Member Duerr noted it was due to extra workload this year and TMWA is becoming a larger organization, and the best practice is to have a separation of internal controls. Ms. Chinvarasopak replied yes that is the best practice, but it is not unusual for auditors to assist.

Member Brekhus asked if any new fiscal policies were adopted throughout the year. Mr. Tissier replied TMWA, along with all government entities, adopted new standards for GASB 69; in addition, TMWA took on operation of three entities this year: Verdi Business Park, STMGID and Washoe County Department of Water Resources, with the latter two audited as well. He clarified that he received excellent assistance from Ms. Chinvarasopak and Felicia O'Carroll. He took exception to this finding which marginalized the efforts made by his staff, the Information Technology (IT) and Customer Service Departments; outside of adopting new standards for GASB 68, not one number changed, rather it was a reporting issue having to do with presentation and classification only. The audit trail was flawless.

Mr. Tissier acknowledged the issue, but noted the department was without one full-time employee (FTE) and during the audit he was unable to recruit. The reporting issue only addressed the classification and presentation of the numbers, the integrity of which was never questioned. His staff, the IT department and the Customer Service department ported over more than 23,000 customer accounts from Washoe County and put in hundreds of hours to complete the audit, with both being done flawlessly.

Discussion followed regarding additional staff members in the Finance Department in preparation for Mr. Tissier's retirement to ensure proper transition of duties and responsibilities.

Member Duerr pointed out she and members of the Board do not question Mr. Tissier or his staffs' integrity which is outstanding, but rather an easy correction in the presentation. Mr. Tissier mentioned TMWA has a \$34 million annual debt obligation and the organization is run very thinly, and it is one of the most highly leveraged utilities in the nation, but Ms. Chinvarasopak's assistance was very helpful.

Member Hartung agreed that Mr. Tissier's integrity and abilities stand on their own merit, and they are not questioning what he does on a daily basis. To Mr. Tissier's credit, none of the numbers changed. Mr. Tissier was grateful and reiterated that the final numbers remained the same when they changed the presentation of the report.

Chair Martini assured Mr. Tissier everyone on the Board supports him and his staff.

Member Duerr added this allows for bringing on a few more staff so the new CFO is not as overtaxed.

Member Hartung inquired about the vacant FTE. Mr. Tissier replied yes, one other individual in the general ledger besides Mr. Tissier, Lani Pouliot, TMWA Accounting Associate, worked tirelessly and did an amazing job. Member Hartung pointed out how being down by one qualified person can affect a situation and everyone else has to pick up the effort. Mr. Tissier and his staff that reports to him are outstanding professionals.

Member Brekhus called attention to the STMGID and County treasury that was transferred as part of the merger. She inquired if there may be a possible recommendation in the future to utilize the STMGID treasury, which seems to be protected, for staffing purposes and pay down the debt load; this is the fiscal policies she has been looking for. Mr. Tissier replied no, pursuant to the closing documents, the treasury that was transferred can only be used for capital improvement projects in the STMGID area and is currently being used for those purposes.

Mr. Tissier introduced Michele Sullivan, new TMWA Chief Financial Officer, and Tabitha Carlisle, the new TMWA Financial Controller. Ms. Sullivan and Ms. Carlisle each provided a brief background.

Upon motion by Member Hartung, second by Member Herman, which motion duly carried by unanimous consent of the members present, the Board adopted Resolution No. 235, a resolution to approve the Comprehensive Annual Financial Report for Fiscal Year Ended June 30, 2015.

7. DISCUSSION AND ACTION ON THE INTERLOCAL AGREEMENT BETWEEN THE CITY OF RENO AND THE TRUCKEE MEADOWS WATER AUTHORITY FOR FIRE HYDRANT MAINTENANCE

Pat Nielson, TMWA Distribution Maintenance and Generation Manager, presented the staff report and introduced City of Reno Fire Chief Dave Cochran.

Chair Martini asked if this agreement is similar to City of Sparks Fire Hydrant Maintenance program. Mr. Nielson replied yes, except for access to right of ways and permits the language is the same.

Member Brekhus inquired about private fire hydrants and if the City of Reno would still be required to maintain them. Mr. Nielson replied private fire hydrants are in the common areas of commercial properties and not on public facing streets. Chief Cochran replied, yes the City of Reno would continue to maintain the private fire hydrants.

Member Duerr thanked both parties for recognizing and taking care of an ongoing issue.

Upon motion by Member Duerr, second by Member Hartung, which motion duly carried by unanimous consent of the members present, the Board approved the Interlocal Agreement between the City of Reno and the Truckee Meadows Water Authority for Fire Hydrant Maintenance.

8. WATER SUPPLY UPDATE

Bill Hauck, TWMA Senior Hydrologist, reported that the snowpack levels are 113 percent and 143 percent above average in the Truckee Basin and Tahoe Basin respectively. He provided an overview of water levels in the respective lakes and reservoirs. *Please see Attachment A.*

Member Smith asked when run-offs begin would the water levels in the reservoirs begin increasing. Mr. Hauck replied yes, in the winter and spring months the reservoir levels typically rise.

Member Hartung inquired if Lake Tahoe has been below the natural rim before and if that is cyclical. Mr. Hauck replied yes, during the 1987-1994 drought period; however, with the Truckee River Operating Agreement (TROA), the outlook is much improved. Since December 1, TMWA has been able to credit store 4,400 AF of water that would not have otherwise been stored, and does not include the additional storage in Donner Lake.

Member Brekhus confirmed the drought plan contemplates the drought of record plus 1 year, and within that 9-year there is one year the reservoirs fill up. She asked if the drought plan presumes year 5 is the drought refill year and does the modelling reflect that, as well as the advantages of TROA. Mr. Hauck replied they did not select an exact year, but during the longest drought on record, 1993 had a snowpack level that was 150 percent above average. The projections we have conducted show we will continue to build on drought storage with the implementation of TROA.

Member Hartung inquired about cloud seeding, how often Desert Research Institute (DRI) is conducting the program, and if it has had a positive impact this year. Mr. Hauck replied he does not know, but he can suspect the conditions have been positive and DRI is probably taking advantage of the conditions.

9. PRESENTATION BY THE NEVADA STATE ENGINEER REGARDING MUNICIPAL, DOMESTIC AND IRRIGATION WATER SUPPLY IN NORTHERN NEVADA

Jason King, Nevada State Engineer, introduced Deputy State Engineer Rick Felling. Mr. King stated his office enjoys a good relationship with TMWA. He presented on his offices' role and responsibilities regarding water law, municipal, domestic and irrigation water supply. *Please see Attachment B.*

Member Hartung inquired how Mr. King's office determines perennial yield. Mr. King referred to slide #14, stating the USGS provides them with perennial yield estimates.

Discussion occurred regarding the role and use of graywater in the state, and water rights versus water shares (unbundling water rights), the Australia model and what a share represents. Mr. King noted in Northern Nevada, water has to return back to the Truckee River or Pyramid Lake because we do not receive return flow credits as on the Colorado River, and a share of available Truckee River water would be weighted based on seniority (senior water right holder versus junior water right holder).

Member Duerr addressed a discussion during the Nevada Drought Forum regarding if there was a proposal for credit for conservation; whereby savings could be shared with the state and over appropriated aquifers. Mr. King replied it would require changes in statute for that to be implemented and his office is considering drafting a bill draft request for the 2017 Legislative Session.

Member Smith asked if it is possible to subdivide a 10 acre lot in the County. Mr. King replied yes, but water rights would still have to be purchased from a water rights holder within the particular basin in order to drill a well on that subdivided lot.

Member Brekhus thanked Mr. King for his presentation. She acknowledged there are some unknowns surrounding the State Engineers Office, because they are quasi-judicial, inquired if during their proceedings people can pose theoretical water developments and does Mr. King's office issue opinions, and if they can participate in the proceedings. Mr. King replied they do not issue opinions, rather decisions. He encourages anyone who has a water development to meet with them as early as possible. His office has a long open process by which opinions and concerns can be addressed for any development; even the TMWA Board of Directors can file a protest during the allowed timeframe of 30 days.

Member Brekhus inquired about domestic wells and the governing rules. Mr. King stated he deals with domestic well owners and their issues at the state level, but it is a statutory, not constitutional, issue.

Member Duerr inquired about the fact that a representative from the State Engineer did not attend a Special Session for Faraday Futures bill. Mr. King replied because it was a Special Session they did not provide opinion, but they will continue to provide opinions on Bill Draft Requests.

Member Duerr asked for clarification regarding the designation, or over appropriation, of the Truckee Meadows Basin in 1978 and if there is a need for special management, even though he mentioned that they have enough water in the basin. Mr. King replied even though his office designates a basin, it does

not mean that there will be no more new appropriations, rather that there is increased activity and their office needs to be more careful and utilize extra tools to manage the basin.

Member Duerr mentioned the development application in Verdi and they rely on Mr. King's office to provide the most current and up-to-date information to make their decisions.

10. DISCUSSION AND ACTION ON ADOPTION OF RESOLUTION NO. 236, A RESOLUTION TO APPROVE THE FIRST BUDGET AUGMENTATION AND AMENDMENT TO THE FY 2015/2016 FINAL ADOPTED BUDGET

Mr. Tissier referred to the budget schedules and reported water sales loss of approximately \$7.8 million; about \$5.3 million for additional conservation and \$2.5 million for conversion of flat rate customers to metered billing in October, at the end of irrigation season. He stated hydroelectric generation will begin next week and the budget revision reflects hydroelectric sales that will begin in March and not January, as previously anticipated. He reported the Fleish Flume destruction was \$75,000 over what was originally budgeted as there was no historical precedence for estimating the cost of demolition.

Member Hartung inquired if investment yields decreased. Mr. Tissier replied yes but temporarily spiked to about 1 percent on the 2-year position on the yield curve.

Mr. Tissier informed the Board of the upcoming Series 2006 Revenue Refunding Bonds of \$148 million. He reported savings will be significant as interest rates remain low and there is a very favorable interest rate environment. They will be working with underwriting syndicate led by Morgan Stanley as lead book runner and will propose the use of a negotiated sale since it allows for more flexibility in a volatile market environment and allow for movement of the issuance date. Interest expenses are down due to favorable interest rates on commercial paper. Capital contributions are greater than anticipated as a result of the sale of water rights to implement TROA. Capital spending has been adjusted upwards by approximately \$18.0 million due to the board approved acquisition of the other half of Donner Lake from Truckee-Carson Irrigation District (TCID), and procurement of vehicles to support the fire hydrant maintenance program for the City of Reno.

Mr. Tissier proposed the redemption of another \$6.0 million in commercial paper notes. There were two commercial paper issuances in 2006 totaling \$43 million to purchase water rights from which to issue will-serve commitments. Since 2008, TMWA has sold approximately \$5 million in will-serve commitments, with another \$1.3 million in fiscal year 2016. Redemptions were held in abeyance until such time it was clear that TMWA saw the last of the major recession and that TMWA's treasury was deemed healthy enough to move forward with commercial paper redemptions. Mr. Tissier proposed to the Board to redeem an additional \$6 million in commercial paper notes that were used to acquire water rights and moving forward use future proceeds from will-serve commitment sales to be used to redeem notes. Upon motion by Member Hartung, second by Member Brekhus, which motion duly

carried by unanimous consent of the members present, the Board adopted Resolution No. 236, a resolution to approve the First Budget Augmentation and amendment to the FY 2015/2016 Final Adopted Budget.

11. REPORT ON REVIEW OF RENO, SPARKS AND WASHOE COUNTY LANDSCAPE AND WATER CONSERVATION ORDINANCES AND DISCUSSION, ACTION AND DIRECTION TO STAFF ON RECOMMENDATIONS TO LOCAL GOVERNMENTS FOR LANDSCAPE AND WATER CONSERVATION ORDINANCE AMENDMENTS

Laine Christman, TMWA Resource Economist, presented the report and recommendations for all three entities to consider changing their respective ordinances regarding setting turf maximum amounts, establishing a minimum amount of drought tolerant plants, and hydro zoning.

Member Hartung inquired if any of the three entities require turf. Mr. Christman replied under ordinance, City of Reno requires 50 percent maximum amount, the County requires a minimum of 50 percent turf, and City of Sparks has an 80 percent maximum.

Mr. Christman offered to continue working with the respective agencies and requested members of the Board return to their respective agencies and request to implement some of the recommendations.

Member Brekhus noted the changes required to be made on their development code may take some time. The soil analysis was very helpful, something they have not done, but it is important to know what grows, and what doesn't. She referred to the 8 feet minimum for the parkways which she does not foresee being a subdivision standard since it is not realistic. Mr. Christman stated they are not recommending the strips to be 10 feet total, but are recommending a drip irrigation system.

Member Duerr commended all staff from each agency who worked together to come to a consensus on recommendations and looks forward to adopting some of the recommendations at the City of Reno.

Public Comment

Janet Phillips, Reno resident, reported the water conservation is an expressed opinion in drought planning, but water supply and climate change needs to be considered for long-term planning and landscaping practices as they look at changing their respective ordinances.

Chair Martini thanked Ms. Phillips for her comments.

Member Duerr agreed at the City of Reno they are considering climate change and tree preservation is one of the items they addressed.

At this point, there was discussion regarding each entities respective water days be synched up with TMWA's watering schedule. Andy Gebhardt, TMWA Director of Customer Relations, stated the County and City of Reno changed their ordinances when TMWA went from a two days a week schedule to the three days a week schedule, but City of Sparks did not officially change their ordinance, but

TMWA would like for City of Sparks to change their ordinance to mirror TMWA's three days a week watering schedule.

Member Hartung noted since the County has a minimum turf requirement, he would like to see it changed a maximum standard.

It was decided that Board members would take the recommendations to their councils and commissions and provide updates to the TMWA Board regarding changes in ordinances.

Upon motion by Member Smith, second by Member Hartung, which motion duly carried by unanimous consent of the members present, the Board accepted the report.

12. INFORMATIONAL REPORT ON THE OPERATION OF THE FISH SPRINGS RANCH/NORTH VALLEYS WATER IMPORTATION PROJECT ("VIDLER")

John Enloe, TMWA Operational Strategies Manager, provided an overview of the Fish Springs Ranch/North Valleys Water Importation Project. Mr. Enloe explained it is a proven resource.

Member Brekhus stated an annual report would be helpful and asked if the permit requires the State Engineer's office to perform the monitoring and if TMWA is fulfilling the projects' monitoring obligation. Mr. Enloe replied TMWA monitors as required by the permit and provides updates to the State Engineer. Mr. Enloe offered to provide an annual report to the Board on will-serve commitments, groundwater pumping and impact on water quality, water table levels, etc.

Member Hartung agreed with an annual report unless issues arise before the year end for an update.

14. PRESENTATION OF TRUCKEE RIVER FUND ACTIVITIES FOR CALENDAR YEAR 2015

Mr. Enloe provided an overview of the projects the Truckee River Fund (TRF) funded in 2015. He noted the priorities of the TRF and stated they will bring forward an updated TRF Guidance document at a future meeting.

15. GENERAL MANAGER'S REPORT

Mr. Foree presented the estimated conservation totals for 2015, which resulted in approximately 20 percent conservation across all customer classes. Included in his report is the Governor's Nevada Drought Forum Recommendations; all of which TWMA is currently doing now. He reported that the 2016-2035 Water Resource Plan is currently being updated with comments gathered from all the public meetings, and will be presented at the February meeting and anticipates Board action regarding approval of the plan at the February or March meeting.

Member Brekhus appreciated the comments Mr. Foree made on the Golden Valley agreement and found it interesting that parcel maps are allowed in this area. Mr. Foree replied that you could have a 10 acre parcel and split it into four, but to do that you would have to purchase additional 6 AF of groundwater rights within the basin, which is extremely limited and difficult to find any water rights for sale. In this particular basin, only a total of 5 or 7 lots could be created.

Member Brekhus confirmed parcel maps could be denied unless someone brings in water rights. Mr. Foree replied that is correct, this parceling rule has been in place at the County for years.

Member Herman noted that groundwater rights in that basin are now \$40,000 an acre foot which is a little prohibitive.

Member Brekhus added since water rights are tied to parceling, one should have a land use plan and land use densities that reflect that situation so you know you cannot be parceling these larger properties.

16. PUBLIC COMMENT

There was no public comment.

17. BOARD COMMENTS AND REQUESTS FOR FUTURE AGENDA ITEMS

Member Brekhus requested any information available on the recharging of wells in basins which has been connected to an increase in earthquake activity.

Member Duerr commented on a productive meeting.

18. ADJOURNMENT

With no further discussion, Chair Martini adjourned the meeting at 12:15 p.m.

Approved by the TMWA Board of Directors in session on _____.

