



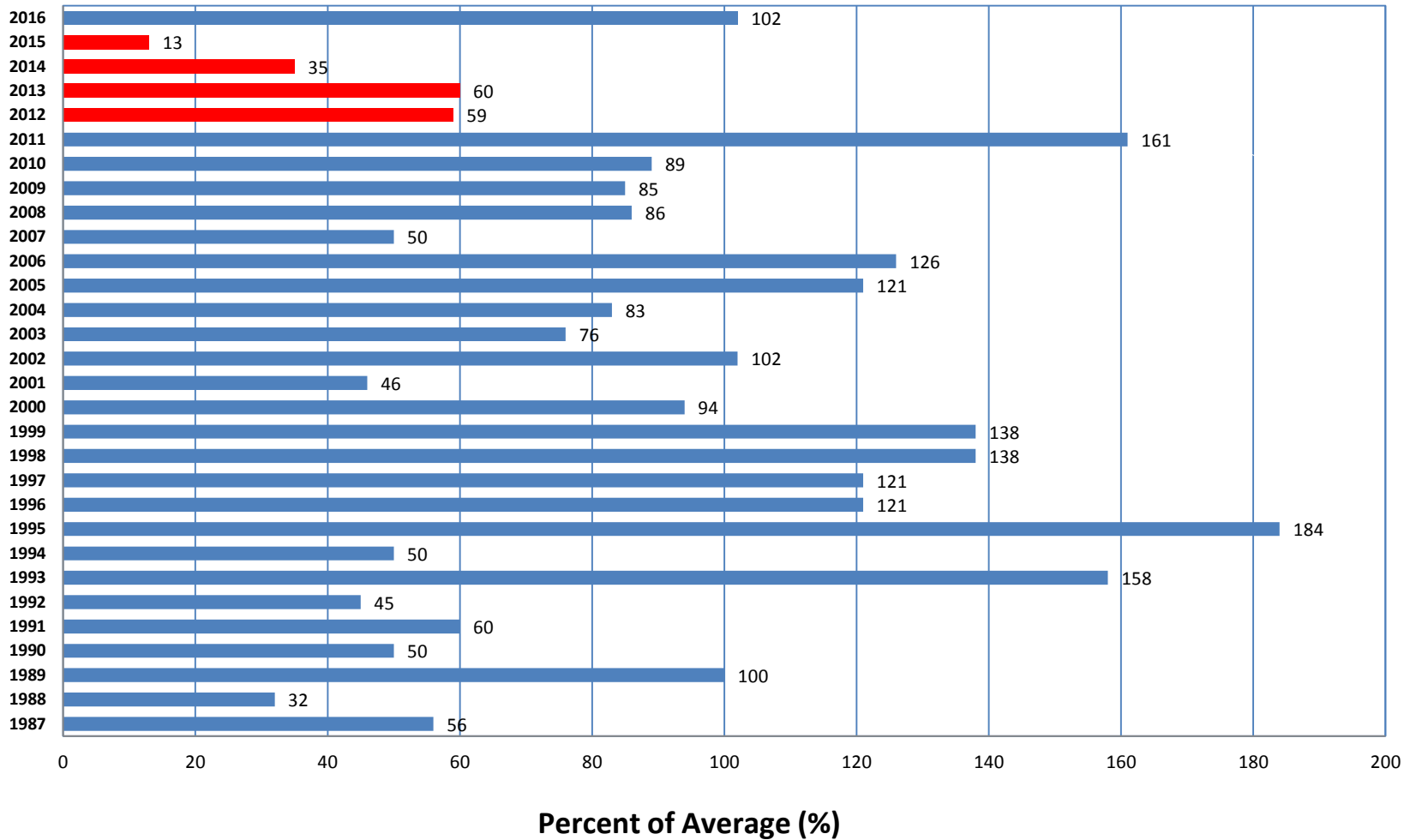
## **Water Supply Update**

Bill Hauck, Senior Hydrologist

TMWA Board of Directors Meeting

August 17, 2016

### 30 Years of Truckee River Basin Snowpack (April 01)



# U.S. Drought Monitor West

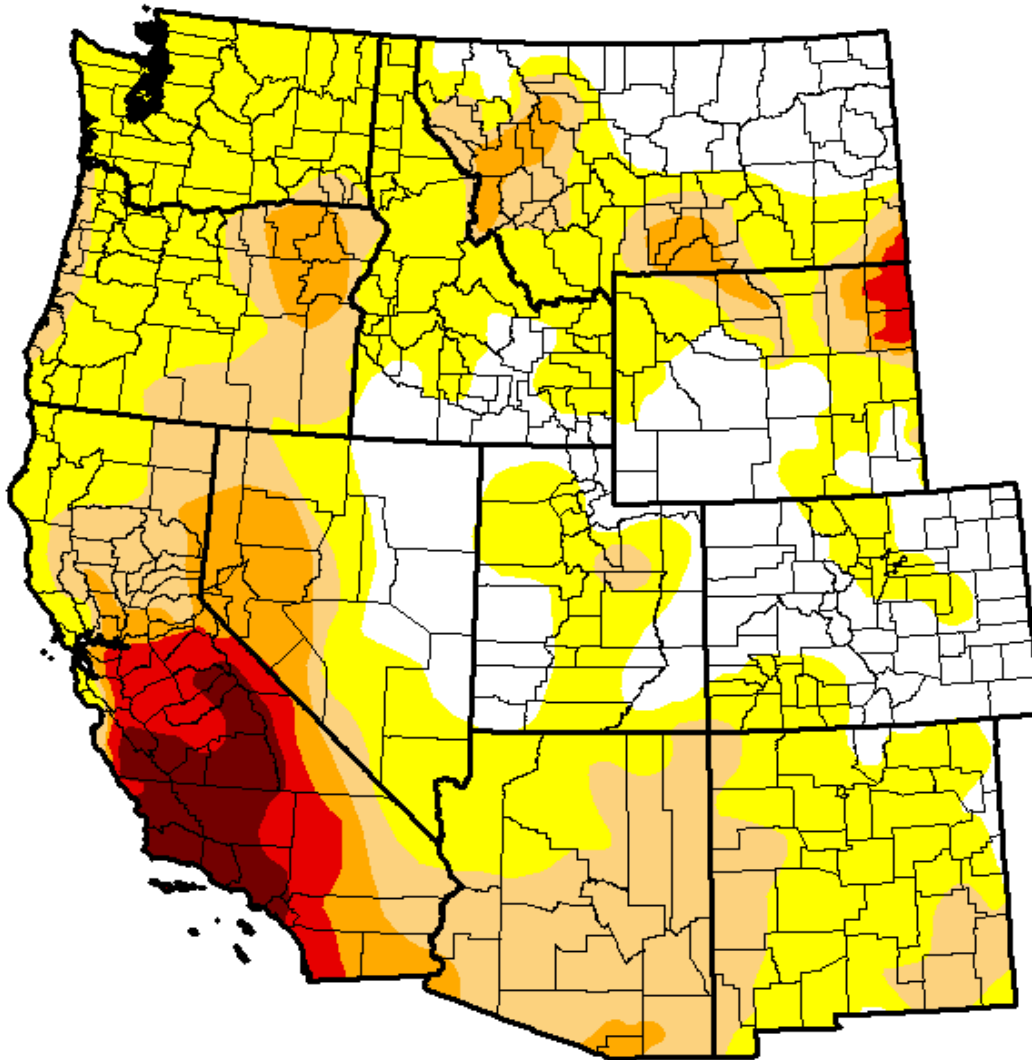
**August 9, 2016**

(Released Thursday, Aug. 11, 2016)

Valid 8 a.m. EDT

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	24.25	75.75	33.74	13.20	6.09	2.81
<b>Last Week</b> <i>8/2/2016</i>	27.57	72.43	32.16	11.10	6.09	2.81
<b>3 Months Ago</b> <i>5/10/2016</i>	46.20	53.80	32.73	13.41	8.55	2.81
<b>Start of Calendar Year</b> <i>12/29/2015</i>	33.17	66.83	45.07	29.30	15.92	6.85
<b>Start of Water Year</b> <i>9/29/2015</i>	22.77	77.23	57.81	42.42	26.50	7.62
<b>One Year Ago</b> <i>8/11/2015</i>	26.53	73.47	59.95	42.43	23.22	7.62



Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

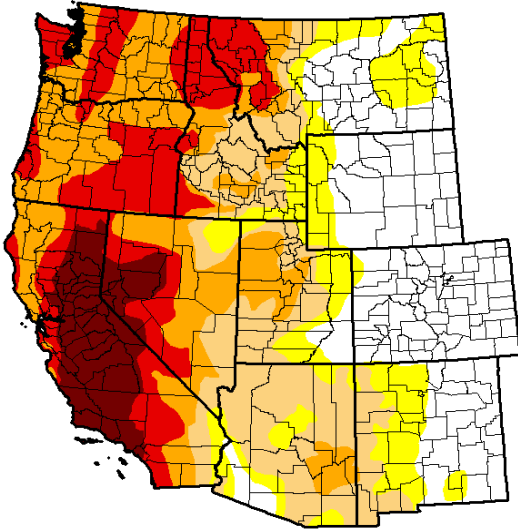
**Author:**

*Richard Tinker*

*CPC/NOAA/NWS/NCEP*



# U.S. Drought Monitor West



**August 11, 2015**  
(Released Thursday, Aug. 13, 2015)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	26.53	73.47	59.95	42.43	23.22	7.62
<b>Last Week</b> 8/2/2015	26.53	73.47	60.09	42.99	22.24	7.17
<b>3 Months Ago</b> 5/12/2015	22.69	77.31	63.10	38.04	17.54	7.95
<b>Start of Calendar Year</b> 1/20/2014	34.76	65.24	54.48	33.50	18.68	5.40
<b>Start of Water Year</b> 9/30/2014	31.48	68.52	55.57	35.65	19.95	8.90
<b>One Year Ago</b> 8/22/2014	27.11	72.89	59.80	43.63	21.43	8.90

**Intensity:**

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

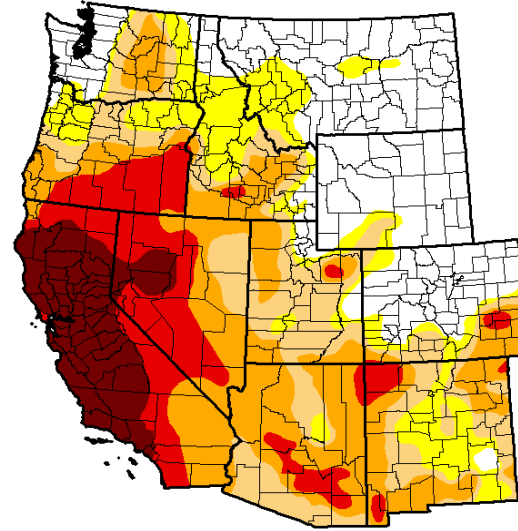
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**Author:**  
Brian Fuchs  
National Drought Mitigation Center



<http://droughtmonitor.unl.edu/>

# U.S. Drought Monitor West



**August 12, 2014**  
(Released Thursday, Aug. 14, 2014)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	27.11	72.89	59.80	43.63	21.43	8.90
<b>Last Week</b> 8/5/2014	27.71	72.29	60.17	43.74	21.35	8.94
<b>3 Months Ago</b> 5/13/2014	31.18	68.82	60.82	47.37	19.96	4.70
<b>Start of Calendar Year</b> 1/20/2013	22.20	77.80	51.44	31.11	7.75	0.63
<b>Start of Water Year</b> 10/1/2013	25.25	74.75	58.96	34.18	5.57	0.63
<b>One Year Ago</b> 8/13/2013	13.31	86.69	77.53	56.74	20.35	3.09

**Intensity:**

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

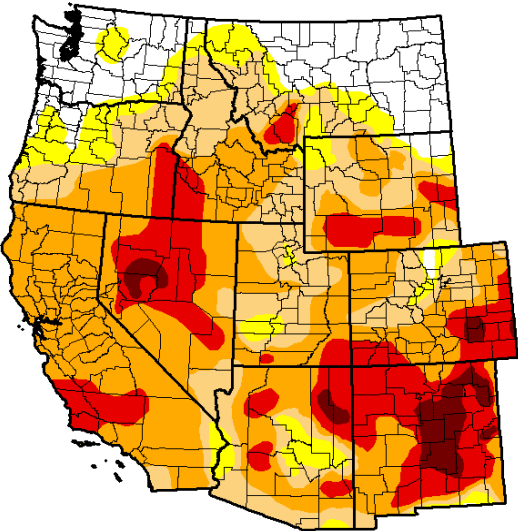
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**Author:**  
Richard Tinker  
CPC/NOAA/NWS/NCEP



<http://droughtmonitor.unl.edu/>

# U.S. Drought Monitor West



**August 13, 2013**  
(Released Thursday, Aug. 15, 2013)  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	13.31	86.69	77.53	56.74	20.35	3.09
<b>Last Week</b> 8/2/2013	13.20	86.80	77.41	57.03	18.96	3.62
<b>3 Months Ago</b> 5/14/2013	13.09	86.91	71.39	46.93	15.33	5.91
<b>Start of Calendar Year</b> 1/20/2013	24.39	75.61	69.31	45.04	18.01	2.15
<b>Start of Water Year</b> 9/25/2012	15.12	84.88	77.15	43.65	16.85	1.77
<b>One Year Ago</b> 8/14/2012	19.25	80.75	66.42	51.46	35.43	8.17

