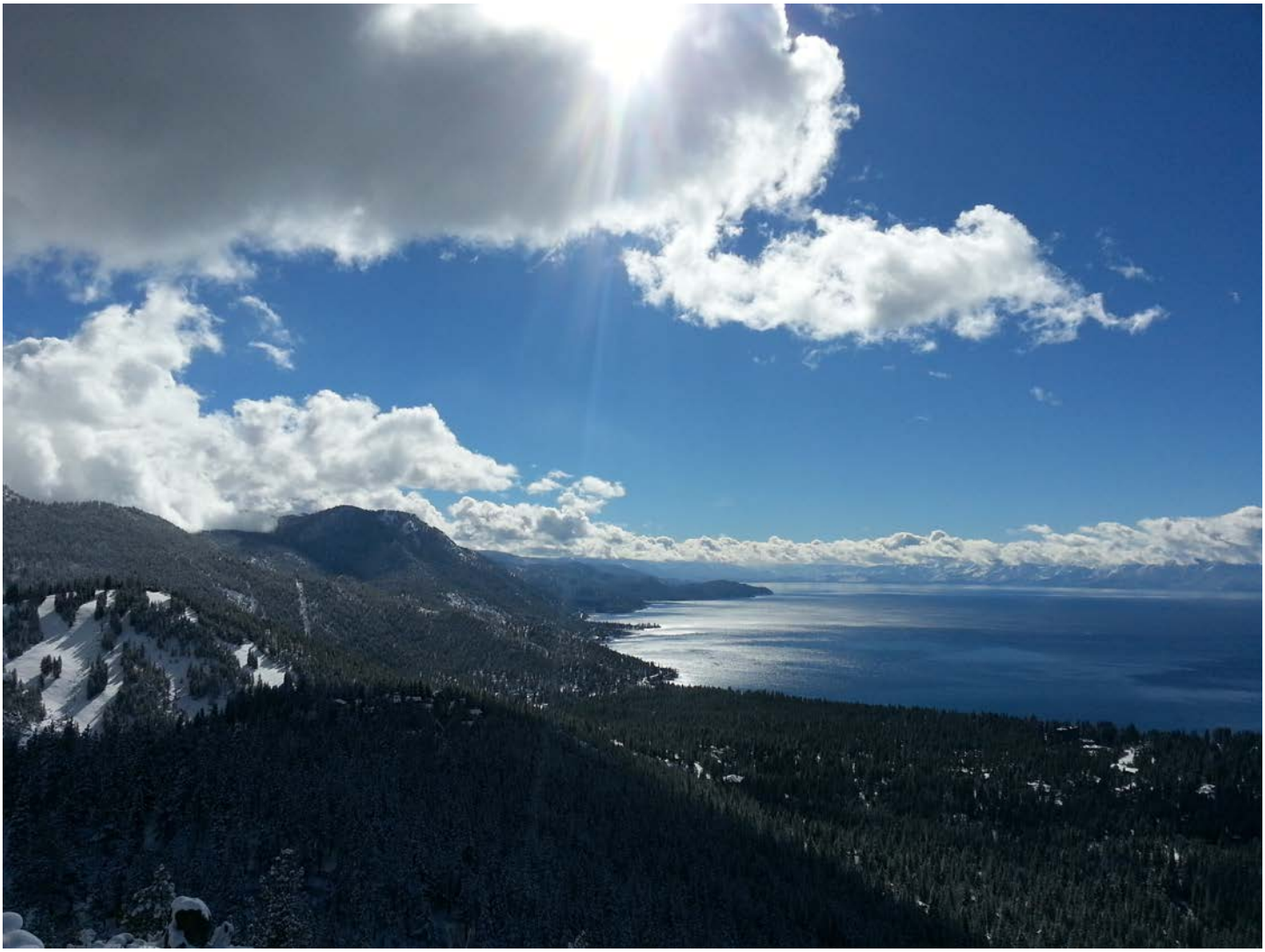
Nevada Water Supply Outlook Report

February, 2014



Fresh snow blankets the mountains surrounding Lake Tahoe.
January 30, 2014

Photo by Beau Uriona, NRCS

Water Supply Outlook Reports

Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information, contact:

Snow Survey Staff, 245 N Jimmy Doolittle Rd, SLC Utah, 84116 - Phone: (801)524-5213 x116
NRCS Nevada, 1365 Corporate Blvd., Reno, NV 89502 – Phone: (775)857-8500 x152
Internet Address: http://www.nrcs.usda.gov/wps/portal/nrcs/main/nv/snow/

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snowcourses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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STATE OF NEVADA GENERAL OUTLOOK
February 1, 2014

SUMMARY
Prevailing dry conditions during January brought little precipitation throughout Nevada. In addition, much of the mid elevation precipitation in Western Nevada fell as rain rather than snow, failing to increase the snowpack by the storm's full potential. The snowpack throughout the Sierras remains at a historic low. Several years of drought have continued to draw down reservoirs, many of which are nearly empty. It will be imperative for water users to be proactive in managing water resources this year. In general, Nevada needs to see the remainder of the winter produce over 200% of average precipitation in order to reach a typical year's snowpack, with several basins requiring over 250% of average from here on out. Dry soil conditions throughout Nevada also further exacerbate the problems in terms of water supply as well as fire potential. A small snowpack tends to melt out earlier, causing lower peak flows, higher losses due to infiltration, and a longer irrigation season with less water available. Though February has the potential to add significant snow to the mountainous regions, roughly 30% of snow falls during February in a typical year, and current meteorological outlooks do not support an exceptionally wet month, with some models predicting a drier than normal seasonal outlook. Snow levels in Nevada tend to peak between mid-March and early April, therefore time remains to see modest improvements in the water supply outlook; however, unless several consecutive wet storms arrive, Nevada's water supply in 2014 looks meager at best. Even with a large improvement in snowpack, given the current levels, reservoirs would likely not see much improvement for next year's carry over.

SNOWPACK
February first snowpack as measured by the NRCS SNOTEL system range from 15-32% of normal in western Nevada/Sierras to 39%-69% in eastern Nevada. In addition the dry weather through the beginning of February only reduces these low normals, as evident in the current snowpack map on the following page.

PRECIPITATION
Mountain precipitation during January was 34% to 42% in western Nevada and 40% to 92% of average in eastern Nevada which brings the seasonal accumulation (Oct-Dec) to 28-36% in the west and 50% to 80% in the east. See page five for a map displaying the most up to date precipitation map.