Sonia Folsom, Recording Secretary

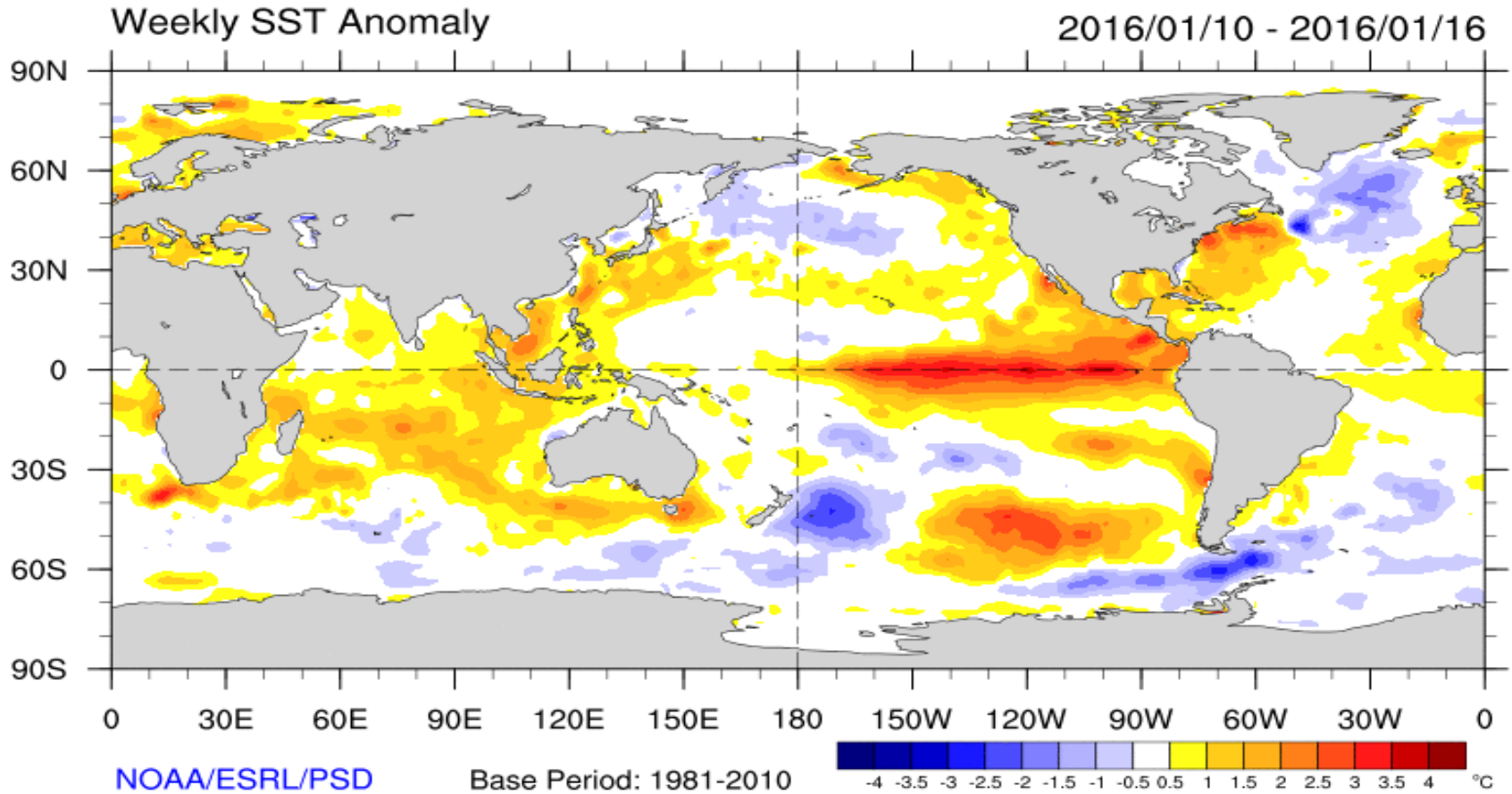


Water Supply Update and Preliminary Forecast for 2016

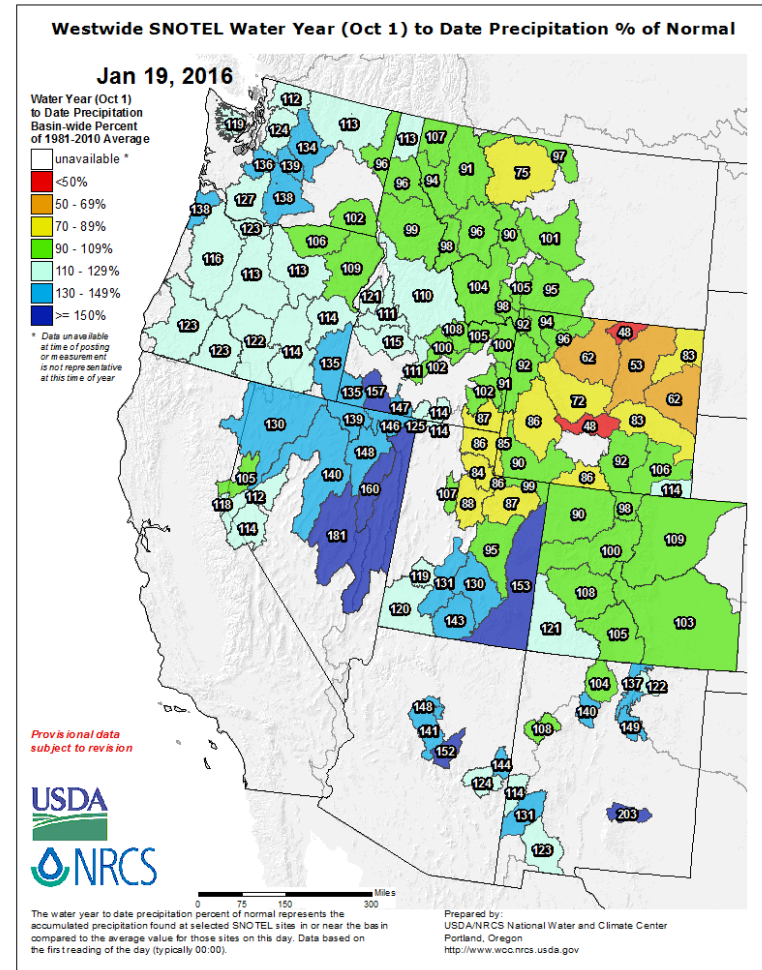
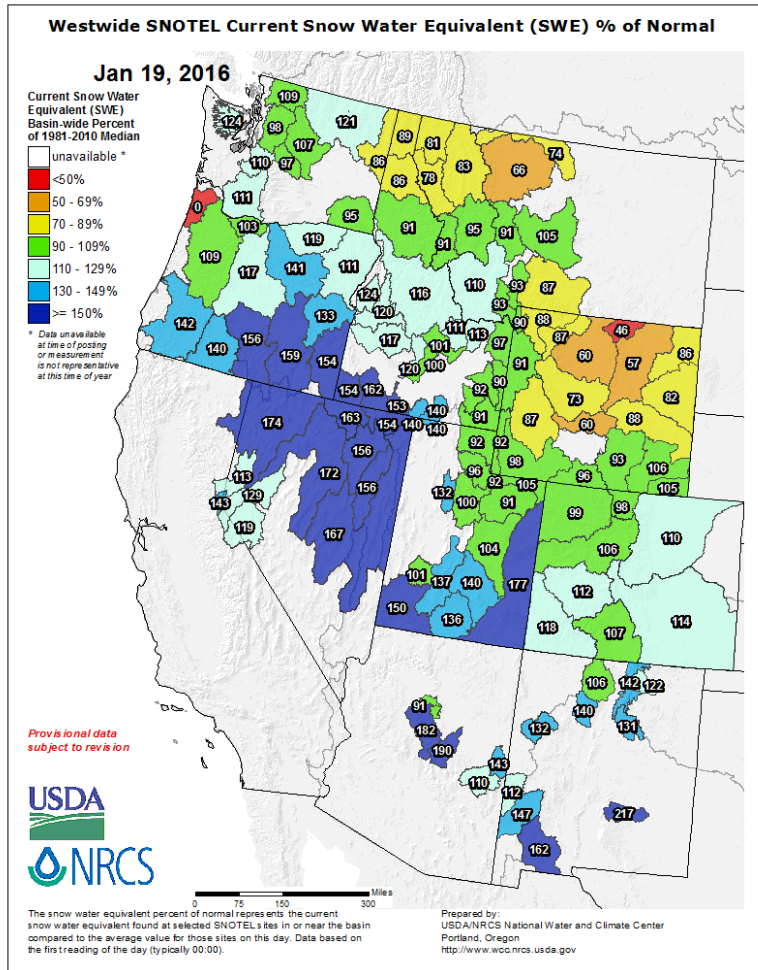
Bill Hauck, Senior Hydrologist
TMWA Board of Directors Meeting

January 20, 2016

Strong El Nino Pattern Continues



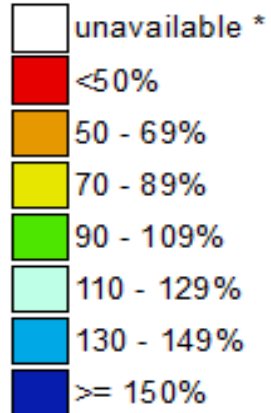
Sierra Nevada Snowpack Conditions



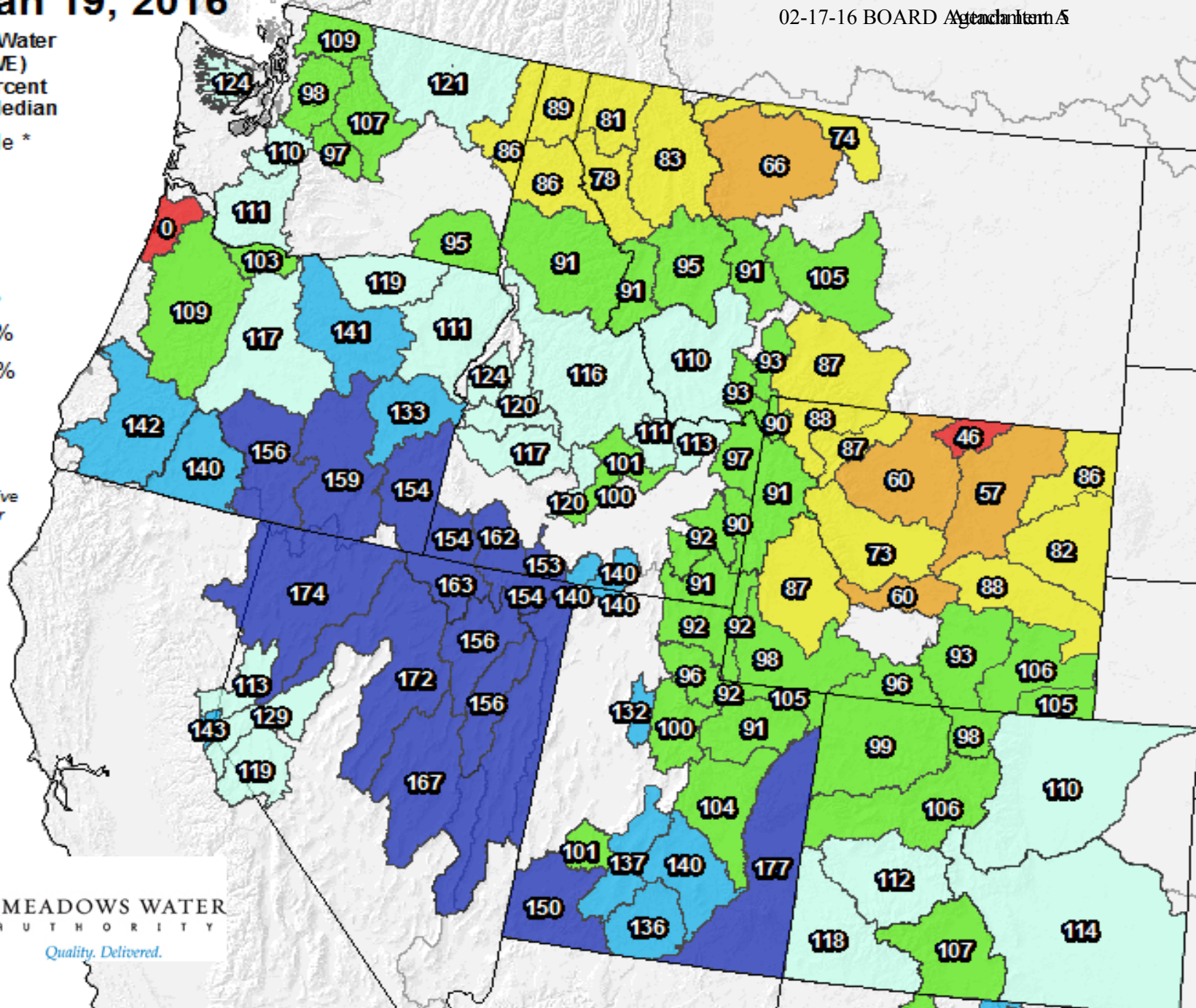
Jan 19, 2016

01-20-16 BOARD Minutes
02-17-16 BOARD Agenda Item 5

Current Snow Water Equivalent (SWE)
Basin-wide Percent
of 1981-2010 Median

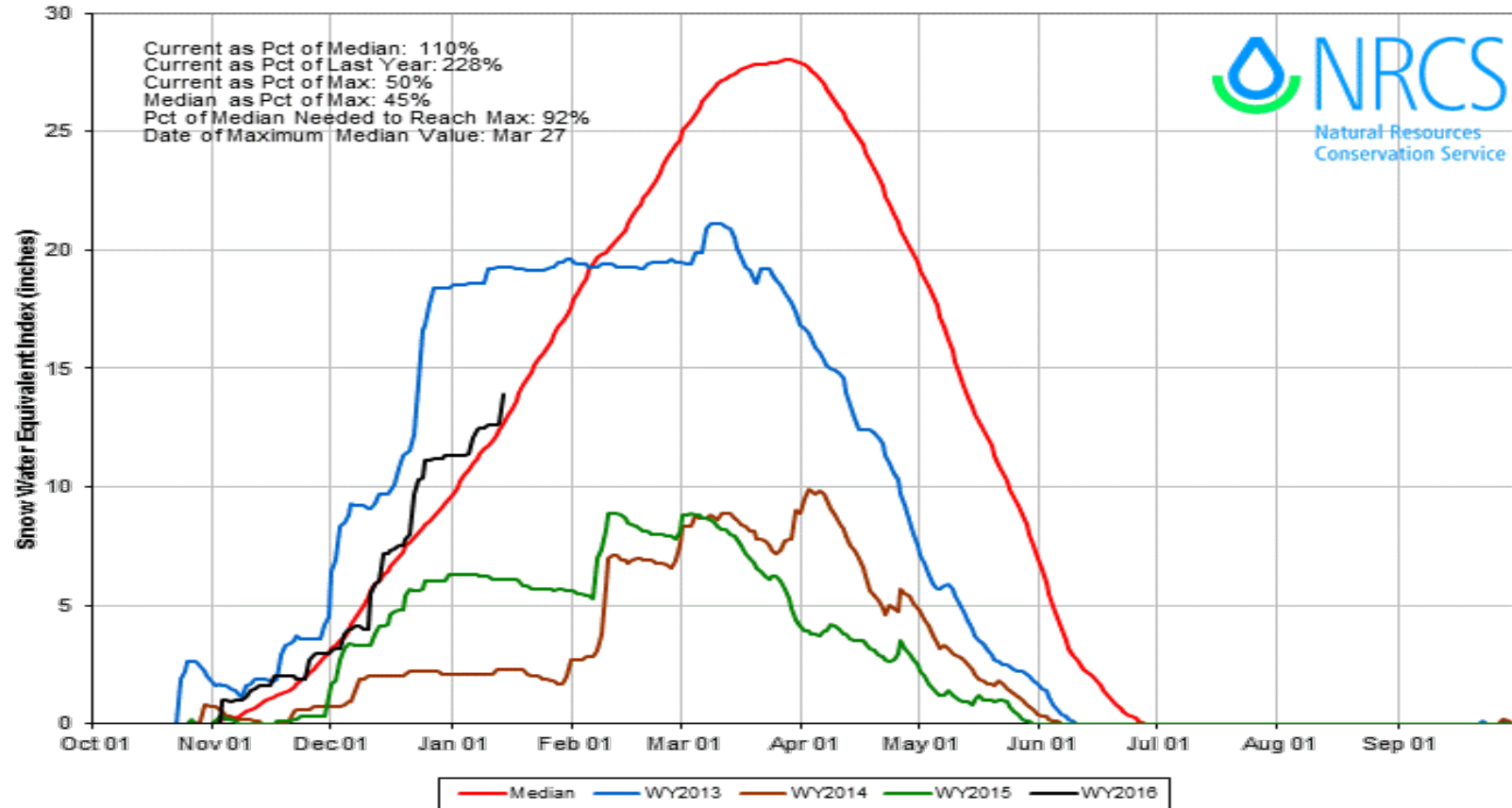


* Data unavailable at time of posting or measurement is not representative at this time of year

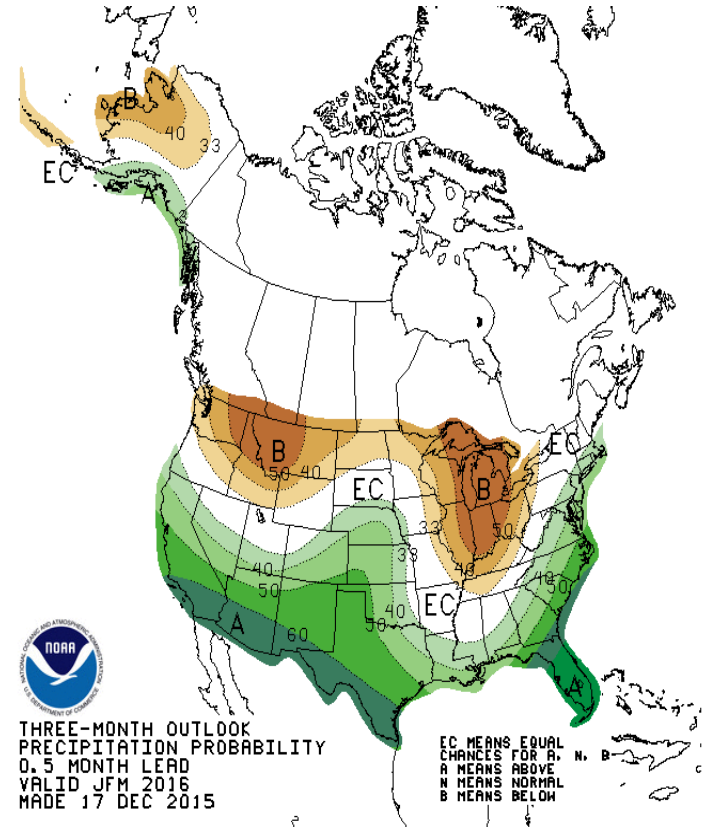
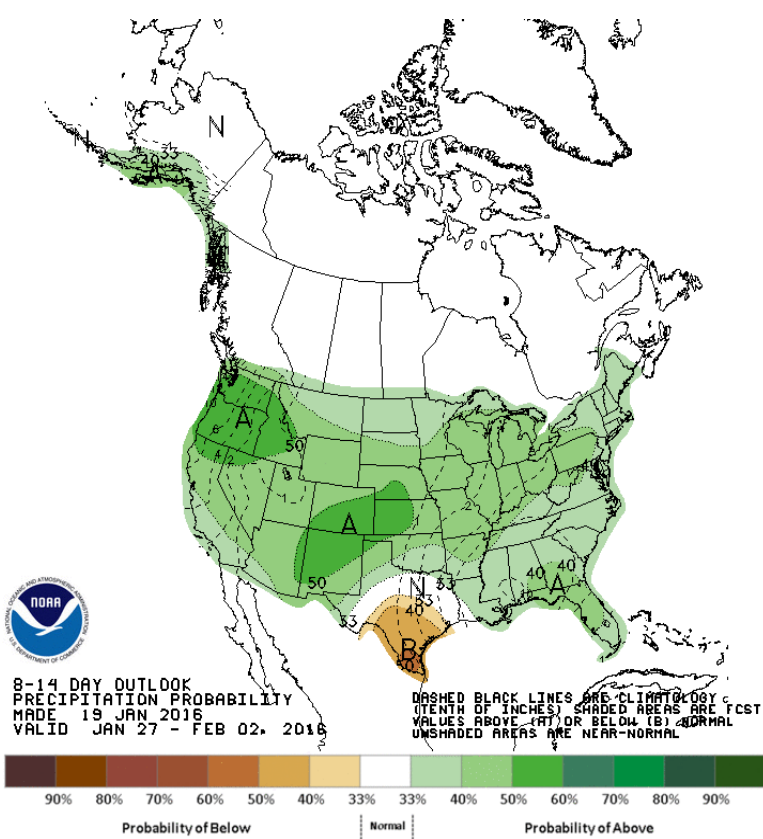