**Intensity:**

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

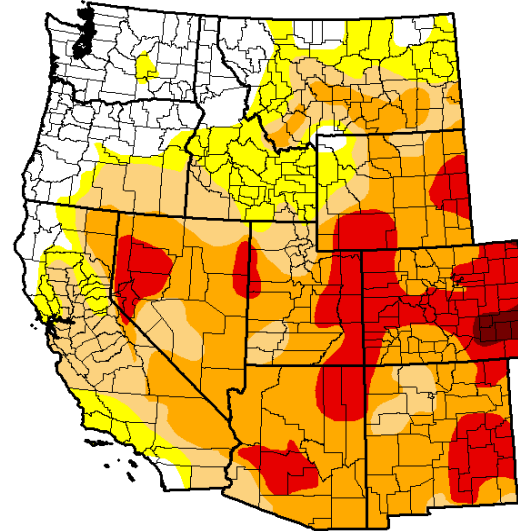
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

**Author:**  
Michael Brewer  
NCDC/NOAA



<http://droughtmonitor.unl.edu/>

# U.S. Drought Monitor West



**August 14, 2012**  
(Released Thursday, Aug. 16, 2012)  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	16.88	83.12	69.22	50.43	16.95	0.81
<b>Last Week</b> 8/7/2012	18.40	81.60	68.62	49.94	16.67	0.50
<b>3 Months Ago</b> 5/15/2012	31.27	68.73	50.07	27.34	4.02	0.07
<b>Start of Calendar Year</b> 1/20/2012	50.20	49.80	28.05	11.84	2.67	0.78
<b>Start of Water Year</b> 9/27/2011	66.72	33.28	19.04	14.99	9.30	3.81
<b>One Year Ago</b> 8/16/2011	57.85	42.15	9.54	0.51	0.00	0.00

**Intensity:**

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

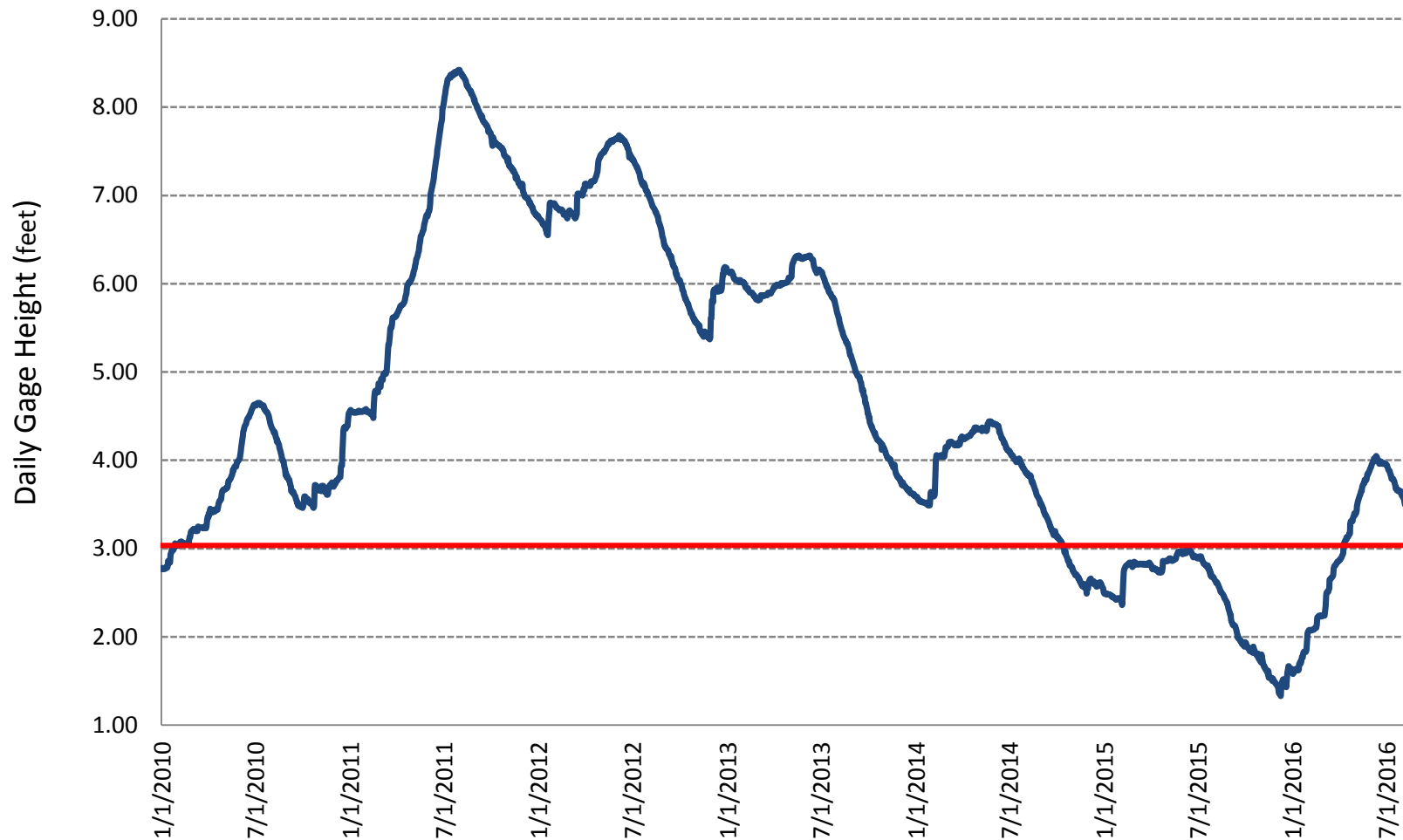
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**Author:**  
Michael Brewer  
NCDC/NOAA