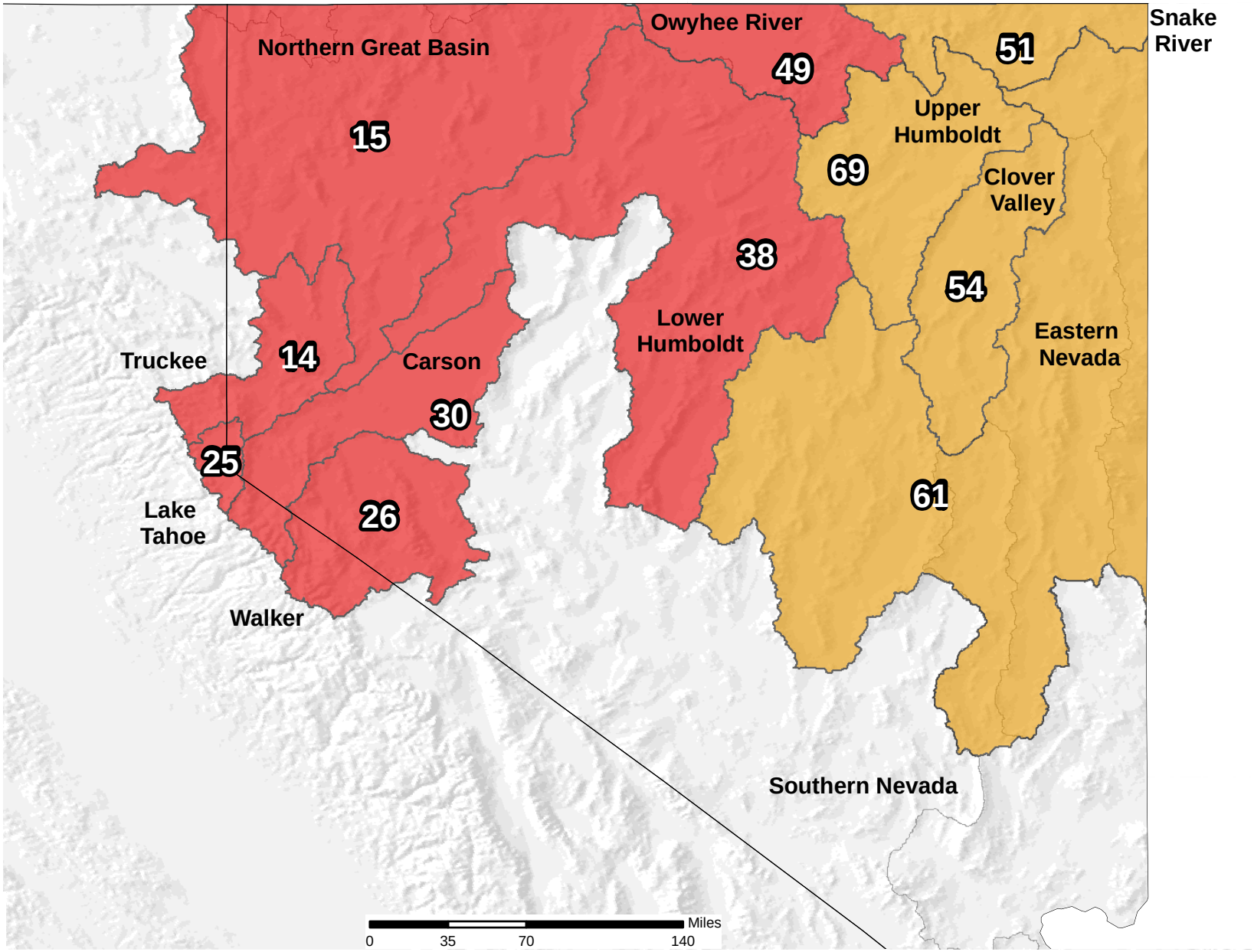
SOIL MOISTURE
Soil Moisture is near record lows throughout much of the state (~10 years on record for most Nevada SNOTEL stations). This is typical of a year with historically low, late fall precipitation.

RESERVOIRS
Storage in Nevada's key irrigation reservoirs are very low ranging from 1% to 24% of capacity and in general, about half of last year's carryover. Stampede reservoir stands out with 49% of storage capacity.

STREAMFLOW
Snowmelt stream flows are forecast to be much below normal in western Nevada and below normal in eastern Nevada.

Nevada/California SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Feb 06, 2014