Truckee River Basin Snowpack Comparison

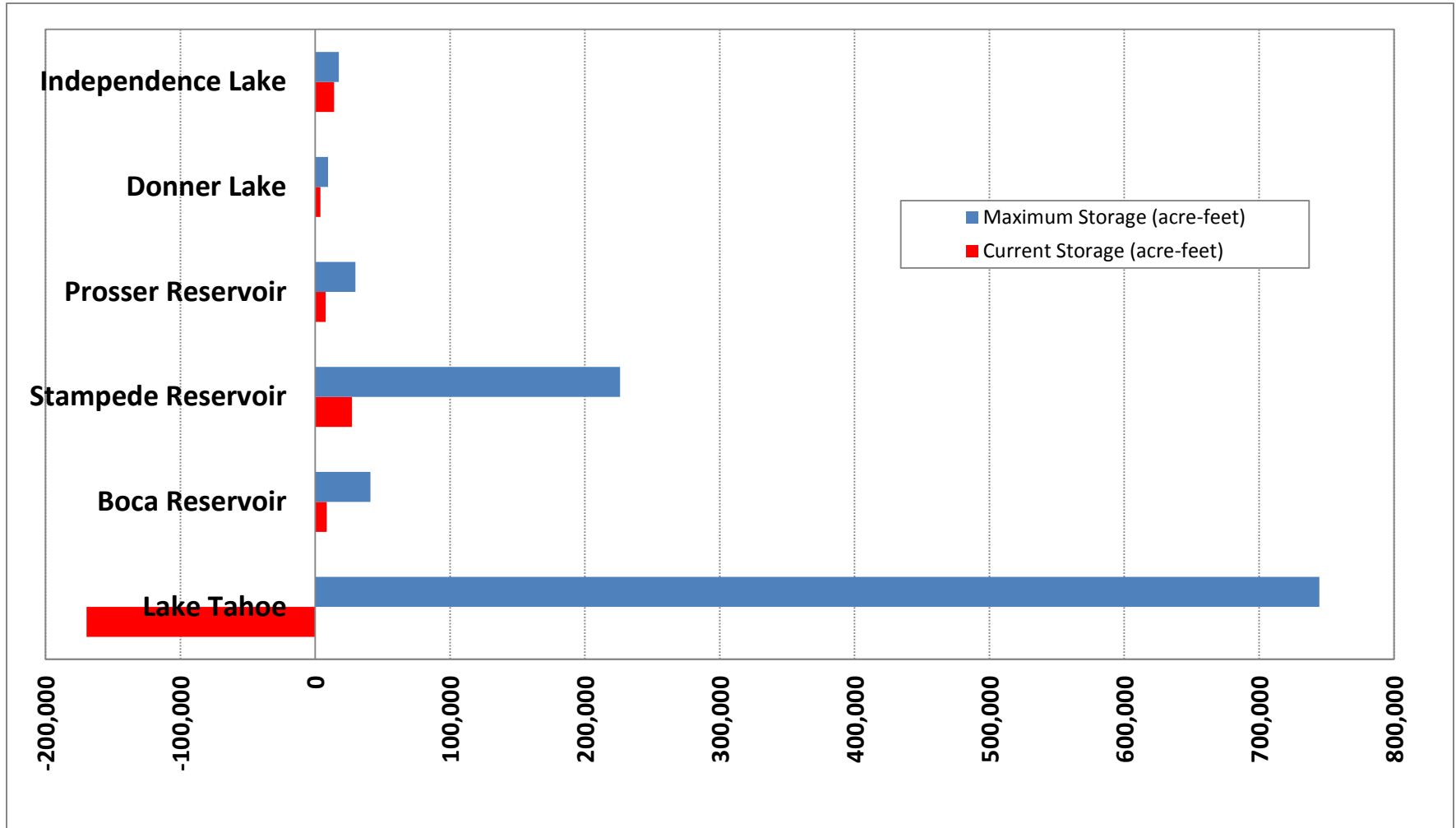
TRUCKEE RIVER Time Series Snowpack Summary
Based on Provisional SNOTEL data as of Jan 14, 2016



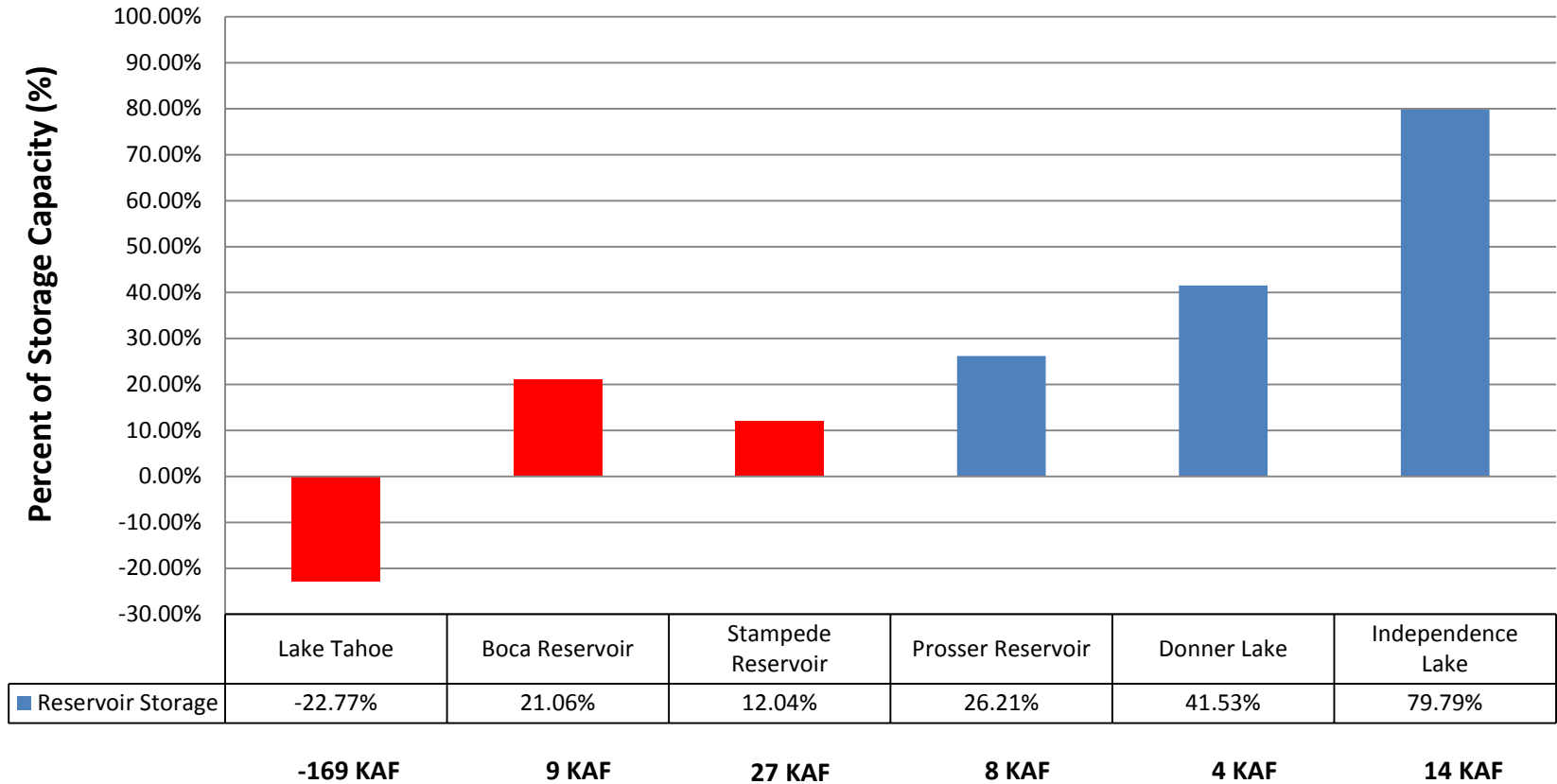
NOAA Climate Prediction Center (ppt outlook)



Truckee River Reservoir Storage as of January 1, 2016

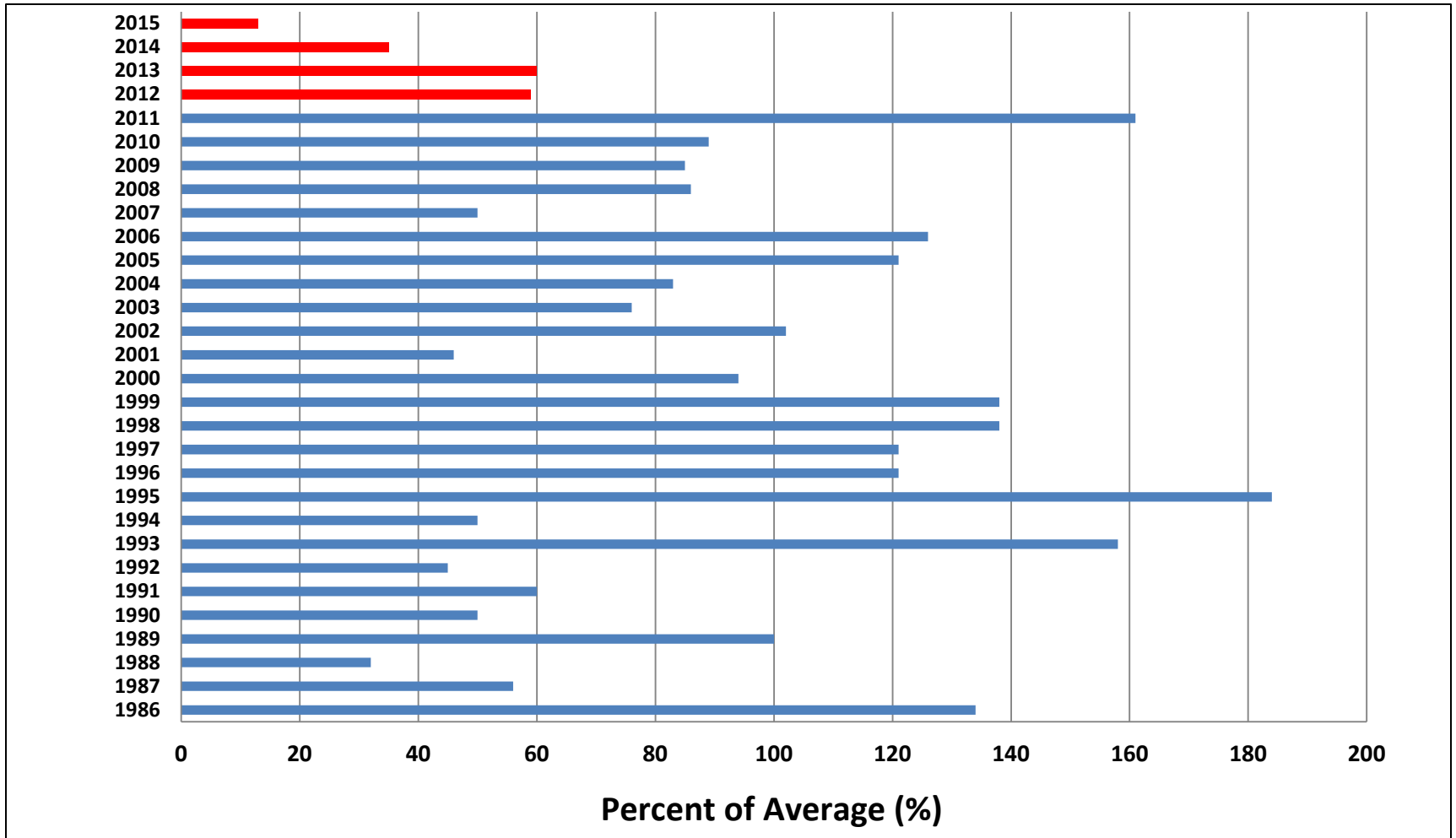


Truckee River Reservoir Storage Comparison

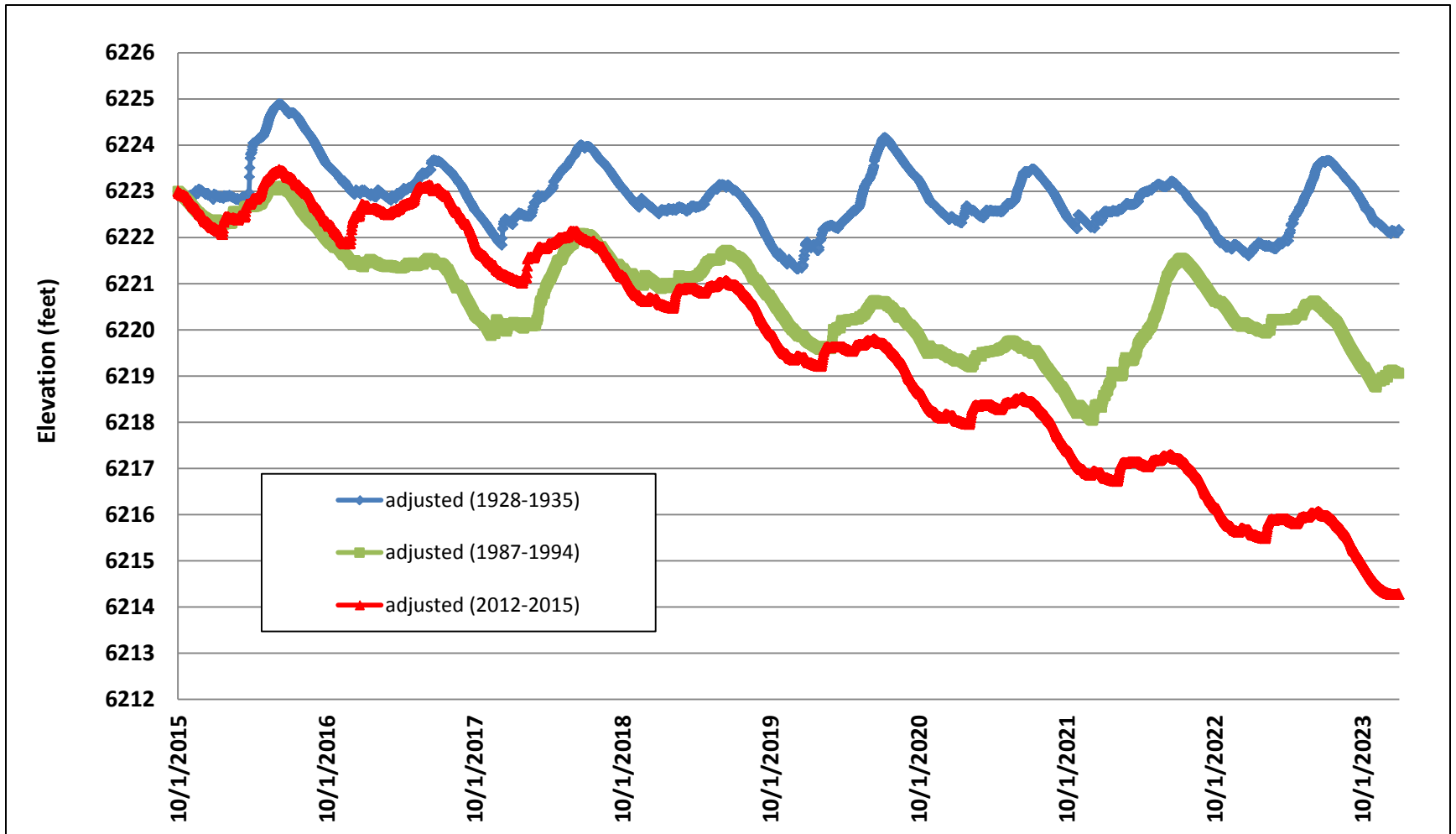


Storage Capacity in Thousands of Acre-Feet (KAF)

30 years of Truckee River Basin Snowpack (April 01)