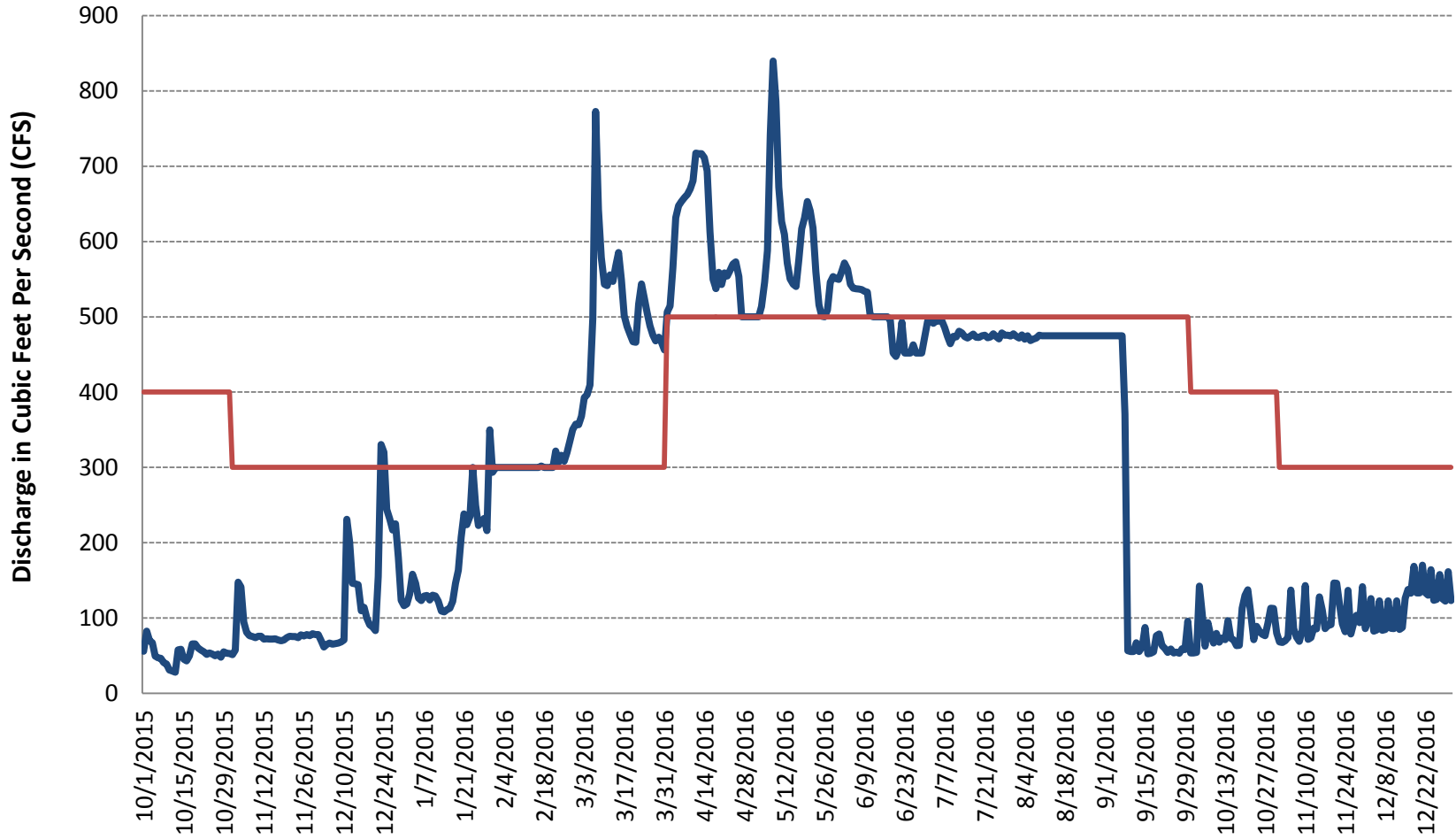


<http://droughtmonitor.unl.edu/>