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

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >= 150%

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

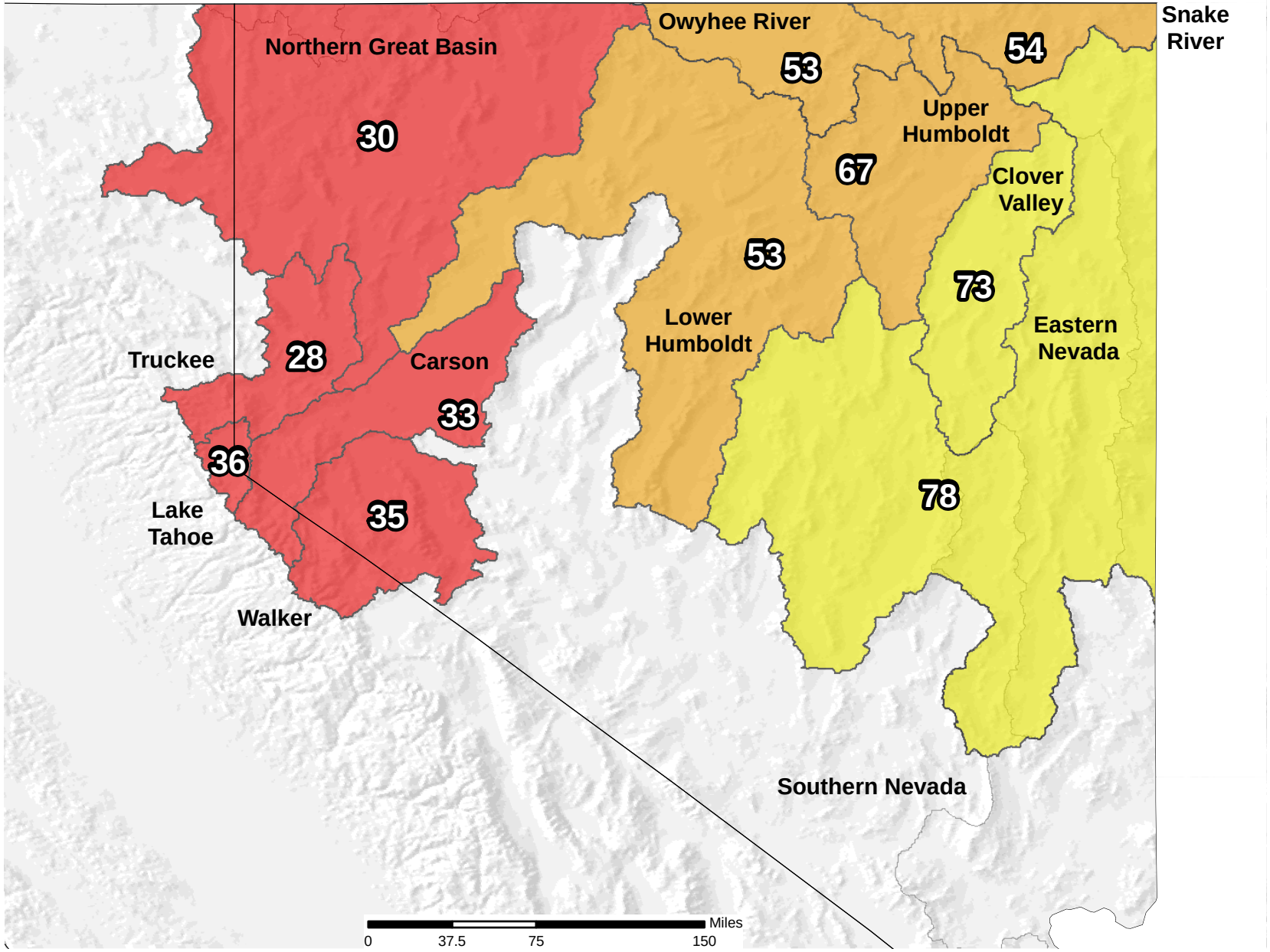
Provisional data subject to revision

The current snow water equivalent percent of normal represents the snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon http://www.wcc.nrcs.usda.gov/gis/
Based on data from http://www.wcc.nrcs.usda.gov/reports/
Science contact: Jim.Marron@por.usda.gov 503 414 3047

Nevada/California SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

Feb 06, 2014



Water Year (Oct 1) to Date Precipitation Basin-wide Percent of 1981-2010 Average

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >= 150%

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

Provisional data subject to revision

The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon http://www.wcc.nrcs.usda.gov/gis/
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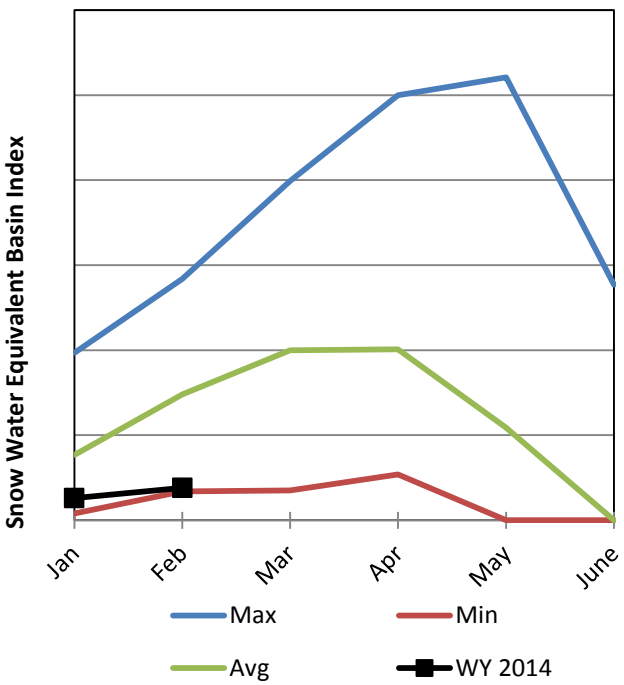
Lake Tahoe Basin

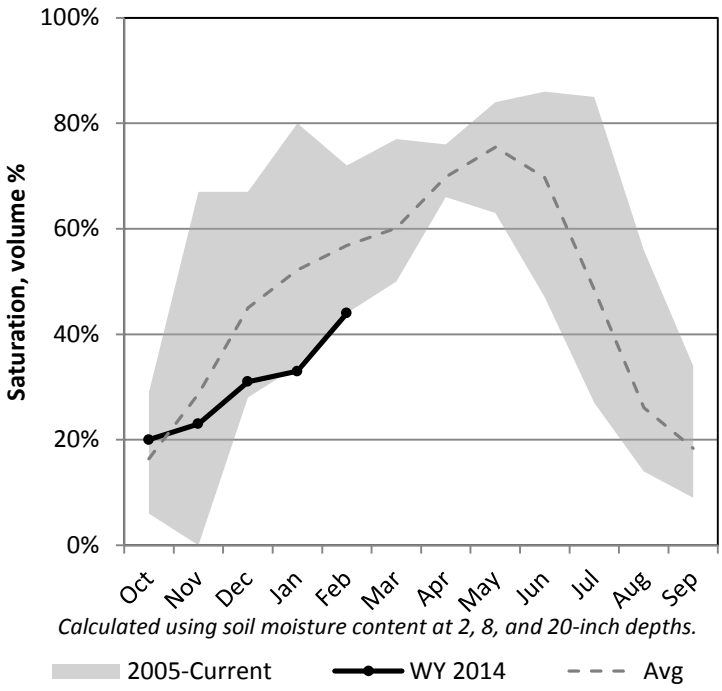
2/1/2014

Snowpack in the Lake Tahoe Basin is much below average at 26% of normal, compared to 93% last year. Precipitation in January was much below average at 49%, which brings the seasonal accumulation (Oct-Jan) to 36% of average. Soil moisture is at 44% compared to 60% last year. Reservoir storage is at 10% of capacity, compared to 52% last year. Forecast streamflow volumes range from 3% to 20% of average.