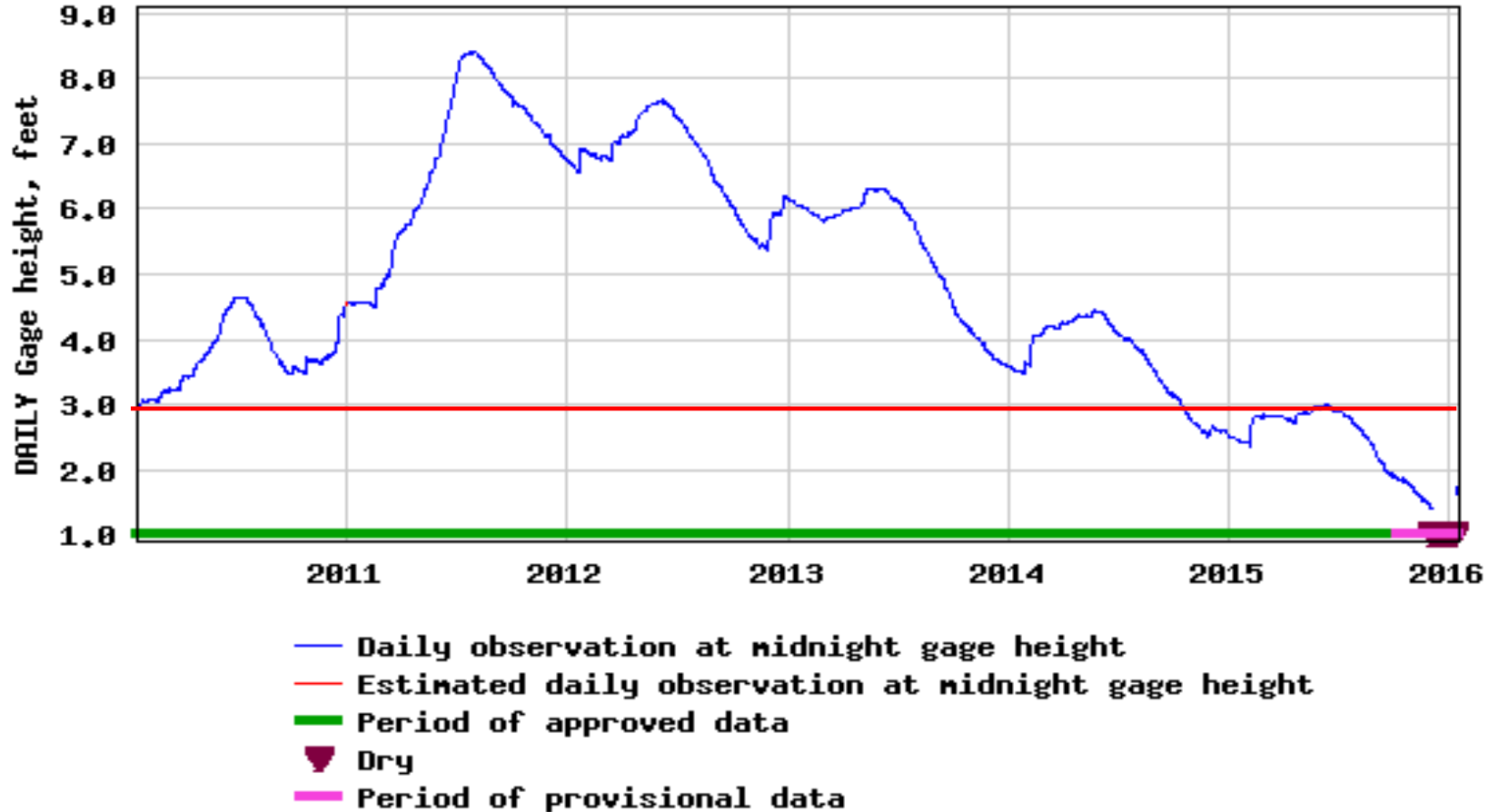


Lake Tahoe Elevation Study (3 Drought Comparison)





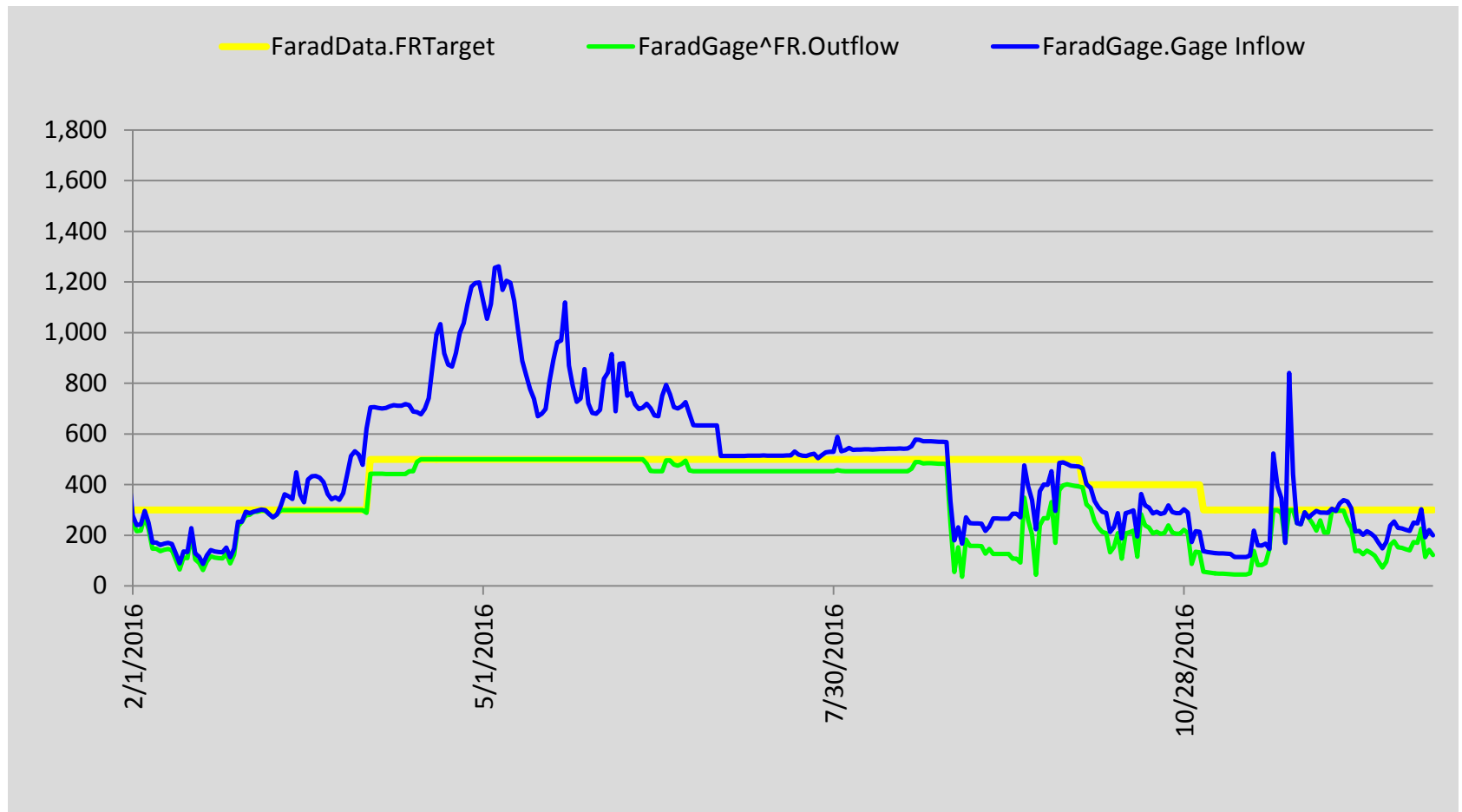
USGS 10337000 LAKE TAHOE A TAHOE CITY CA



USDA NRCS Streamflow Runoff Forecast (Jan 1, 2016)

- Lake Tahoe Rise (Apr-High) @ 92% avg.
- Truckee River at Farad (Apr-Jul) @ 96% avg.

Projected Truckee River Flow at CA/NV State Line



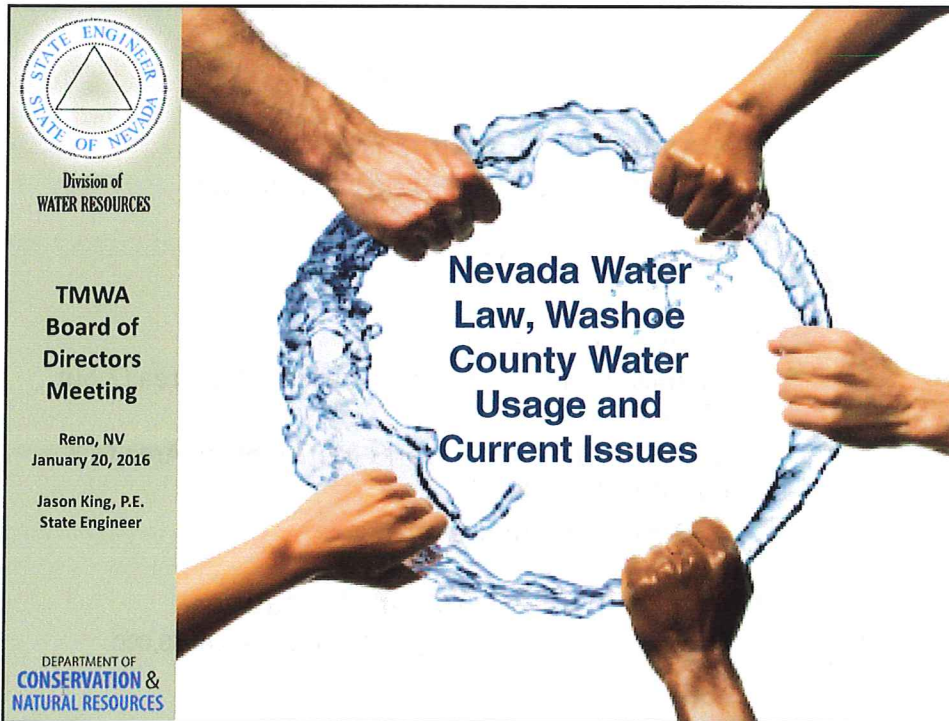
TMWA Reservoir Storage Account Summary

1/19/2016					
ACCOUNT STORAGE (acre-feet)					
RESERVOIR	FirmMICred	NonFirmMICred	waPOSW	WAEDS	TOTAL STORAGE (acre-feet)
<i>Tahoe</i>	0	0	0	0	0
<i>Donner</i>	0	0	1,868	0	1,868
<i>Martis</i>	0	0	0	0	0
<i>Prosser</i>	0	23	0	0	23
<i>Boca</i>	0	2,619	495	0	3,114
<i>Stampede</i>	0	0	1,878	1,284	3,162
<i>Independence</i>	0	429	13,742	0	14,171
Total	0	3,071	17,983	1,284	22,338
Nov 30 Value					17,521
Percent of Nov 30 Value					127.5%

Water Supply Summary

- Snowpack currently above average
- Wet storm pattern expected to continue (NOAA)
- Streamflow runoff forecast 96% average (Truckee)
- Normal Truckee River flows through August
- TMWA upstream drought storage in GOOD SHAPE





The cover slide features a central image of five hands holding a circular ring of water. The text is arranged as follows:

- STATE ENGINEER**
STATE OF NEVADA (in a circular seal)
- Division of
WATER RESOURCES
- TMWA**
Board of
Directors
Meeting
- Reno, NV
January 20, 2016
- Jason King, P.E.
State Engineer
- DEPARTMENT OF**
CONSERVATION &
NATURAL RESOURCES
- Nevada Water**
Law, Washoe
County Water
Usage and
Current Issues

Topics

- Nevada and Water Law Basics
- Appropriation Criteria & Water Resource Management
- Truckee Meadows and Washoe County Water Use
- Current Issues
- Questions



Nevada Facts

- Driest state in the nation averaging approximately 9" precipitation annually
- 7th largest state geographically
- Population is ~2.9 million
 - > 2 million live in Las Vegas Metropolitan Area (7 out of 10 Nevadans)
 - 437,000 (2013) Reno-Sparks Metropolitan Area (1.5 out of 10 Nevadans)
 - ~ 50 million visitors annually
- 3rd most urbanized state in the nation
 - (>94% of population lives in population clusters of 50,000 people or more)



3

Water Law in Nevada

Basic Tenets

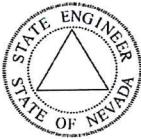
- Prior Appropriation Doctrine
 - First in time, first in right
- Beneficial use shall be the basis, the measure and the limit of the right to the use of water,
- Use it or lose it



4

Who Owns the Water?

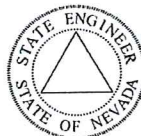
- All sources of water within the boundaries of the State whether above or beneath the surface of the ground, belong to the public.
- However, the USE of the water is a usufructary right and is considered real property and can be sold separate from the property.



5

The Appropriation Process and Domestic Wells

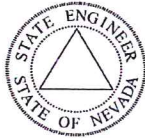
Anyone wishing to beneficially use water is required to file a water right application with the State Engineer **except** for domestic well owners.



6

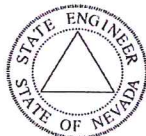
Domestic Water Use

- Domestic purposes extends to culinary and household purposes, in a single family dwelling, the watering of a family garden, lawn and the watering of domestic animals
- The maximum amount of water that may be pumped from domestic wells is limited to **2.0 acre-feet per year**



7

Appropriation Criteria and Water Resource Management

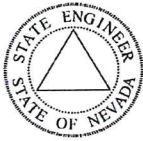


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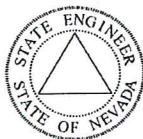


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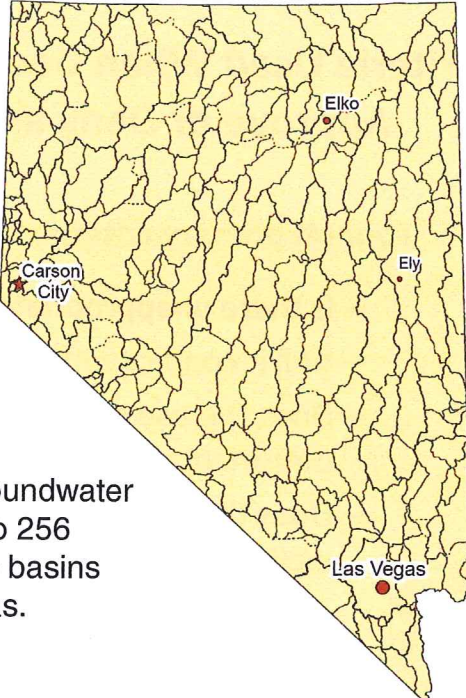
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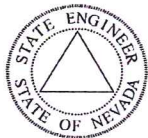


10

Groundwater Management In Nevada



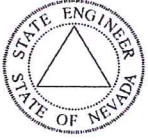
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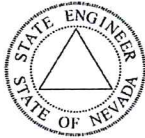
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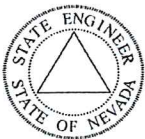
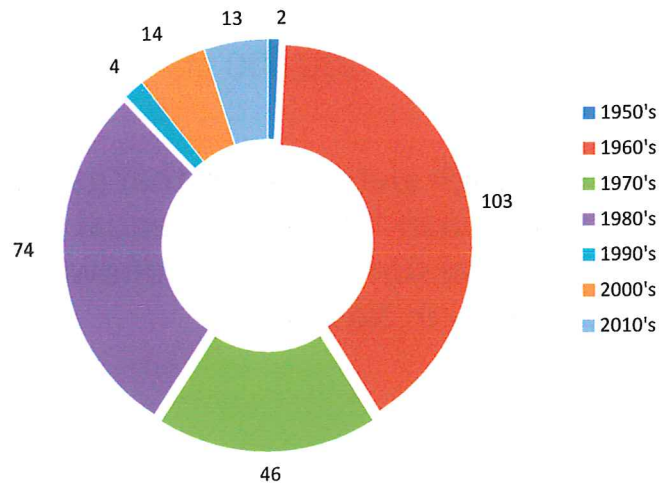
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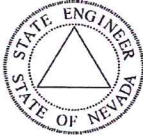
Perennial Yield Estimates



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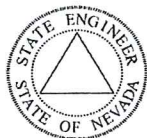
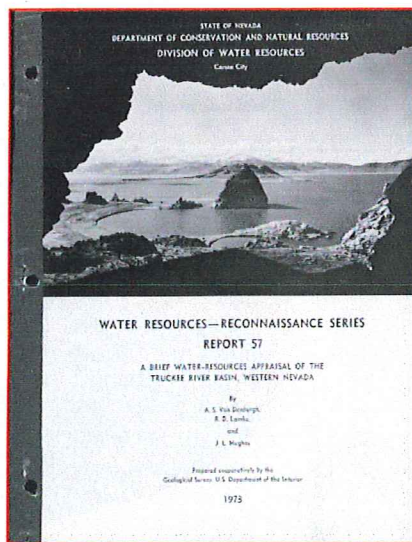
Truckee Meadows and Washoe County Water Use