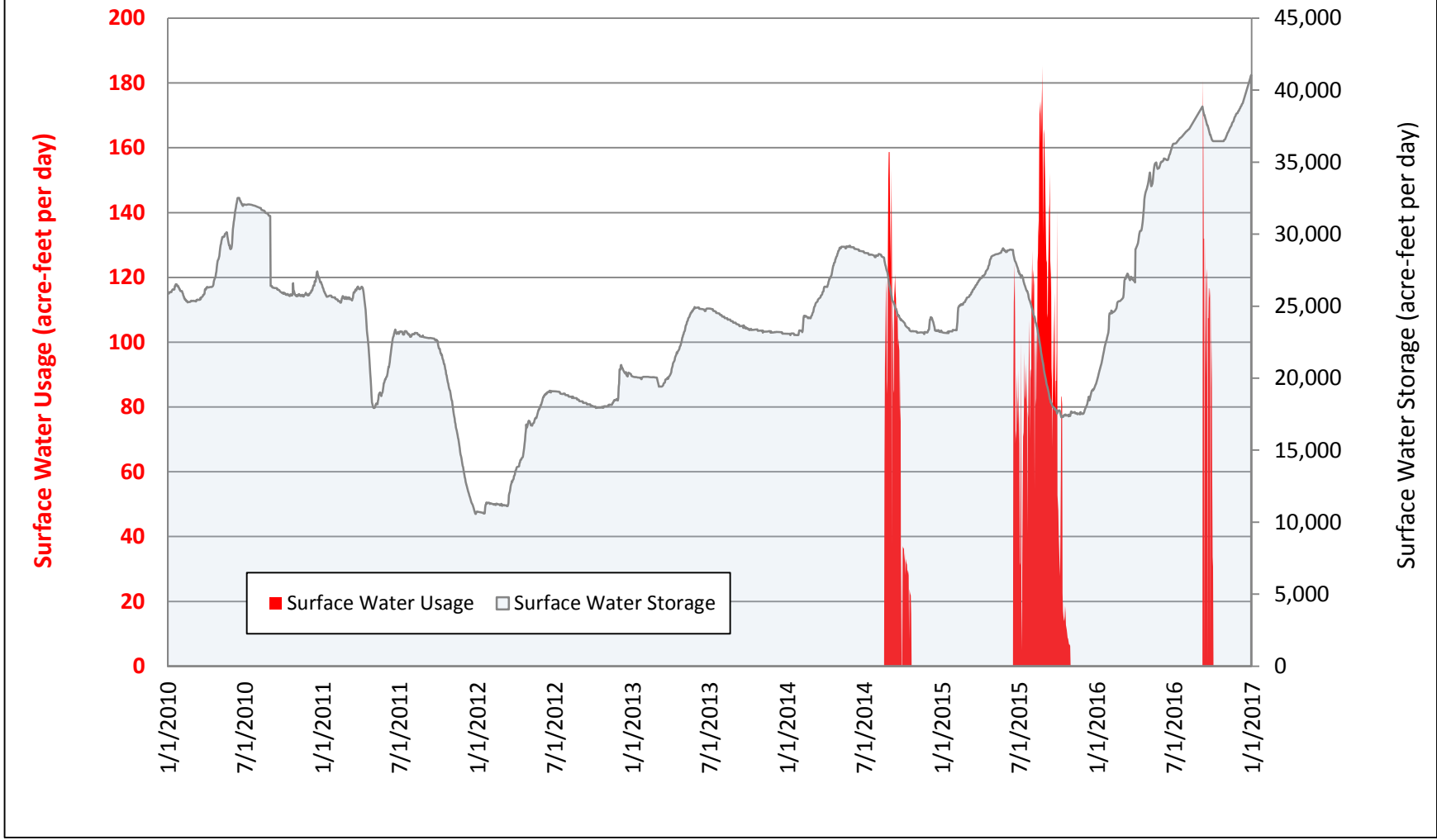
### Lake Tahoe Elevation (2010-2016)