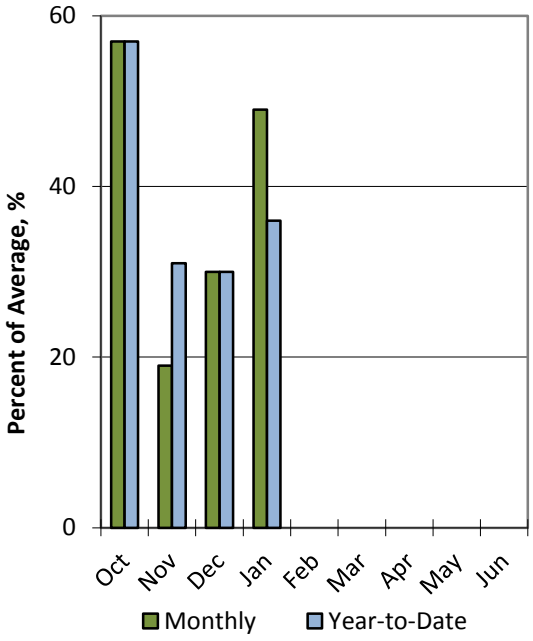
Snowpack



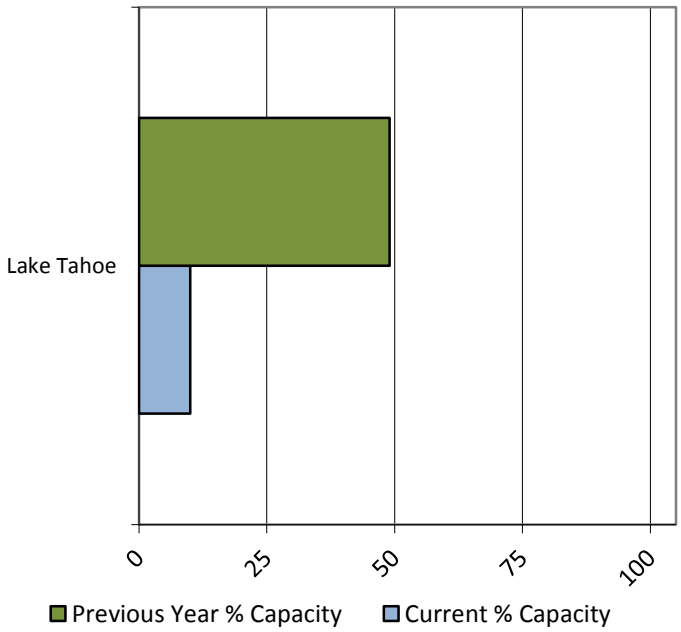
Soil Moisture



Precipitation



Reservoir Storage



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Lake Tahoe
Streamflow Forecasts - February 1, 2014

Lake Tahoe	Forecast Period	Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast 90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Marlette Lake Inflow								
	MAR-JUL	-860	-275	120	10%	515	1100	1.11
	APR-JUL	-845	-340	25	3%	340	845	0.83
Lake Tahoe Rise (Gates Closed)[1]								
	MAR-HIGH	0.02	0.07	0.32	18%	0.68	1.46	1.73
	APR-HIGH	0.01	0.08	0.28	21%	0.64	1.42	1.31
	OCT-HIGH	0.02	0.07	0.35	16%	0.85	2.2	2.2

1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Reservoir Storage End of January, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
LAKE TAHOE ELEVATION SCALE = .001 FEET	76.5	367.2	276.2	744.6
Basin-wide Total	76.5	367.2	276.2	744.6
# of reservoirs	1	1	1	1

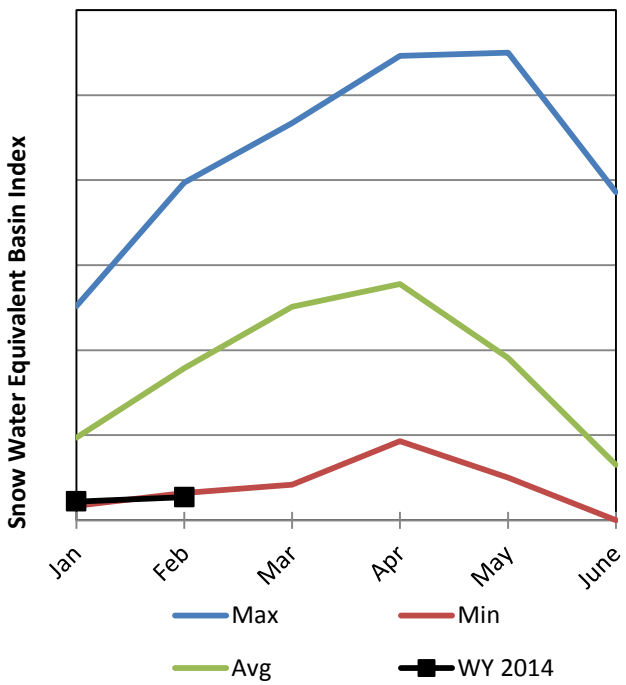
Watershed Snowpack Analysis February 1, 2014	# of Sites	% Median	Last Year % Median
Lake Tahoe	8	26%	93%

Truckee River Basin

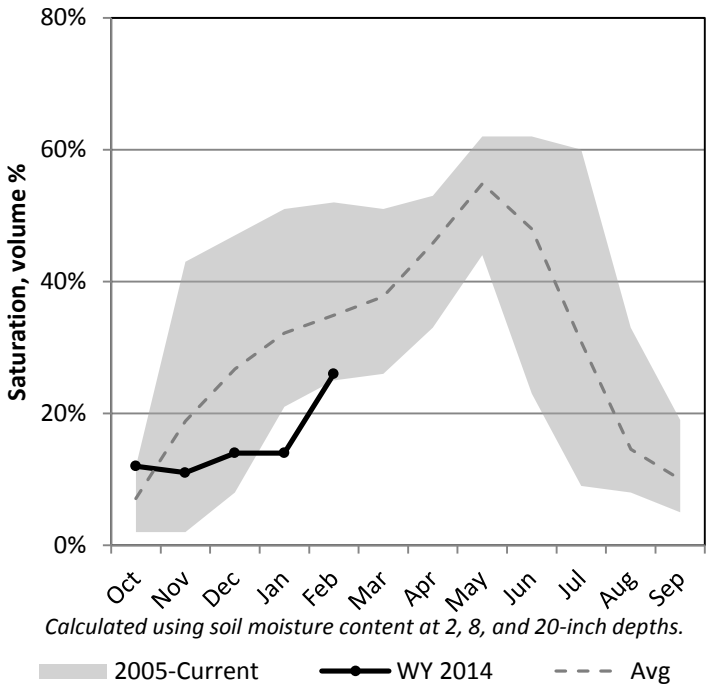
2/1/2014

Snowpack in the Truckee River Basin is much below average at 15% of normal, compared to 109% last year. Precipitation in January was much below average at 34%, which brings the seasonal accumulation (Oct-Jan) to 28% of average. Soil moisture is at 26% compared to 43% last year. Reservoir storage is at 42% of capacity, compared to 67% last year. Forecast streamflow volumes range from -49% to 30% of average.