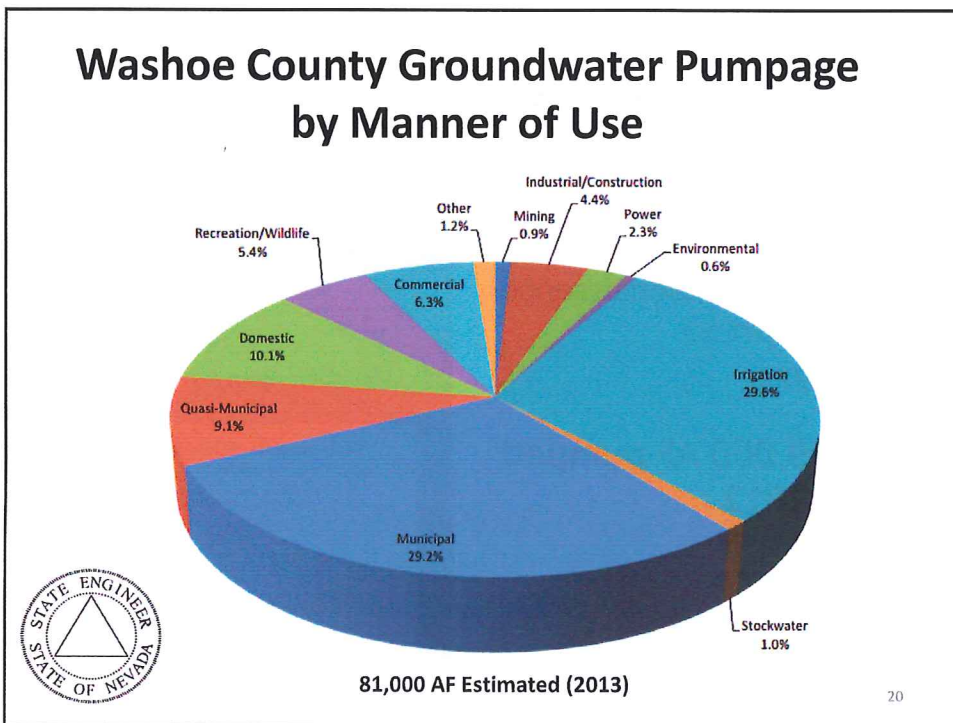
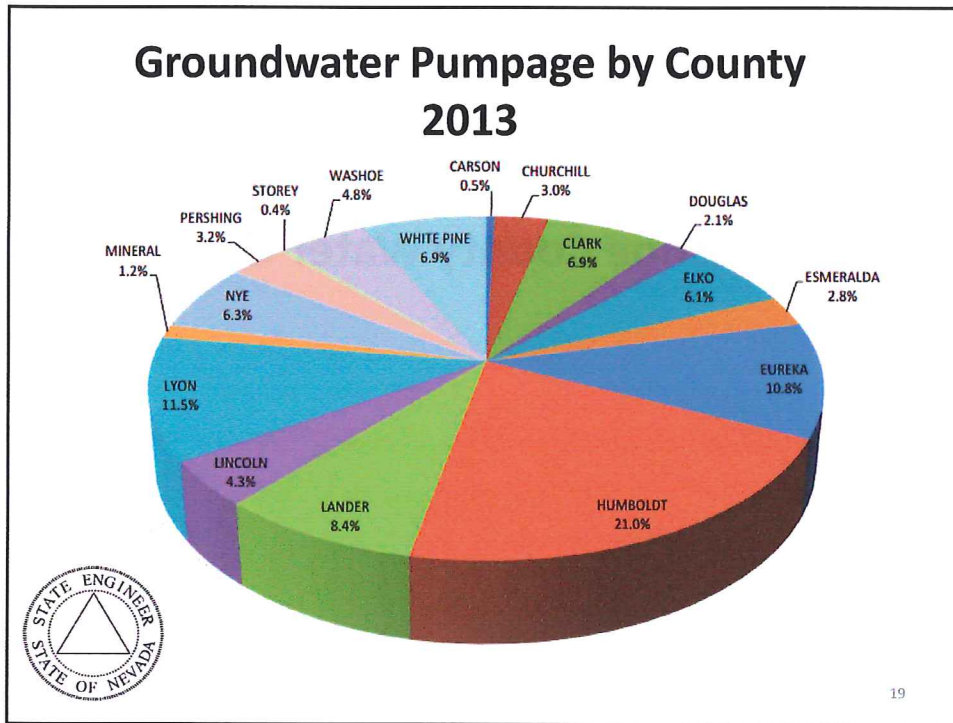
17

Truckee Meadows

- Perennial Yield of 27,000 AF
- USGS Reconnaissance Report 57
- 1973
- ~19,000 AF pumped in 2012

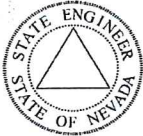


18



Domestic Wells

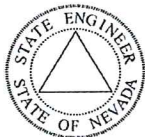
- Washoe County – 8,705 total
 - Truckee Meadows
 - 1,753
 - Washoe Valley
 - 1,521
 - Lemmon Valley
 - 1,256 (East)
 - 648 (West)
 - Pleasant Valley
 - 729
 - Warm Springs Valley
 - 624



21

Truckee Meadows Other Management Tools

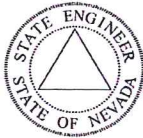
- Designated the basin in 1978
- Domestic Well Credit Order in 1999
- Groundwater Management (Banking) Order in 2000
- Relinquishment of water rights for parceling
- Aquifer Storage and Recovery Projects
- Conjunctive Management of surface and groundwater i.e. Mt. Rose Water Treatment Plant
- Long term planning by TMWA



22

Current Issues

1. Truckee River Operating Agreement
2. Governor Drought Forum
3. 2016 – Busy Water Year
4. Critical Management Areas
5. Domestic Wells



23

Truckee River Operating Agreement

Benefits to Nevada – State Perspective:

- Protects existing water rights
 - Carson River to be divided in accordance with the existing Alpine Decree
 - Truckee River to be divided in accordance with the existing Orr Ditch Decree
 - California does get 32,000 AF gross diversion in the Truckee Basin, California
- Lake Tahoe Basin allocated:
 - California gets 23,000 AF (2/3)
 - Nevada gets 11,000 AF (1/3)



24

Truckee River Operating Agreement

Benefits to Nevada – State Perspective:

- Provides stability and assurances for water users and the public in both states.
- Increases drought protection for Reno/Sparks
- Enhances conditions for threatened and endangered fish throughout the Truckee River basin
- New flexible, management framework maximizes Truckee River flows by being able to store in upstream reservoirs instead of allowing to flow downstream when not needed.



25

Governor's Drought Forum Final Report Recommendations

Seven (7) Categories:

1. Water Conservation
2. Nevada Water Law
3. Monitoring and Research Data
4. Financial and Technical Assistance
5. Supply Augmentation and Long Range Planning
6. Information Sharing and Outreach
7. Drought Declarations/Emergency Actions



<http://drought.nv.gov>

26

Governor's Drought Forum Final Report Recommendations

Water Conservation

- Amend the current statute that requires all water purveyors to submit a water conservation plan to the Division of Water Resources to include the following additional areas that purveyors must address as part of their plan:
 - Meters on all connections
 - Water efficiency standards for new development
 - Tiered rate structures to promote water conservation
 - Time-of-day and day-of-week watering restrictions
- Request local political subdivisions to explore implementation of water conservation measures where Home Owner Association Covenants, Conditions and Restrictions (CC&Rs) are to the contrary.



27

Governor's Drought Forum Final Report Recommendations

Nevada Water Law

- Domestic Well Curtailment - seek an addition to Nevada water law that clarifies that, in times of curtailment, only outdoor use by domestic well users may be prohibited.
- Rain Barrels - explore changing water law to allow for the use of small scale precipitation capture devices in areas where capture increases the water supply and does not conflict with existing rights.

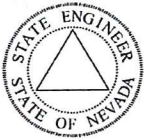


28

Governor's Drought Forum Final Report Recommendations

Supply Augmentation and Long Range Planning

- Require local government to work with private, municipal and other water purveyors to develop local/regional water plans that consider long-term supply and demand projections in order that collectively these plans represent the approach being taken as a state to address long-term supply and demand planning.
- Monitor advances in desalination, cloud seeding, evaporative controls and reuse.



29

2016 – Busy Year for Water Issues

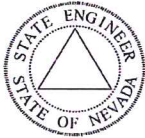
- Governor Drought Forum Recommendations
- Interim Legislative Committees
 - Public Lands – AB 198
 - Legislative Committee's Subcommittee on Water



30

Critical Management Areas and Groundwater Management Plans

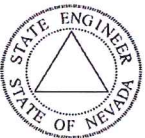
- Need a process for bringing severely over-appropriated basins back into balance
- Statutory language needs to be shored up
- Stakeholders groundwater management plan is preferable to strict regulation by priority if the resource and existing rights are protected.
- Currently working in two basins
 - Pahrump – 11,000 domestic wells
 - Diamond Valley – Australian Model (Unbundling water rights)



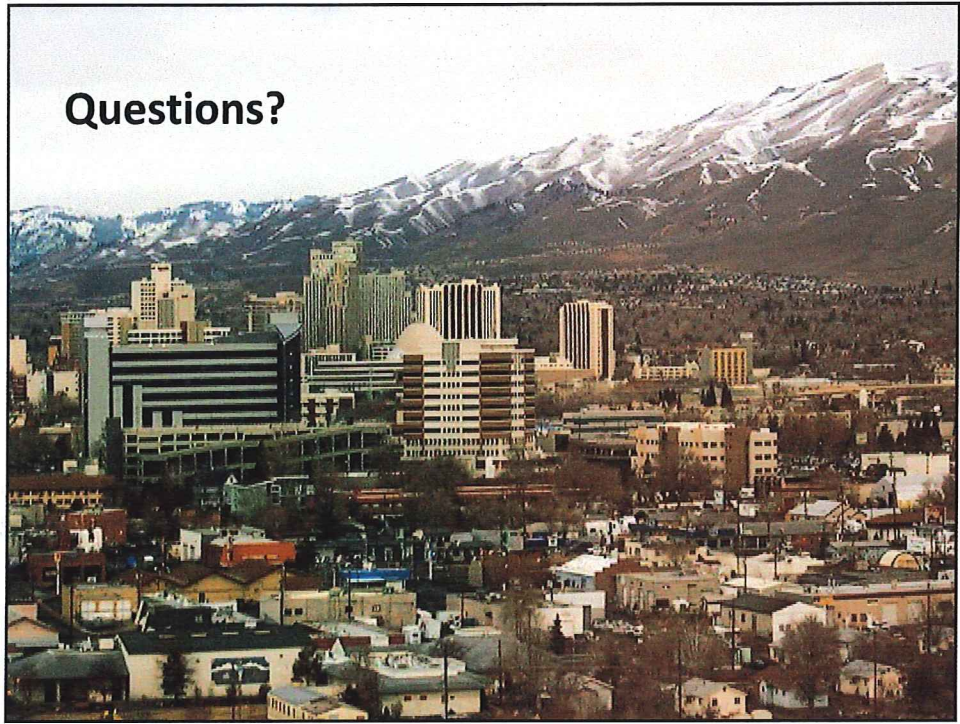
31

Domestic Wells

- Priority date of the date the well was completed
- Would generally be the first to be curtailed in times of regulation
- In Pahrump, the number of exempt domestic wells exceed 11,000 (possibility for another 9,000). At 2 AF per well, this amount exceeds the perennial yield.



32



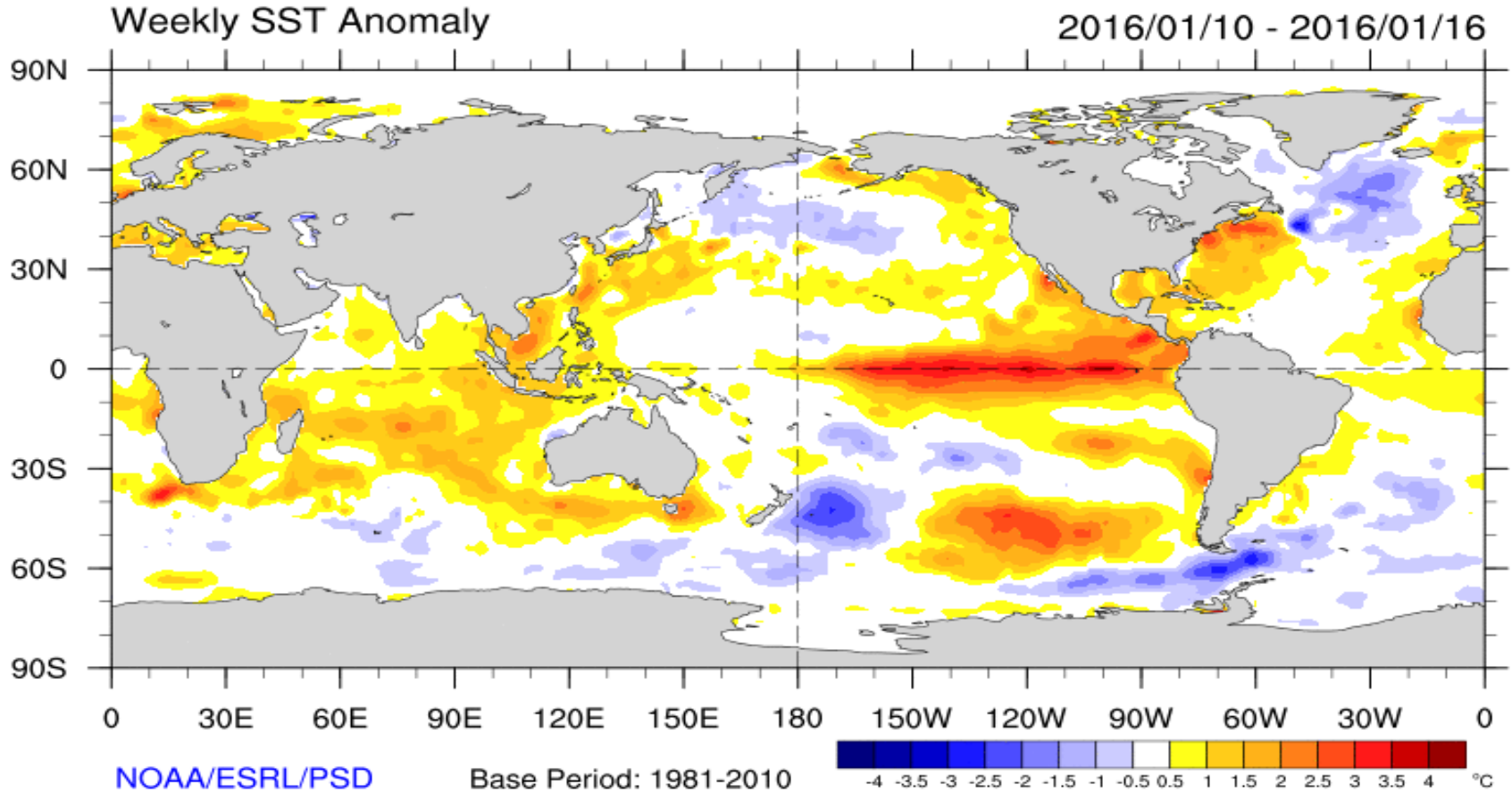


Water Supply Update and Preliminary Forecast for 2016

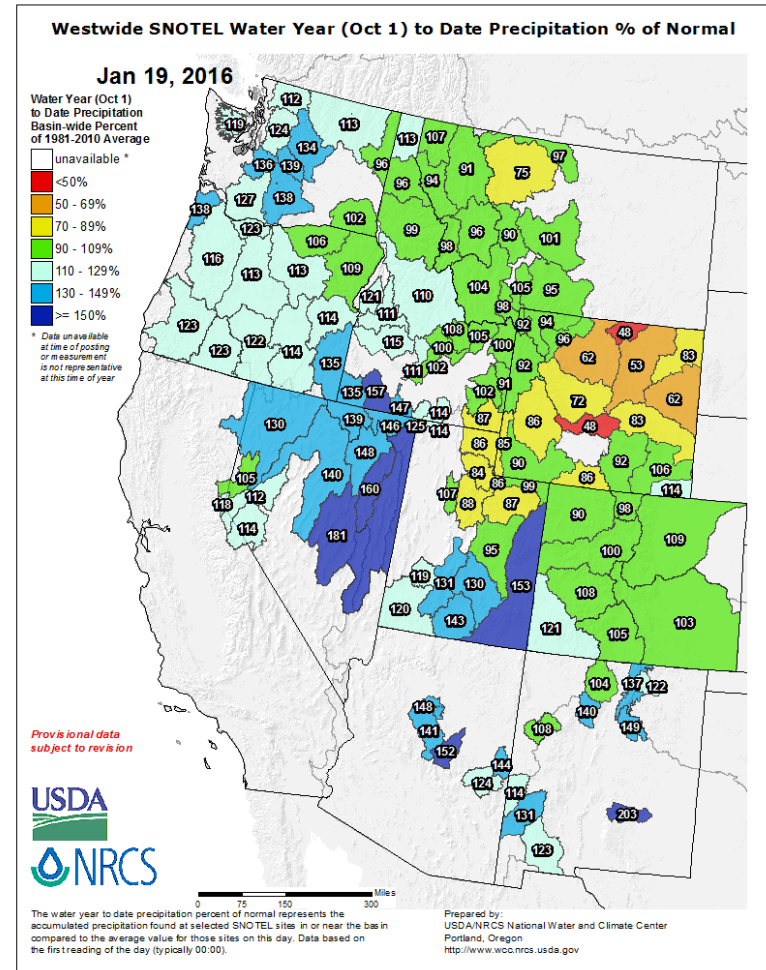
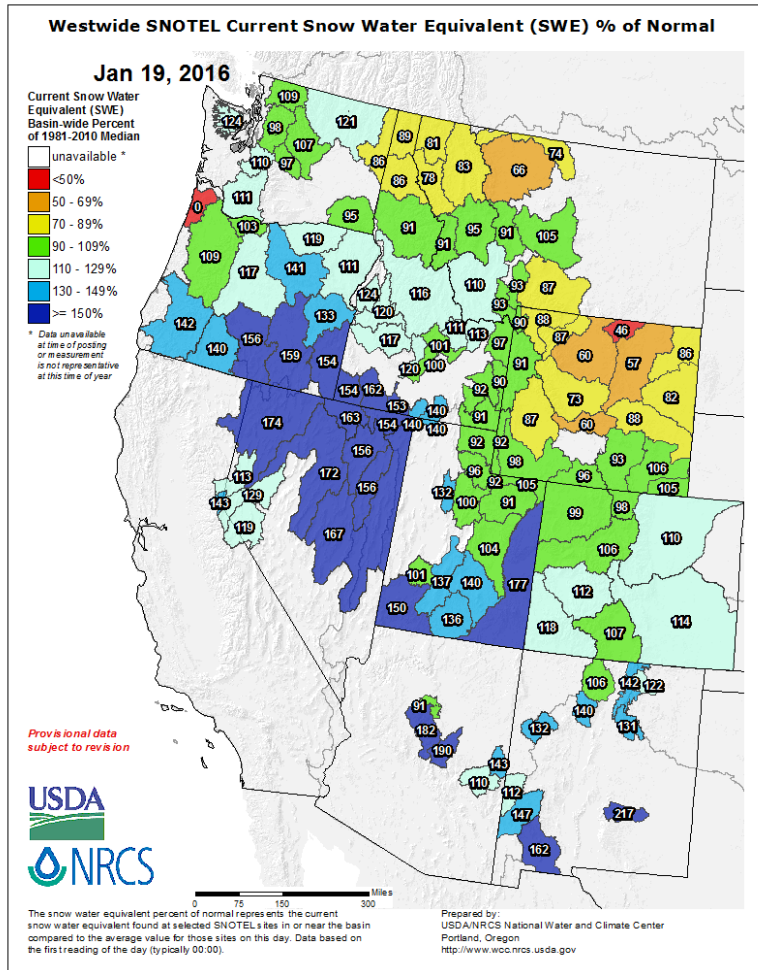
Bill Hauck, Senior Hydrologist
TMWA Board of Directors Meeting