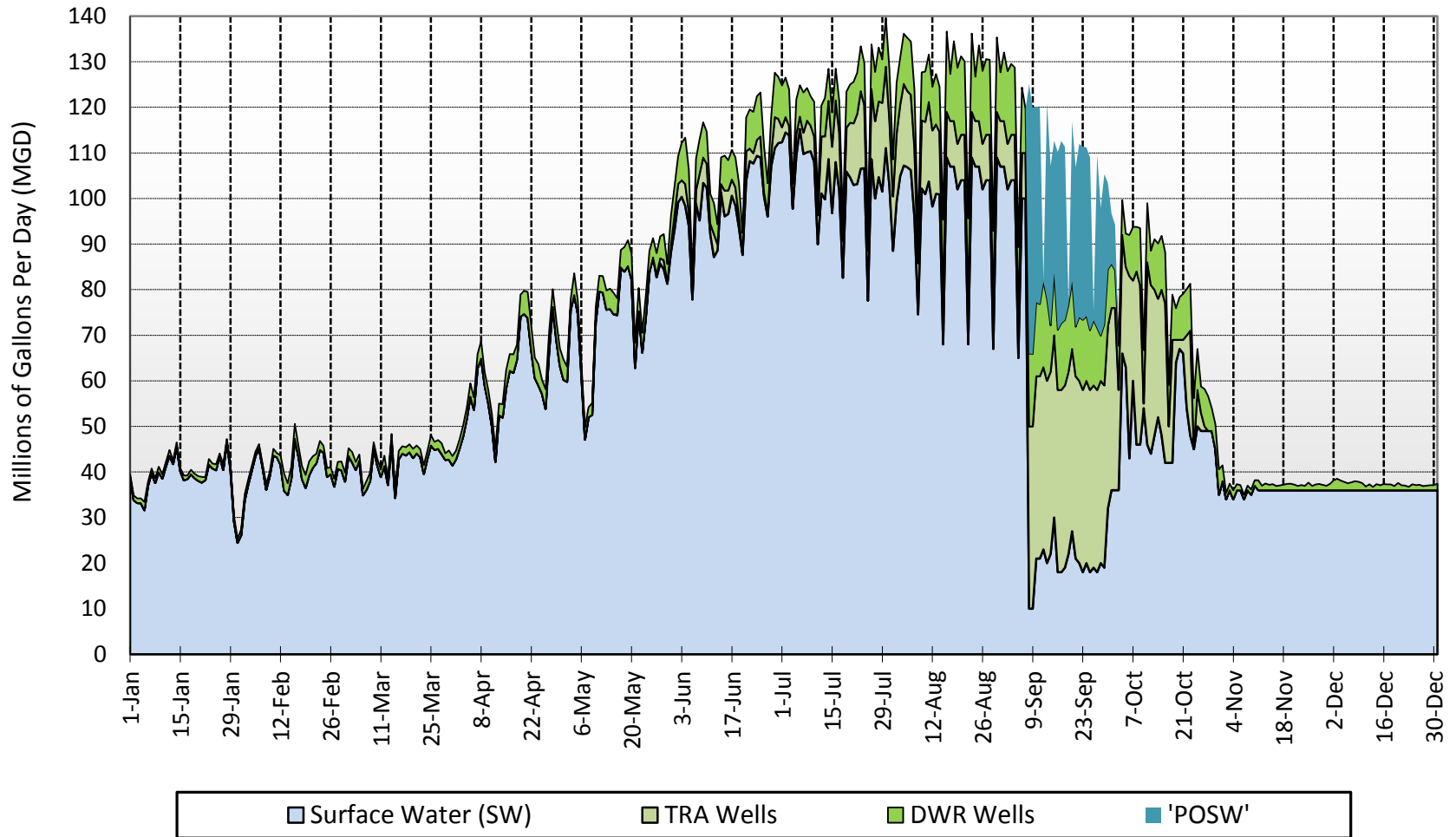
### Truckee River at Farad (required, actual and projected rates of flow)