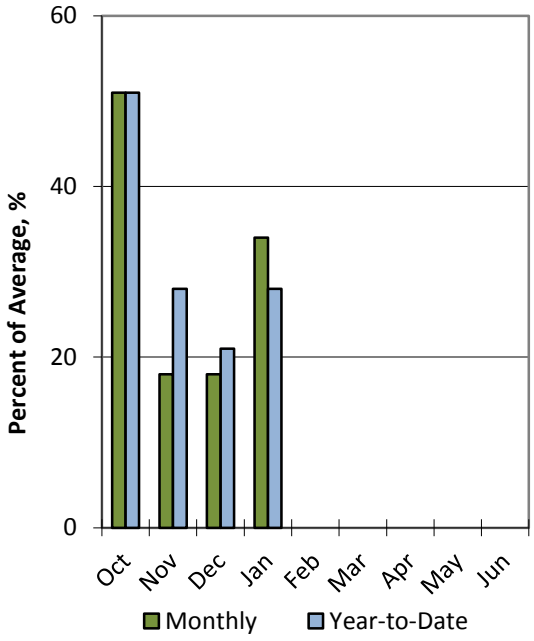
Snowpack



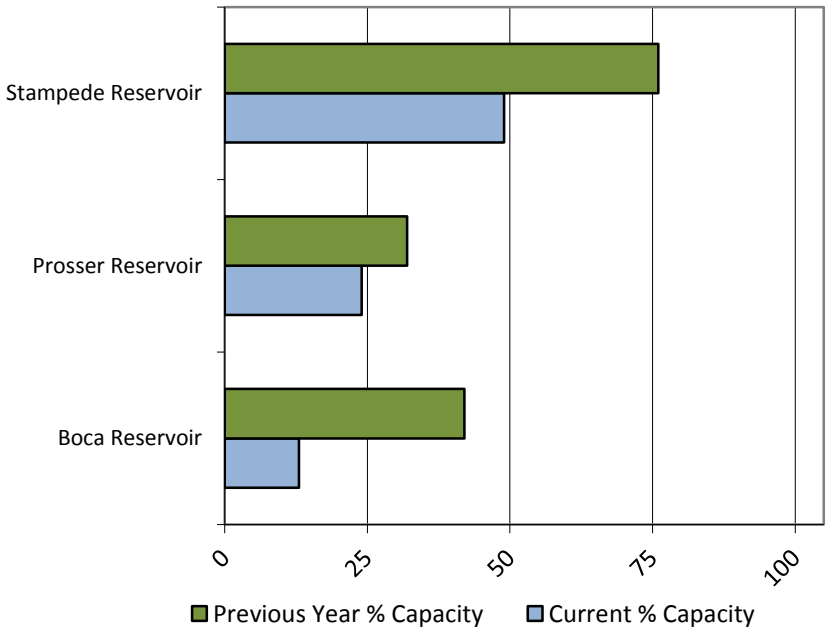
Soil Moisture



Precipitation



Reservoir Storage



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Truckee River
Streamflow Forecasts - February 1, 2014

Truckee River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
Sagehen Ck nr Truckee								
	MAR-JUL	0.06	0.19	1	16%	1.28	1.84	6.4
	APR-JUL	0.46	0.69	0.9	16%	1.18	1.76	5.6
L Truckee R ab Boca Reservoir								
	MAR-JUL	0.9	3.6	16	18%	53	107	90
	APR-JUL	0.8	2.4	16	20%	50	101	80
Truckee R at Farad								
	MAR-JUL	3.1	15.3	88	29%	176	304	306
	APR-JUL	5.2	15.6	70	27%	142	248	260
Steamboat Ck at Steamboat								
	APR-JUL	0	0.07	0.42	5%	1.27	3.9	7.7
Galena Ck at Galena Ck State Pk								
	MAR-JUL	0.05	0.55	1.2	25%	2	3.1	4.8
	APR-JUL	0.04	0.22	0.95	22%	1.68	2.8	4.4
Pyramid Lake Elevation Change (ft)[1]								
	LOW-HIGH	-5.3	-2.2	-0.83	-49%	0.55	3.6	1.7

1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Reservoir Storage End of January, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
BOCA RESERVOIR,CA	5.2	17.0	16.6	40.9
PROSSER RESERVOIR,CA	7.0	9.3	9.7	28.6
STAMPEDE RESERVOIR,CA	111.3	171.7	145.7	226.5
Basin-wide Total	123.5	198.0	172.0	296.0
# of reservoirs	3	3	3	3

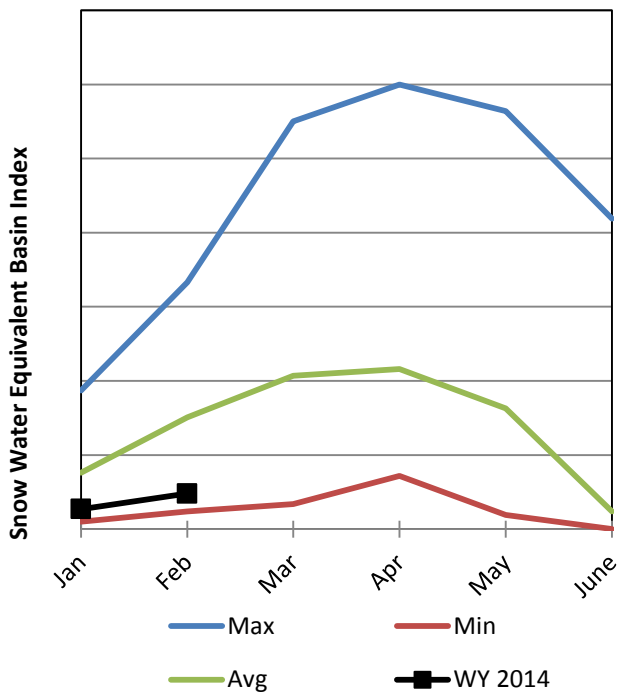
Watershed Snowpack Analysis February 1, 2014	# of Sites	% Median	Last Year % Median
Truckee River	8	15%	109%
Little Truckee River	3	14%	110%
Sage Hen Creek	3	14%	110%
Galena Creek	1	18%	127%
Steamboat Drainage	1	18%	127%
Pyramid Lake	20	19%	100%

Carson River Basin

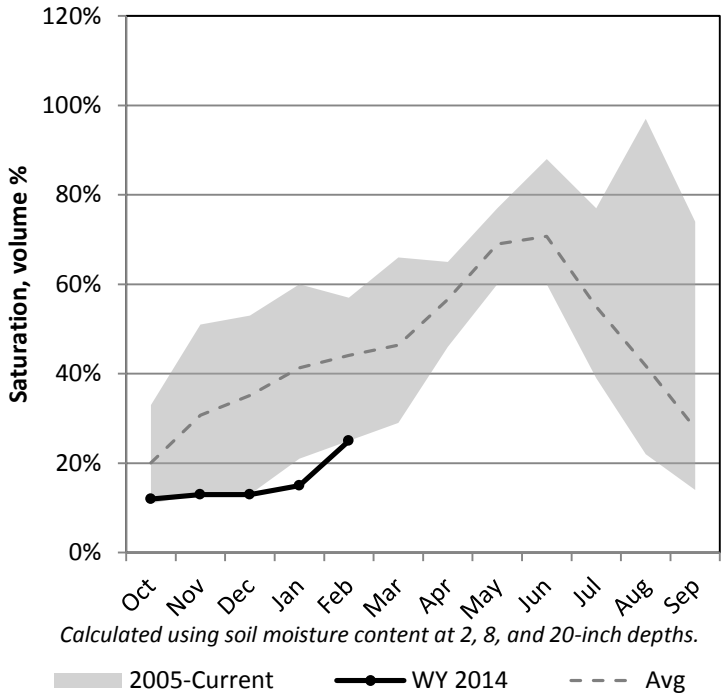
2/1/2014

Snowpack in the Carson River Basin is much below average at 32% of normal, compared to 106% last year. Precipitation in January was much below average at 45%, which brings the seasonal accumulation (Oct-Jan) to 34% of average. Soil moisture is at 25% compared to 46% last year. Reservoir storage is at 18% of capacity, compared to 26% last year. Forecast streamflow volumes range from 3% to 24% of average.