January 20, 2016

Strong El Nino Pattern Continues



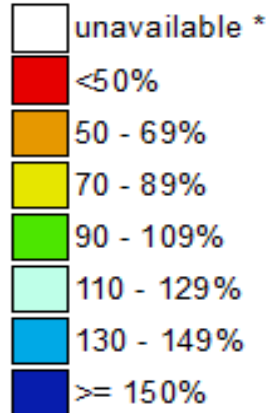
Sierra Nevada Snowpack Conditions



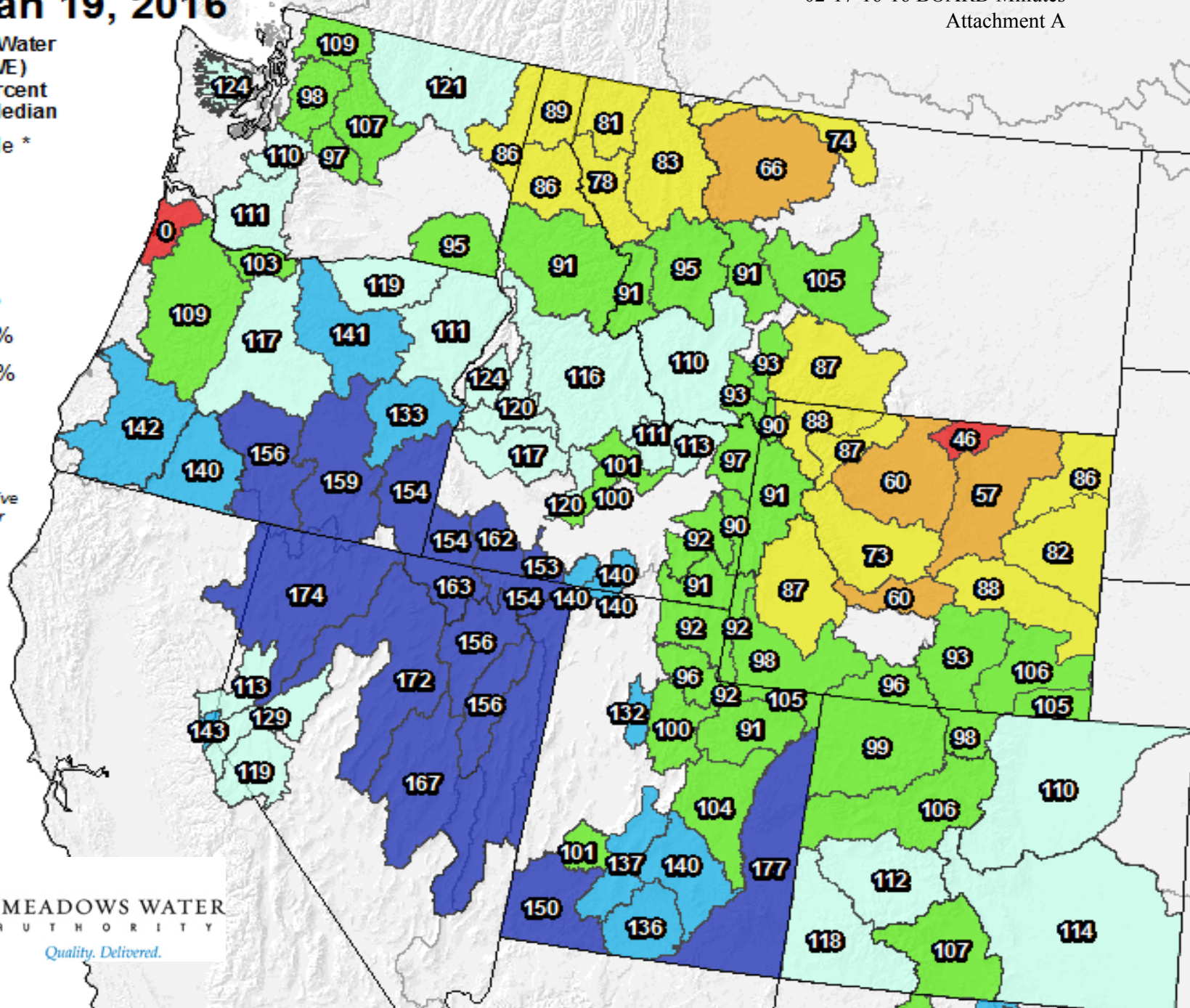
Jan 19, 2016

02-17-16-16 BOARD Minutes
Attachment A

Current Snow Water
Equivalent (SWE)
Basin-wide Percent
of 1981-2010 Median

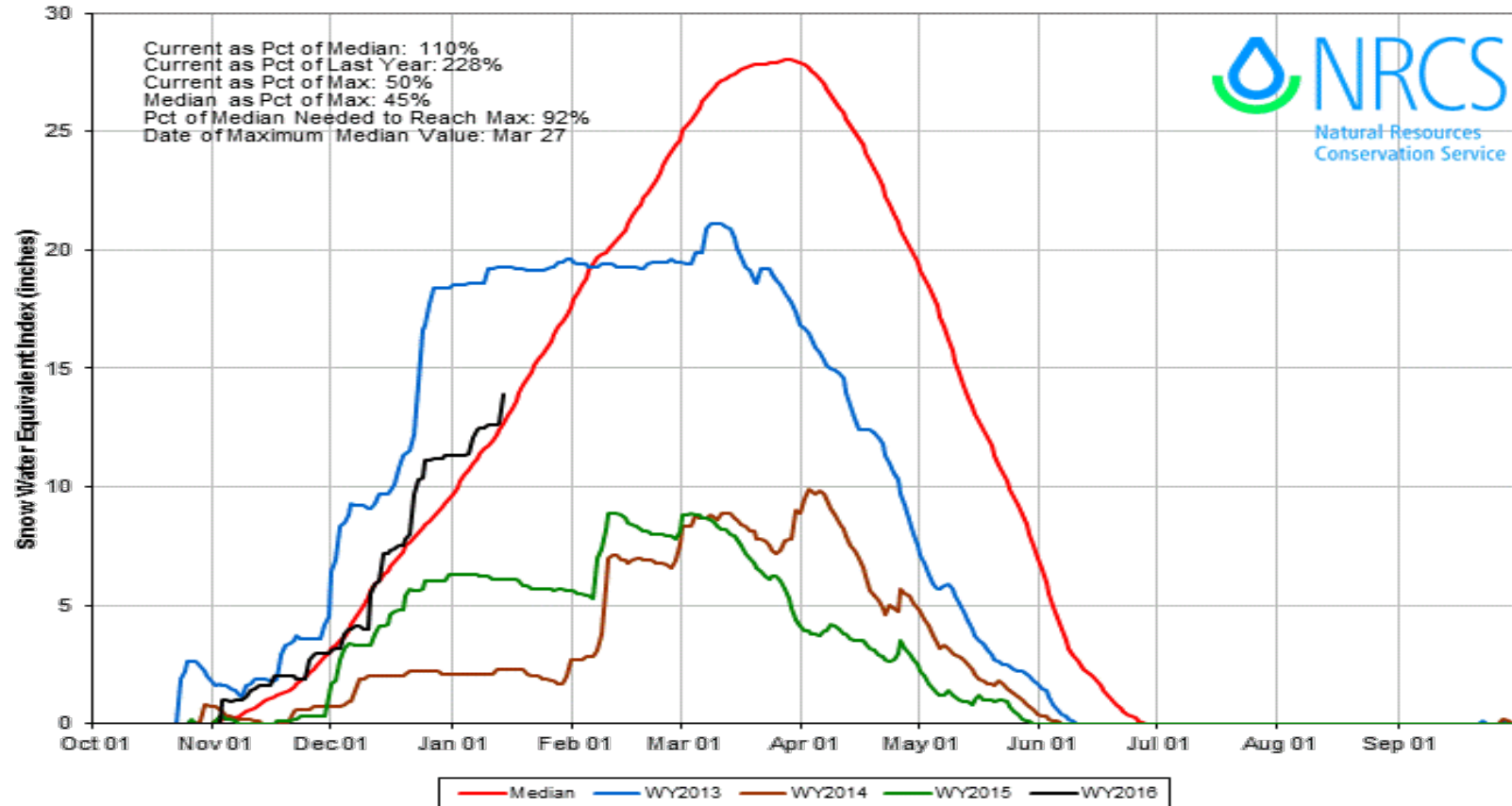


* Data unavailable
at time of posting
or measurement
is not representative
at this time of year

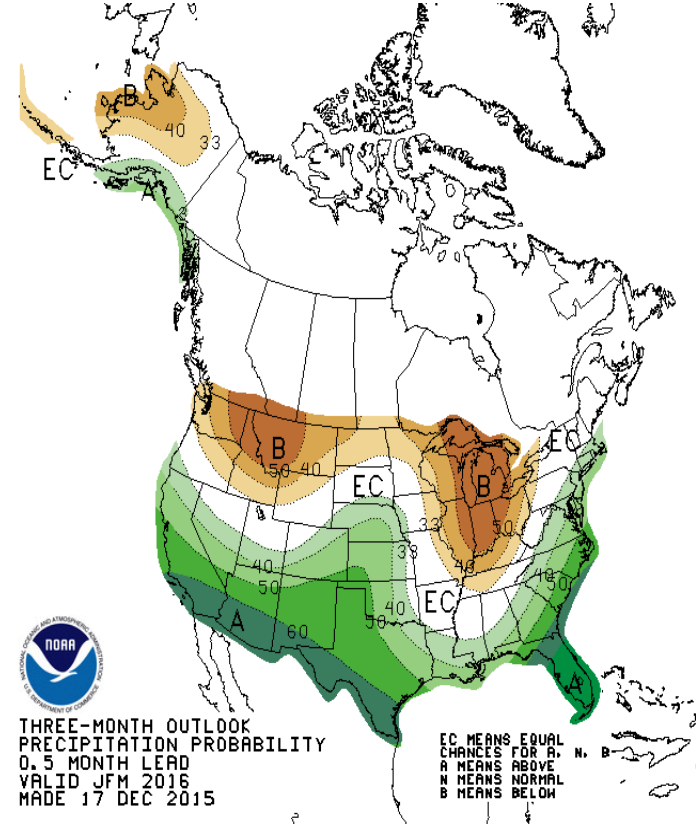
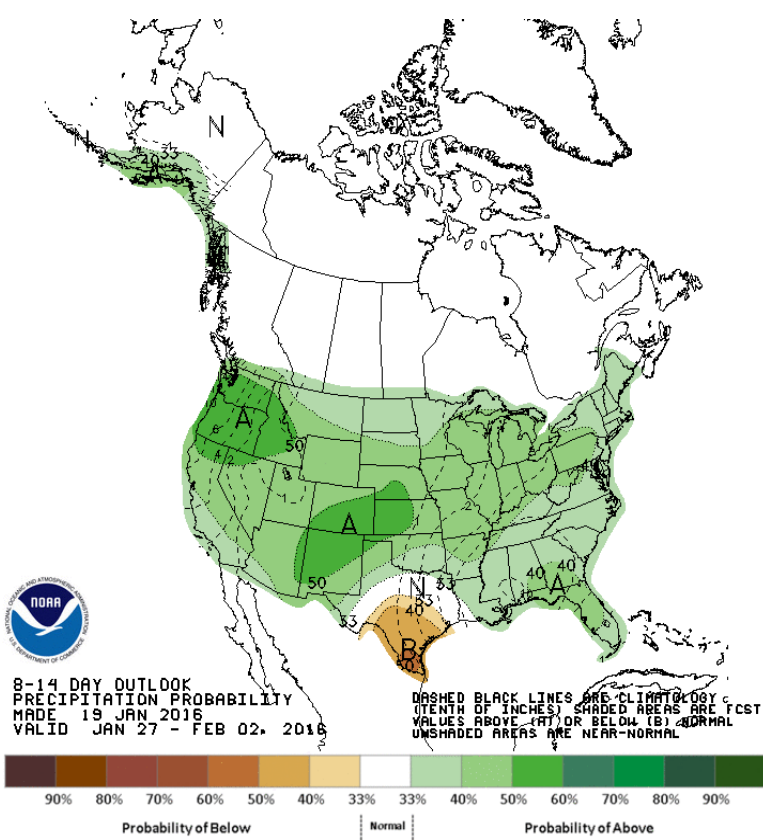


Truckee River Basin Snowpack Comparison

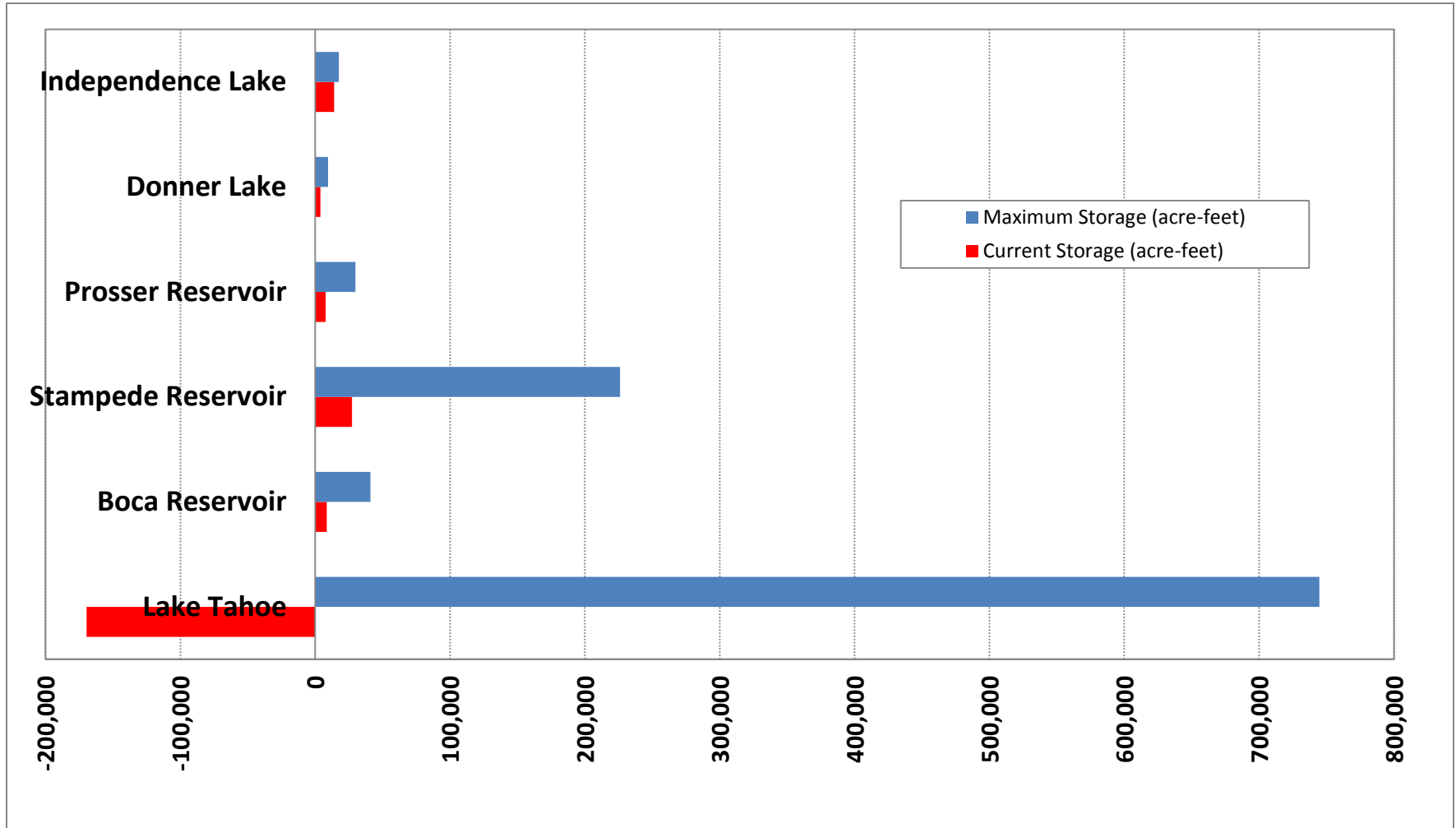
TRUCKEE RIVER Time Series Snowpack Summary
Based on Provisional SNOTEL data as of Jan 14, 2016