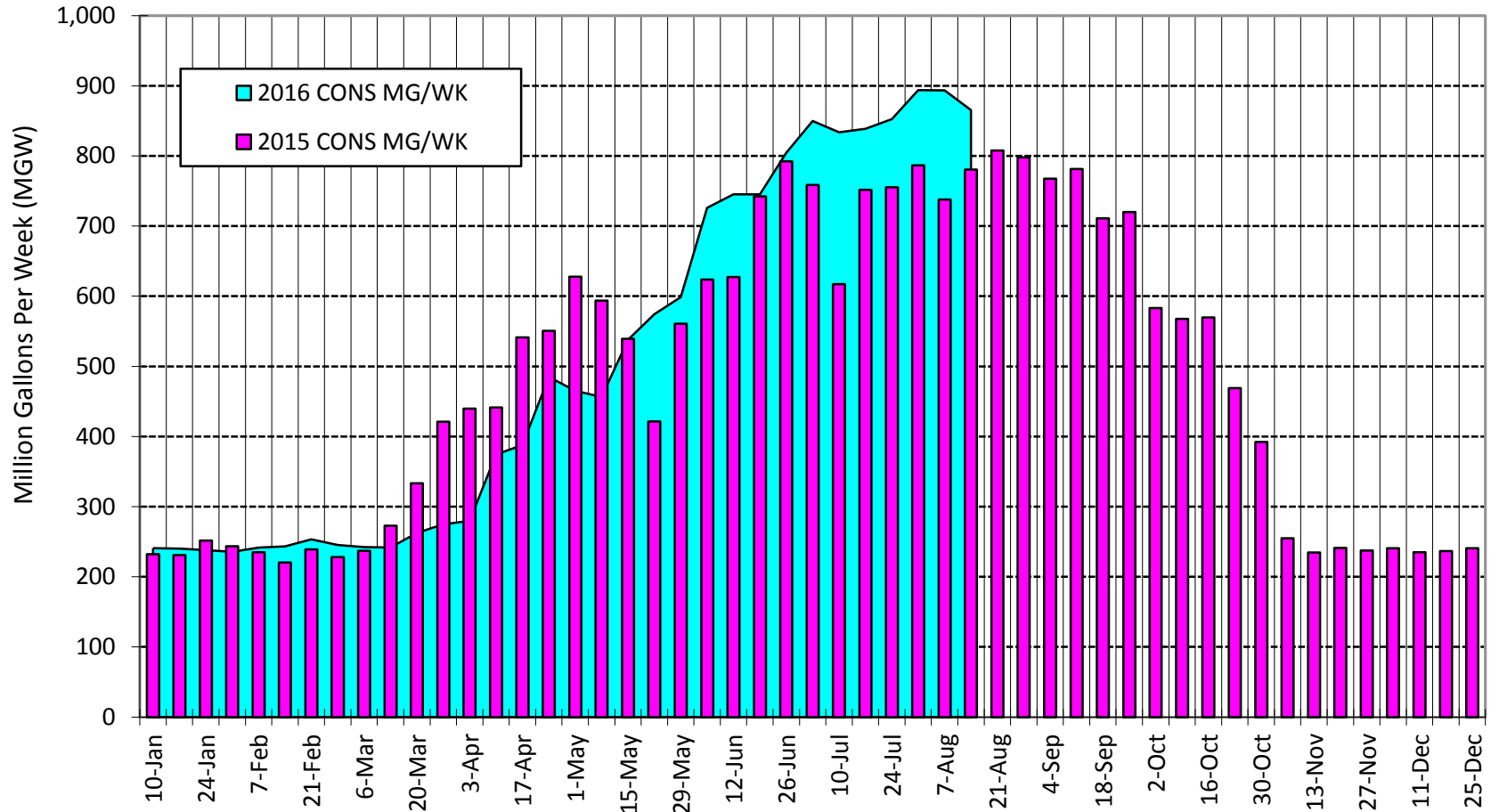
### TMWA Surface Water Usage and Storage (2010-2016)



## 2016 TMWA Actual and Projected Sources of Supply



### TMWA System Demand Comparison (2015 actual and 2016 YTD)



## Water Supply Summary

- Normal snowpack in 2016
- Lingering effects of 2012-2015 (exceptionally dry)
- Runoff forecast downgraded since April 01
- Lake Tahoe elevation (4/10' above natural outlet)
- Truckee River flows (normal through first week of September)
- TMWA to use small amount of reserves to meet customer demand
- TMWA upstream drought storage est. @ 40,000 AF going into 2017
- Customer demand 102% of 2015 YTD