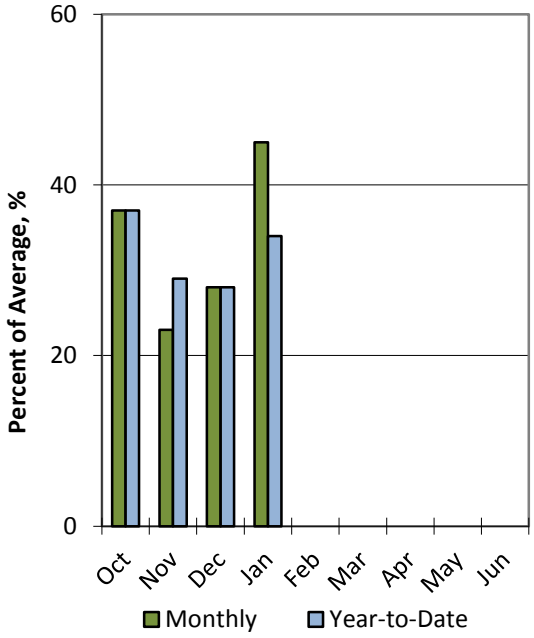
Snowpack



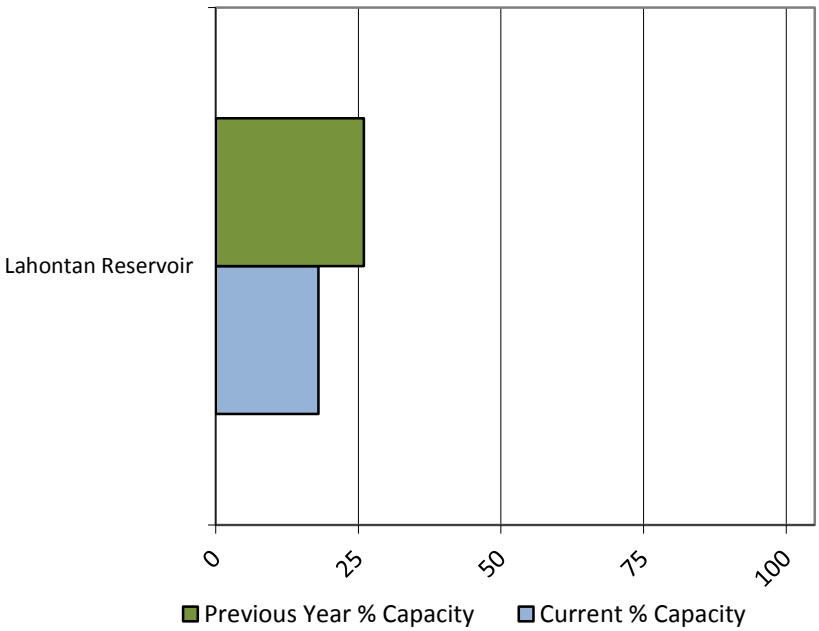
Soil Moisture



Precipitation



Reservoir Storage



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Carson River
Streamflow Forecasts - February 1, 2014

Carson River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
EF Carson R nr Gardnerville								
	MAR-JUL	2	6.2	47	23%	98	173	205
	APR-JUL	1.86	9.3	40	22%	90	157	186
Date of 200 cfs flow								
	200 cfs	May 5th	May 28th	June 13th		June 29th	July 22nd	July 25th
Date of 500 cfs flow								
	500 cfs	April 23rd	May 12th	May 25th		June 7th	June 26th	July 1st
WF Carson R nr Woodfords								
	MAR-JUL	0.59	1.77	13.6	23%	27	46	59
	APR-JUL	0.54	2.3	13	24%	24	39	54
Carson R nr Carson City								
	MAR-JUL	2.1	4.2	20	10%	89	191	210
	APR-JUL	1.79	10.7	16	9%	70	149	179
Marlette Lake Inflow								
	MAR-JUL	-860	-275	120	10%	515	1100	1110
	APR-JUL	-845	-340	25	3%	340	845	830
King Canyon Ck nr Carson City								
	MAR-JUL	0	0.01	0.08	21%	0.22	0.29	0.38
	APR-JUL	0	0.01	0.05	17%	0.2	0.34	0.29
Carson R at Ft Churchill								
	MAR-JUL	0.57	3.9	9	5%	17.3	37	200
	APR-JUL	1.71	4.2	10	6%	19.7	43	171
Ash Canyon Ck nr Carson City								
	MAR-JUL	0.01	0.03	0.35	25%	0.67	1.14	1.41
	APR-JUL	0.01	0.03	0.26	22%	0.54	0.94	1.17

1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Reservoir Storage End of January, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
LAHONTAN RESERVOIR, NV	52.6	78.1	147.1	295.1
Basin-wide Total	52.6	78.1	147.1	295.1
# of reservoirs	1	1	1	1

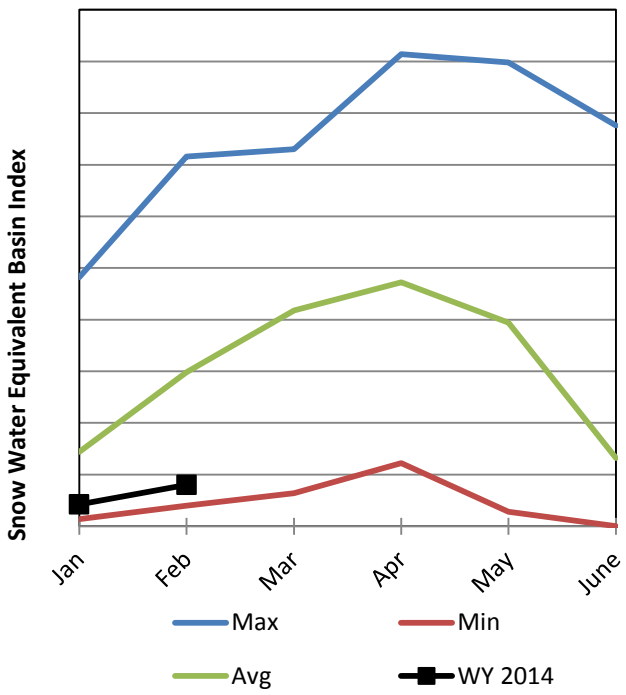
Watershed Snowpack Analysis February 1, 2014	# of Sites	% Median	Last Year % Median
Carson River	9	32%	106%
E.F. Carson River	4	35%	107%
W.F. Carson River	9	30%	109%