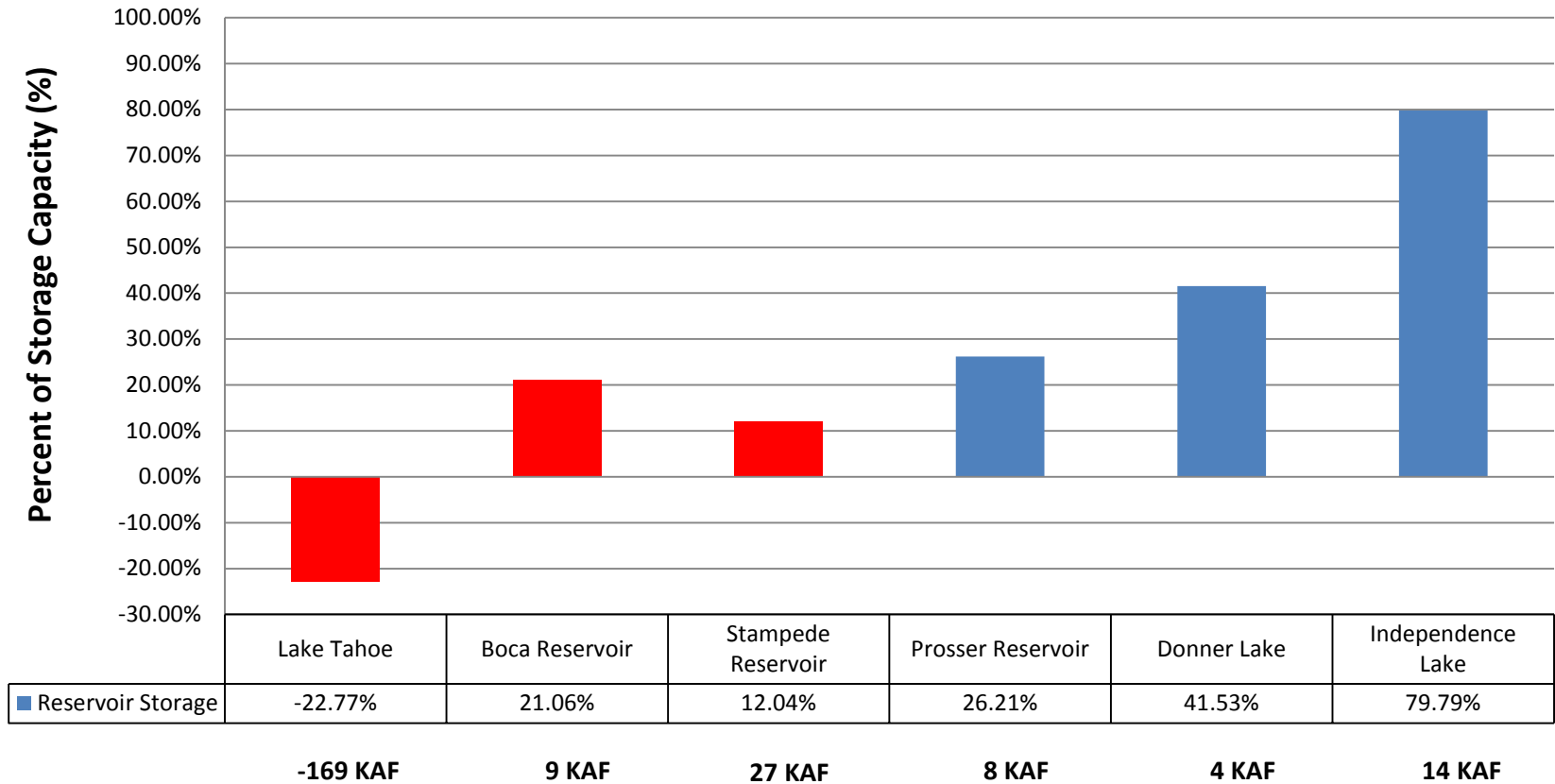
NOAA Climate Prediction Center (ppt outlook)



Truckee River Reservoir Storage as of January 1, 2016

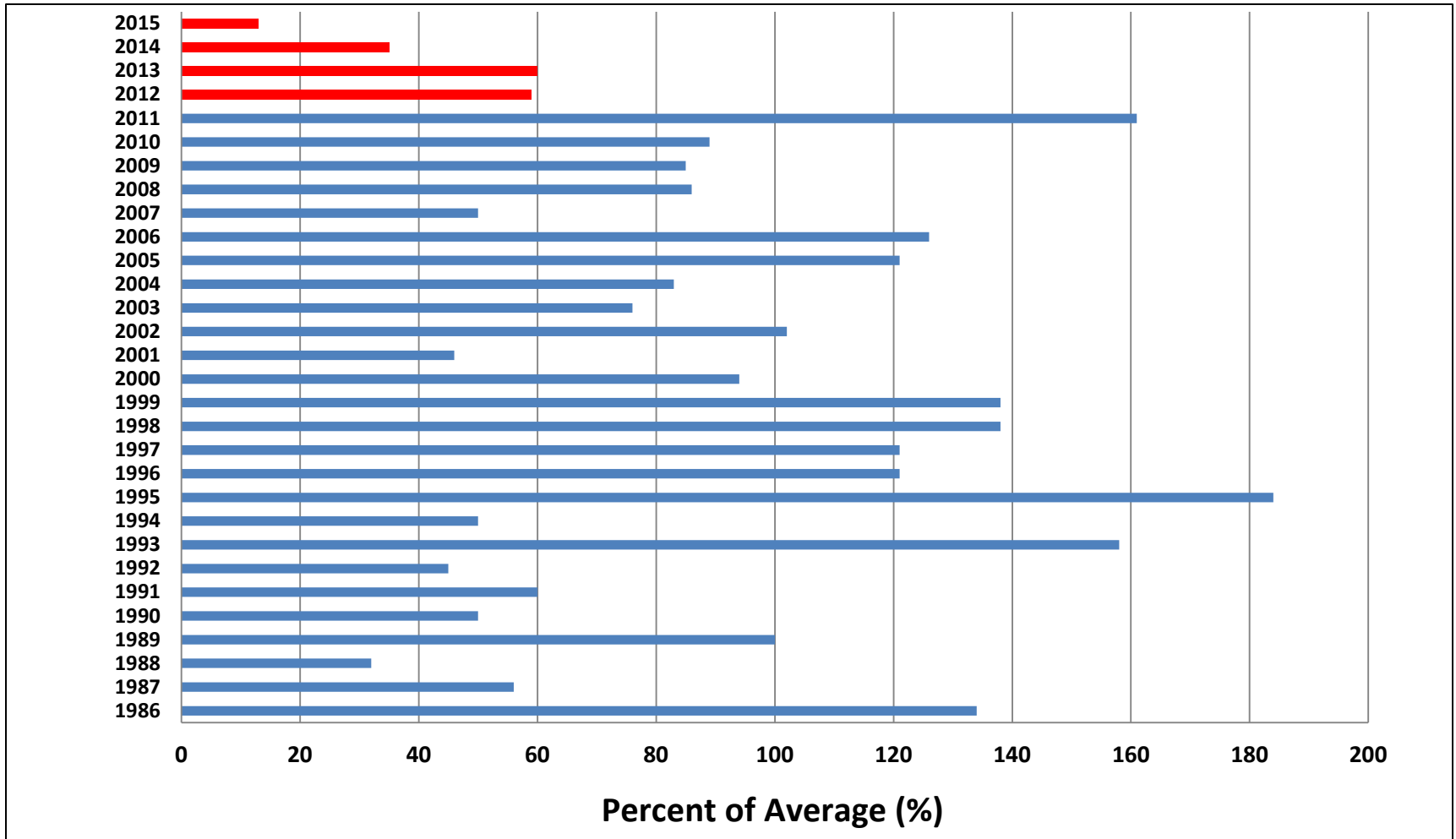


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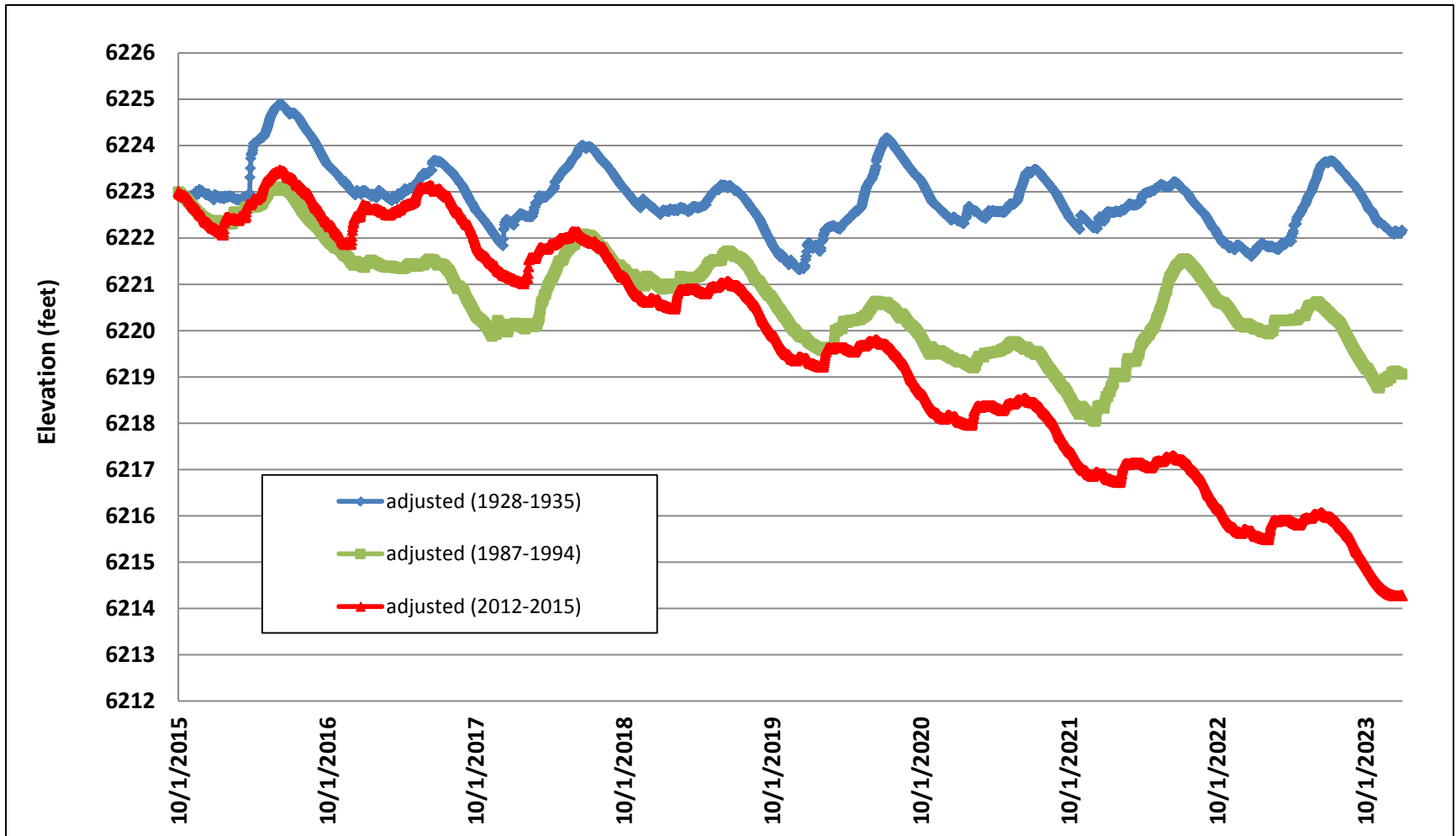


Storage Capacity in Thousands of Acre-Feet (KAF)

30 years of Truckee River Basin Snowpack (April 01)

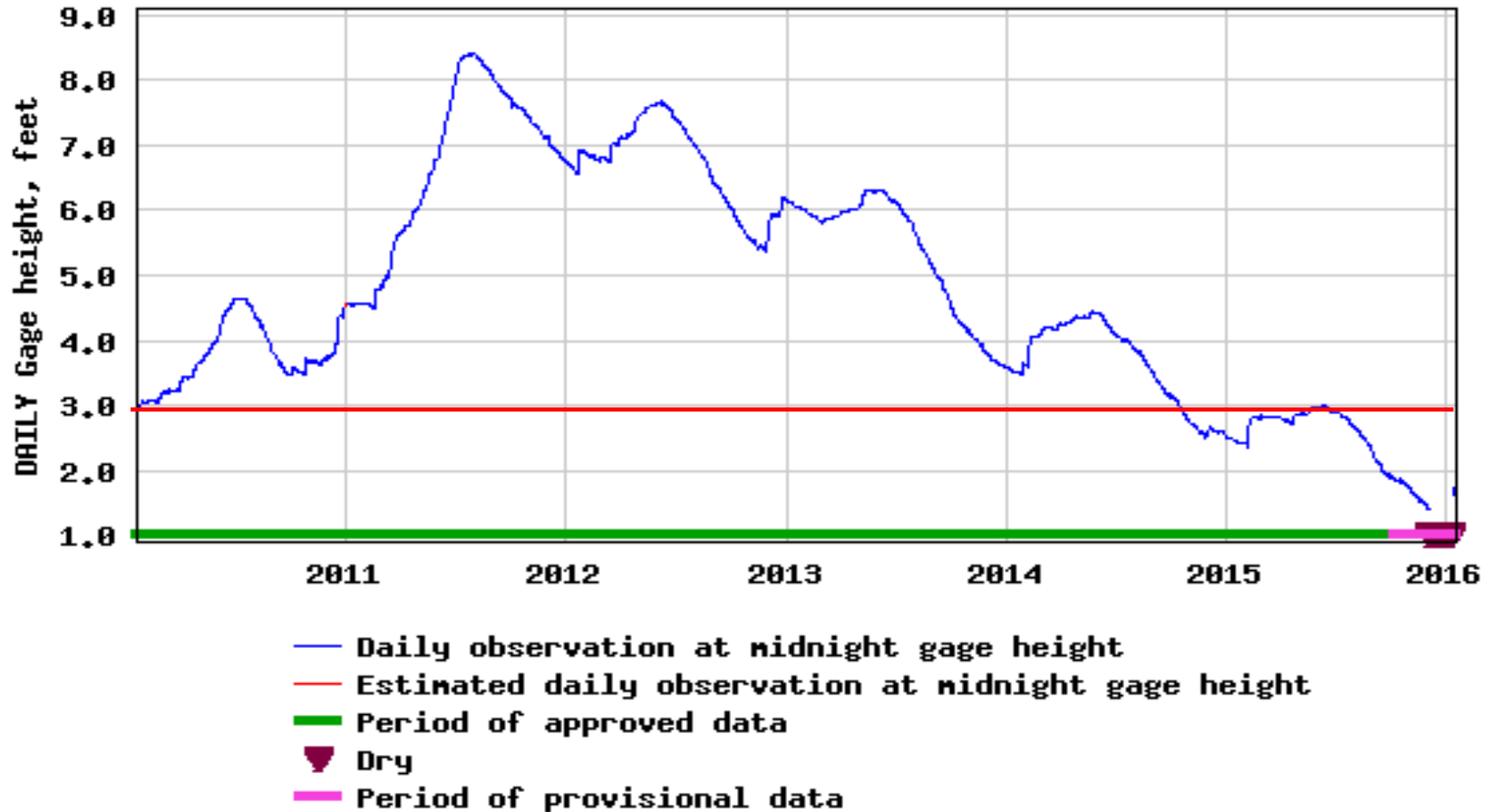


Lake Tahoe Elevation Study (3 Drought Comparison)





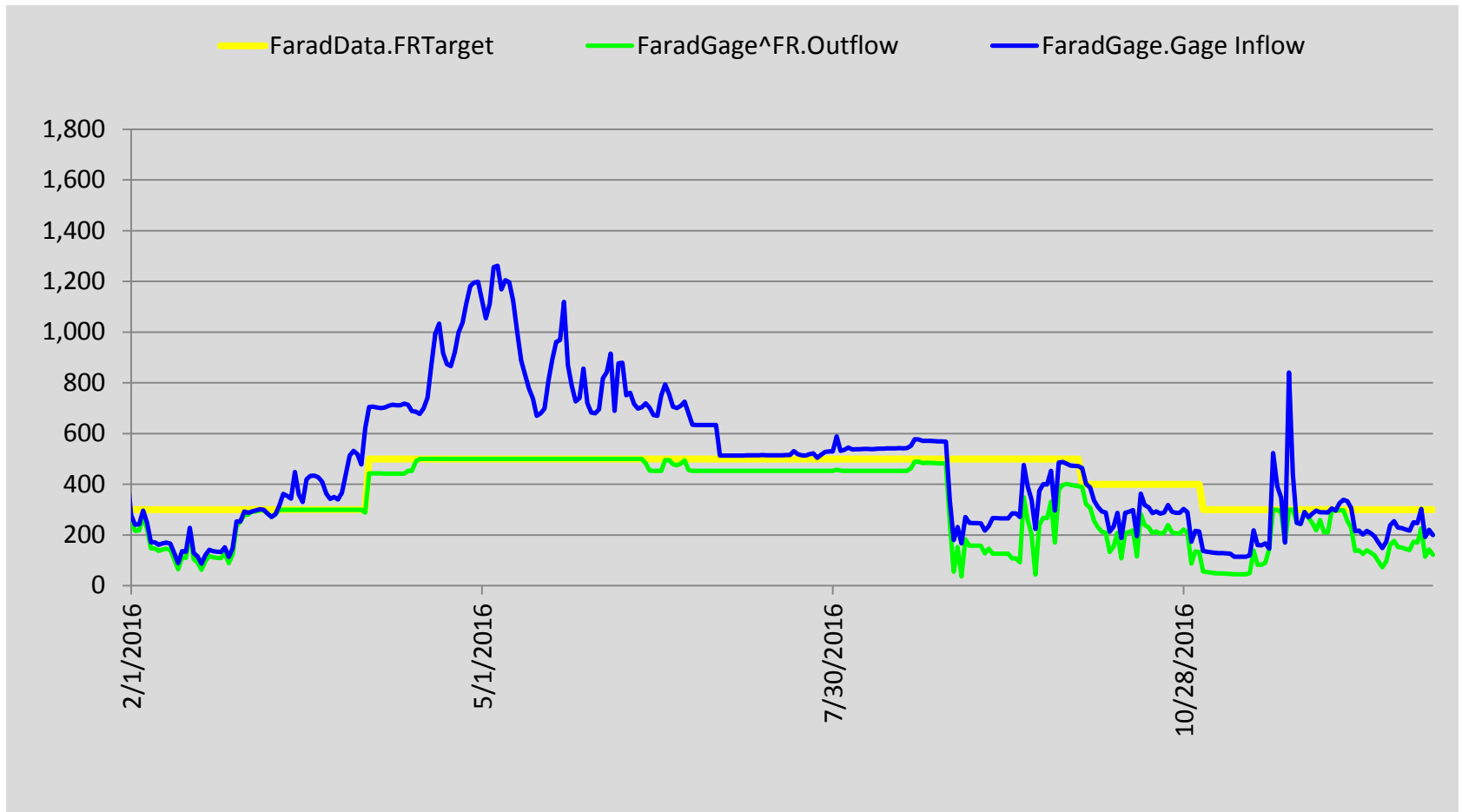
USGS 10337000 LAKE TAHOE A TAHOE CITY CA



USDA NRCS Streamflow Runoff Forecast (Jan 1, 2016)

- Lake Tahoe Rise (Apr-High) @ 92% avg.
- Truckee River at Farad (Apr-Jul) @ 96% avg.