Walker River Basin

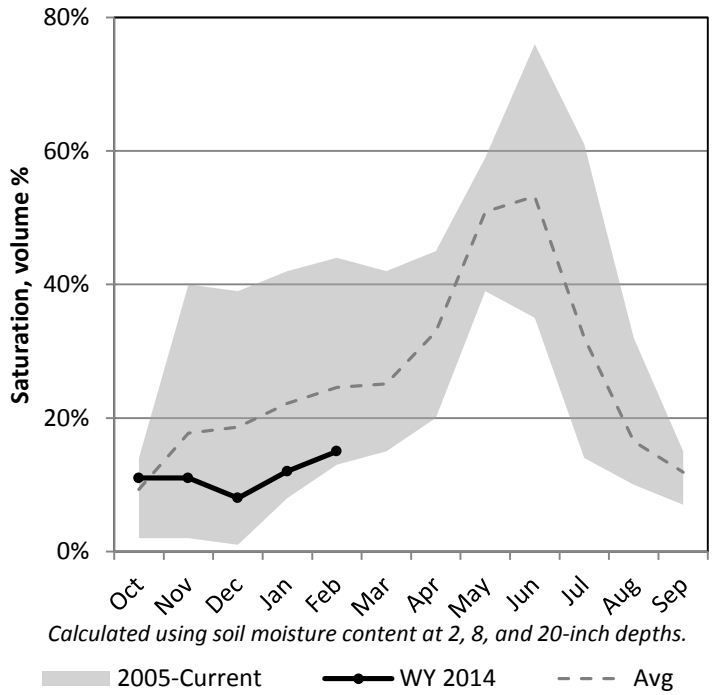
2/1/2014

Snowpack in the Walker River Basin is much below average at 27% of normal, compared to 109% last year. Precipitation in January was much below average at 42%, which brings the seasonal accumulation (Oct-Jan) to 35% of average. Soil moisture is at 15% compared to 28% last year. Reservoir storage is at 12% of capacity, compared to 22% last year. Forecast streamflow volumes range from -35% to 28% of average.

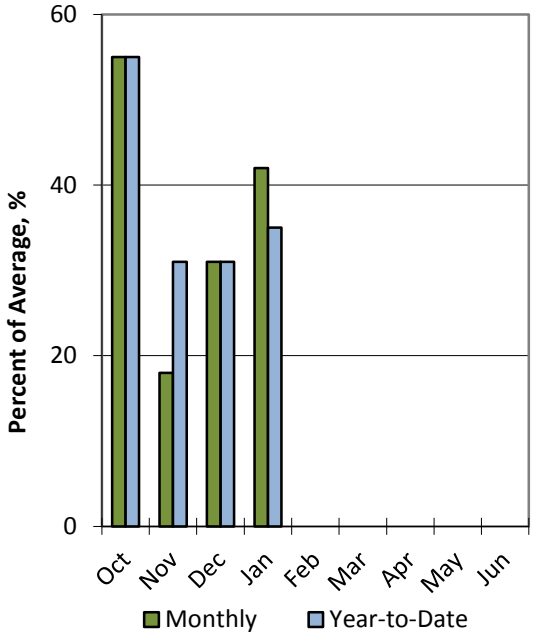
Snowpack



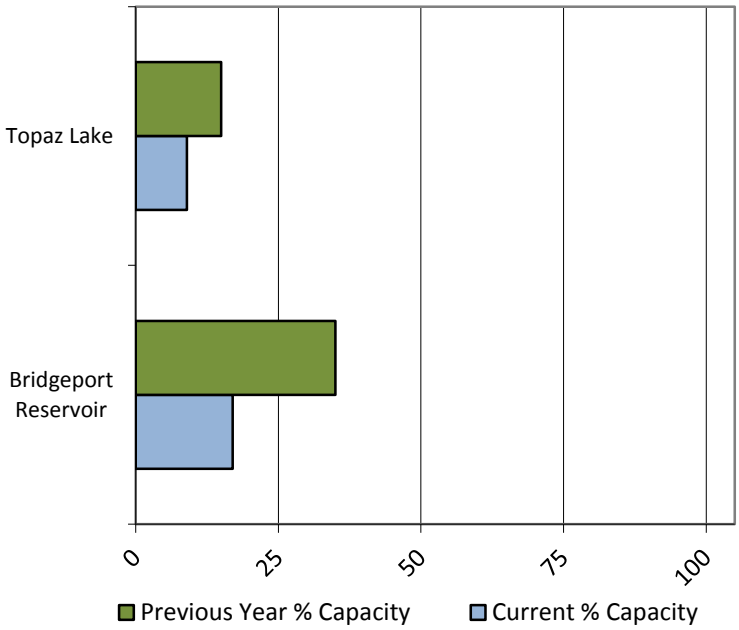
Soil Moisture



Precipitation



Reservoir Storage



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Walker River
Streamflow Forecasts - February 1, 2014

Walker River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
E Walker R nr Bridgeport								
	MAR-AUG	0.76	2.3	18	23%	31	63	78
	APR-AUG	0.67	3.4	14	21%	32	59	68
W Walker R bl L Walker nr Coalville								
	MAR-JUL	1.7	13.9	48	28%	82	132	170
	APR-JUL	1.62	10.7	45	28%	79	130	162
W Walker R nr Coalville								
	MAR-JUL	32	38	45	26%	44	50	172
	APR-JUL	28	33	39	24%	39	44	163
Walker Lake Elevation Change[1]								
	LOW-HIGH	-2.7	-1.73	-0.5	-35%	0.73	1.71	1.41

1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Reservoir Storage End of January, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
BRIDGEPORT RESERVOIR,CA	7.4	14.9	21.6	42.5
TOPAZ LK NR TOPAZ, CA	6.3	11.8	24.4	59.4
Basin-wide Total	13.7	26.7	46.0	101.9
# of reservoirs	2	2	2	2