Projected Truckee River Flow at CA/NV State Line



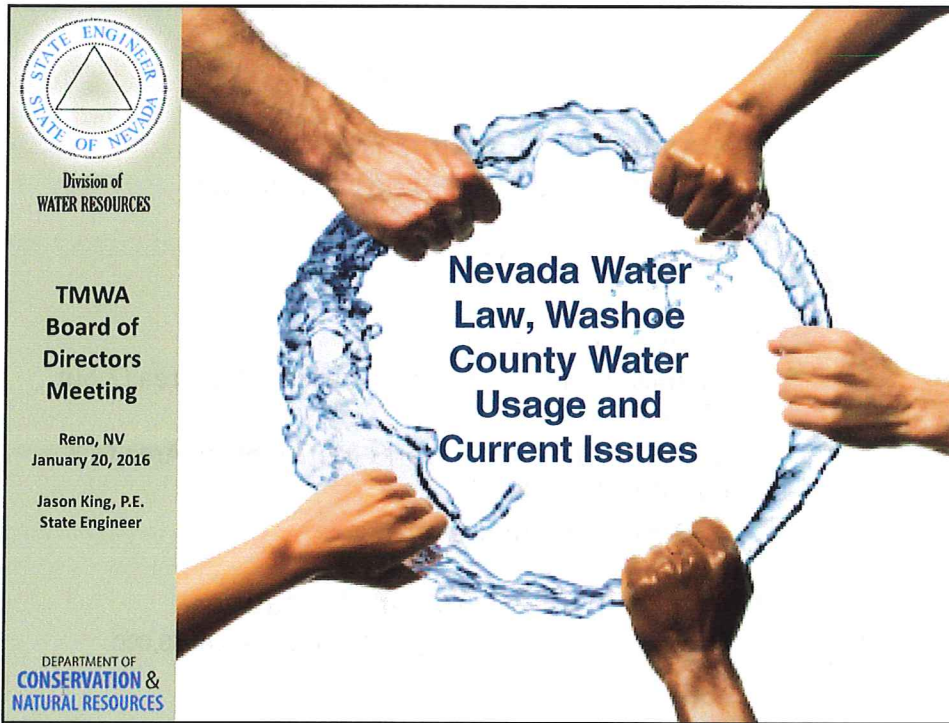
TMWA Reservoir Storage Account Summary

1/19/2016					
ACCOUNT STORAGE (acre-feet)					
RESERVOIR	FirmMICred	NonFirmMICred	waPOSW	WAEDS	TOTAL STORAGE (acre-feet)
<i>Tahoe</i>	0	0	0	0	0
<i>Donner</i>	0	0	1,868	0	1,868
<i>Martis</i>	0	0	0	0	0
<i>Prosser</i>	0	23	0	0	23
<i>Boca</i>	0	2,619	495	0	3,114
<i>Stampede</i>	0	0	1,878	1,284	3,162
<i>Independence</i>	0	429	13,742	0	14,171
Total	0	3,071	17,983	1,284	22,338
Nov 30 Value					17,521
Percent of Nov 30 Value					127.5%

Water Supply Summary

- Snowpack currently above average
- Wet storm pattern expected to continue (NOAA)
- Streamflow runoff forecast 96% average (Truckee)
- Normal Truckee River flows through August
- TMWA upstream drought storage in GOOD SHAPE





**STATE ENGINEER
STATE OF NEVADA**

Division of
WATER RESOURCES

**TMWA
Board of
Directors
Meeting**

Reno, NV
January 20, 2016

Jason King, P.E.
State Engineer

**DEPARTMENT OF
CONSERVATION &
NATURAL RESOURCES**

**Nevada Water
Law, Washoe
County Water
Usage and
Current Issues**

Topics

- Nevada and Water Law Basics
- Appropriation Criteria & Water Resource Management
- Truckee Meadows and Washoe County Water Use
- Current Issues
- Questions



2

Nevada Facts

- Driest state in the nation averaging approximately 9" precipitation annually
- 7th largest state geographically
- Population is ~2.9 million
 - > 2 million live in Las Vegas Metropolitan Area (7 out of 10 Nevadans)
 - 437,000 (2013) Reno-Sparks Metropolitan Area (1.5 out of 10 Nevadans)
 - ~ 50 million visitors annually
- 3rd most urbanized state in the nation
 - (>94% of population lives in population clusters of 50,000 people or more)

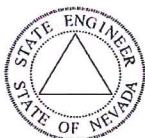


3

Water Law in Nevada

Basic Tenets

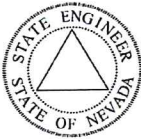
- Prior Appropriation Doctrine
 - First in time, first in right
- Beneficial use shall be the basis, the measure and the limit of the right to the use of water,
- Use it or lose it



4

Who Owns the Water?

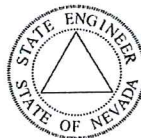
- All sources of water within the boundaries of the State whether above or beneath the surface of the ground, belong to the public.
- However, the USE of the water is a usufructary right and is considered real property and can be sold separate from the property.



5

The Appropriation Process and Domestic Wells

Anyone wishing to beneficially use water is required to file a water right application with the State Engineer **except** for domestic well owners.



6

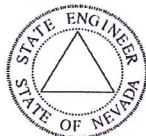
Domestic Water Use

- Domestic purposes extends to culinary and household purposes, in a single family dwelling, the watering of a family garden, lawn and the watering of domestic animals
- The maximum amount of water that may be pumped from domestic wells is limited to **2.0 acre-feet per year**



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Appropriation Criteria and Water Resource Management

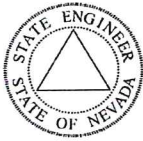


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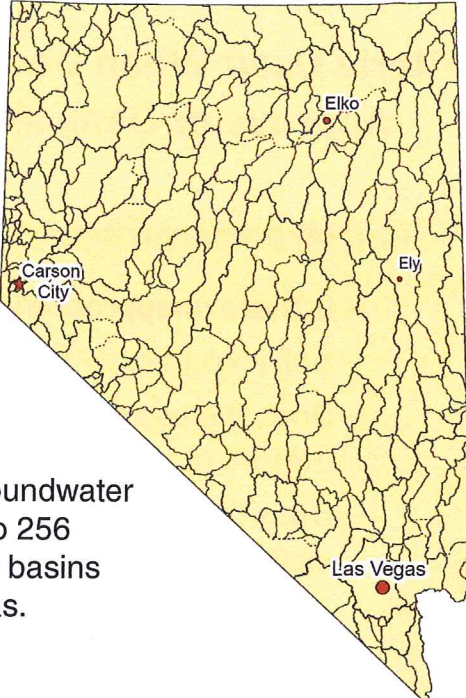
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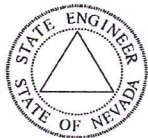


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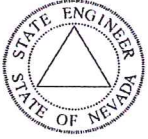
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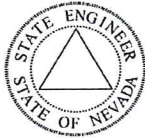
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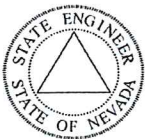
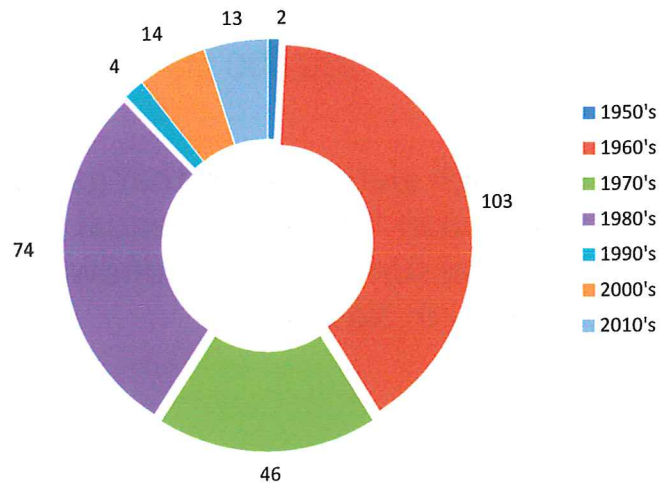
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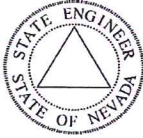
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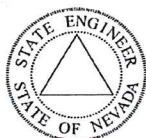
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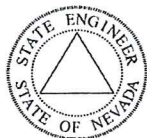
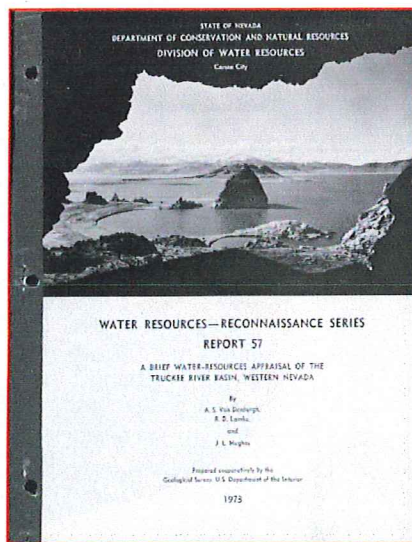
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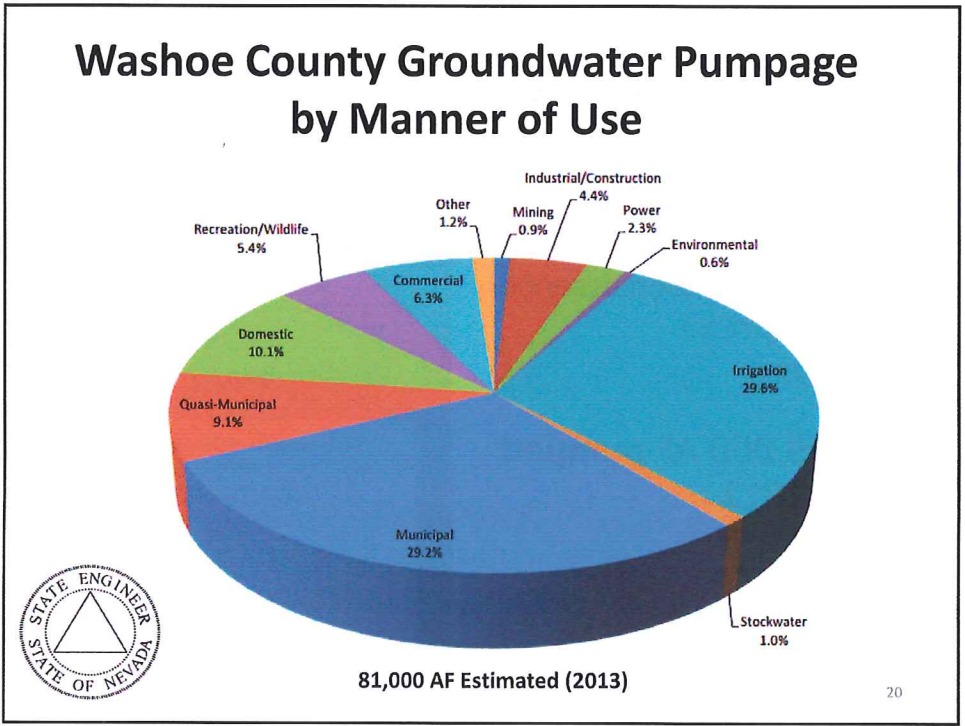
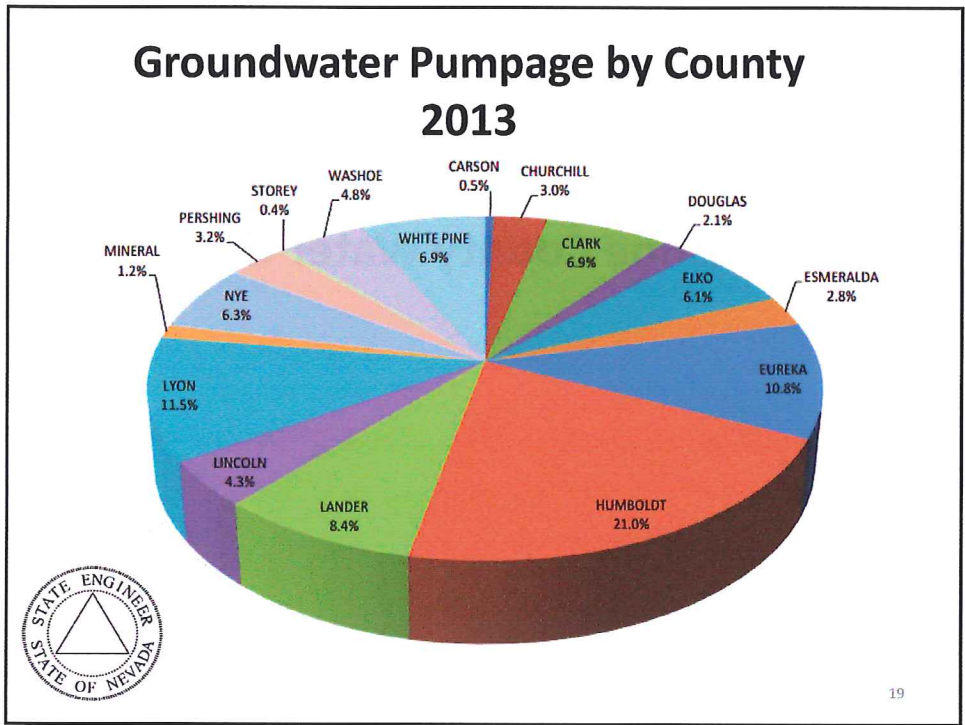
17

Truckee Meadows

- Perennial Yield of 27,000 AF
- USGS Reconnaissance Report 57
- 1973
- ~19,000 AF pumped in 2012



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Domestic Wells

- Washoe County – 8,705 total
 - Truckee Meadows
 - 1,753
 - Washoe Valley
 - 1,521
 - Lemmon Valley
 - 1,256 (East)
 - 648 (West)
 - Pleasant Valley
 - 729
 - Warm Springs Valley
 - 624



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Truckee Meadows Other Management Tools

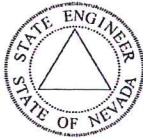
- Designated the basin in 1978
- Domestic Well Credit Order in 1999
- Groundwater Management (Banking) Order in 2000
- Relinquishment of water rights for parceling
- Aquifer Storage and Recovery Projects
- Conjunctive Management of surface and groundwater i.e. Mt. Rose Water Treatment Plant
- Long term planning by TMWA



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Current Issues

1. Truckee River Operating Agreement
2. Governor Drought Forum
3. 2016 – Busy Water Year
4. Critical Management Areas
5. Domestic Wells



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Truckee River Operating Agreement

Benefits to Nevada – State Perspective:

- Protects existing water rights
 - Carson River to be divided in accordance with the existing Alpine Decree
 - Truckee River to be divided in accordance with the existing Orr Ditch Decree
 - California does get 32,000 AF gross diversion in the Truckee Basin, California
 - Lake Tahoe Basin allocated:
 - California gets 23,000 AF (2/3)
 - Nevada gets 11,000 AF (1/3)



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Truckee River Operating Agreement

Benefits to Nevada – State Perspective:

- Provides stability and assurances for water users and the public in both states.
- Increases drought protection for Reno/Sparks
- Enhances conditions for threatened and endangered fish throughout the Truckee River basin
- New flexible, management framework maximizes Truckee River flows by being able to store in upstream reservoirs instead of allowing to flow downstream when not needed.



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Governor's Drought Forum Final Report Recommendations

Seven (7) Categories:

1. Water Conservation
2. Nevada Water Law
3. Monitoring and Research Data
4. Financial and Technical Assistance
5. Supply Augmentation and Long Range Planning
6. Information Sharing and Outreach
7. Drought Declarations/Emergency Actions



<http://drought.nv.gov>

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Governor's Drought Forum Final Report Recommendations

Water Conservation

- Amend the current statute that requires all water purveyors to submit a water conservation plan to the Division of Water Resources to include the following additional areas that purveyors must address as part of their plan:
 - Meters on all connections
 - Water efficiency standards for new development
 - Tiered rate structures to promote water conservation
 - Time-of-day and day-of-week watering restrictions
- Request local political subdivisions to explore implementation of water conservation measures where Home Owner Association Covenants, Conditions and Restrictions (CC&Rs) are to the contrary.

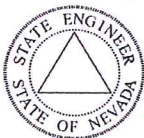


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Governor's Drought Forum Final Report Recommendations

Nevada Water Law

- Domestic Well Curtailment - seek an addition to Nevada water law that clarifies that, in times of curtailment, only outdoor use by domestic well users may be prohibited.
- Rain Barrels - explore changing water law to allow for the use of small scale precipitation capture devices in areas where capture increases the water supply and does not conflict with existing rights.

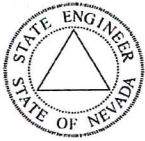


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Governor's Drought Forum Final Report Recommendations

Supply Augmentation and Long Range Planning

- Require local government to work with private, municipal and other water purveyors to develop local/regional water plans that consider long-term supply and demand projections in order that collectively these plans represent the approach being taken as a state to address long-term supply and demand planning.
- Monitor advances in desalination, cloud seeding, evaporative controls and reuse.



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2016 – Busy Year for Water Issues

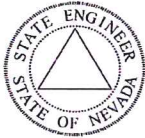
- Governor Drought Forum Recommendations
- Interim Legislative Committees
 - Public Lands – AB 198
 - Legislative Committee's Subcommittee on Water



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Critical Management Areas and Groundwater Management Plans

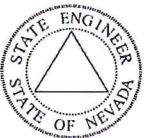
- Need a process for bringing severely over-appropriated basins back into balance
- Statutory language needs to be shored up
- Stakeholders groundwater management plan is preferable to strict regulation by priority if the resource and existing rights are protected.
- Currently working in two basins
 - Pahrump – 11,000 domestic wells
 - Diamond Valley – Australian Model (Unbundling water rights)



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Domestic Wells

- Priority date of the date the well was completed
- Would generally be the first to be curtailed in times of regulation
- In Pahrump, the number of exempt domestic wells exceed 11,000 (possibility for another 9,000). At 2 AF per well, this amount exceeds the perennial yield.



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