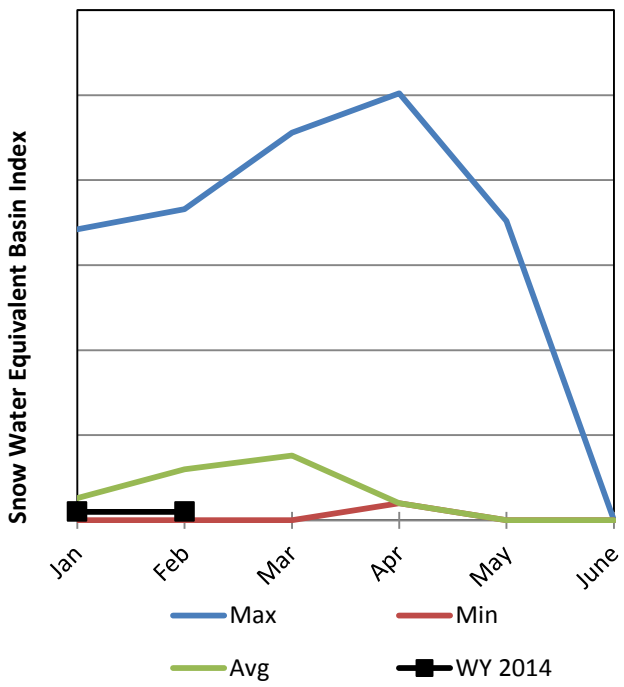
Watershed Snowpack Analysis February 1, 2014	# of Sites	% Median	Last Year % Median
Walker Lake Rise	7	27%	114%
E. Walker Rv. Nr Bridgeport	4	28%	114%
W. Walker Rv. Nr Coleville	4	26%	114%

Northern Great Basin

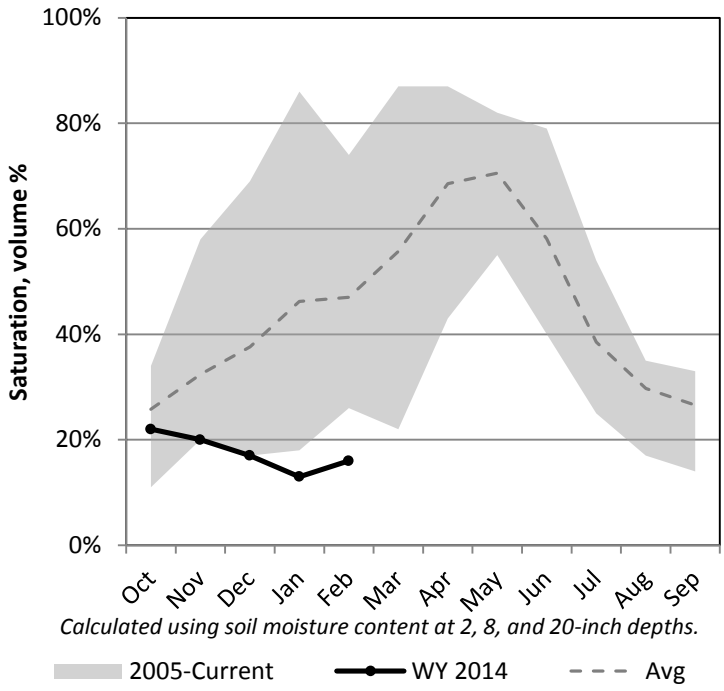
2/1/2014

Snowpack in the Northern Great Basin is much below average at 9% of normal, compared to 84% last year. Precipitation in January was much below average at 41%, which brings the seasonal accumulation (Oct-Jan) to 37% of average. Soil moisture is at 16% compared to 29% last year. Forecast streamflow volumes range from 9% to 25% of average.

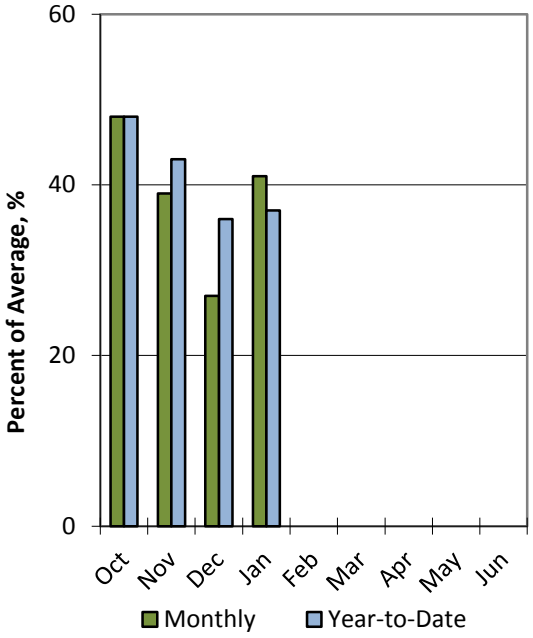
Snowpack



Soil Moisture



Precipitation



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Northern Great Basin
Streamflow Forecasts - February 1, 2014

Northern Great Basin	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
Eagle Ck nr Eagleville								
	APR-JUL	0.04	0.26	0.62	14	2.1	4.3	4.3
Bidwell Ck nr Fort Bidwell								
	APR-JUL	0.12	0.36	1.44	12	3	5.3	12
McDermitt Ck nr McDermitt								
	MAR-JUN	0.175	0.52	2.3	13%	7.7	15.5	17.5
	APR-JUL	0.14	0.42	1.54	12%	5.6	11.6	12.6
Davis Ck (acre ft)								
	APR-JUL	1278	2017	2750	38	3750	5918	7233
	APR-SEP	1448	2216	2960	37	3953	6052	7991

1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

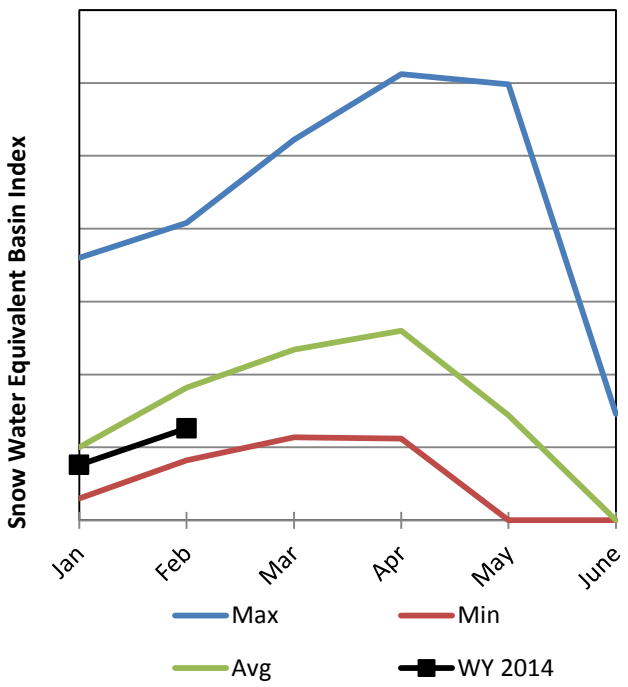
Watershed Snowpack Analysis February 1, 2014	# of Sites	% Median	Last Year % Median
Northern Great Basin	1	9%	84%
Quinn River	2	7%	107%
McDermitt Creek	2	7%	107%

Upper Humboldt River Basin

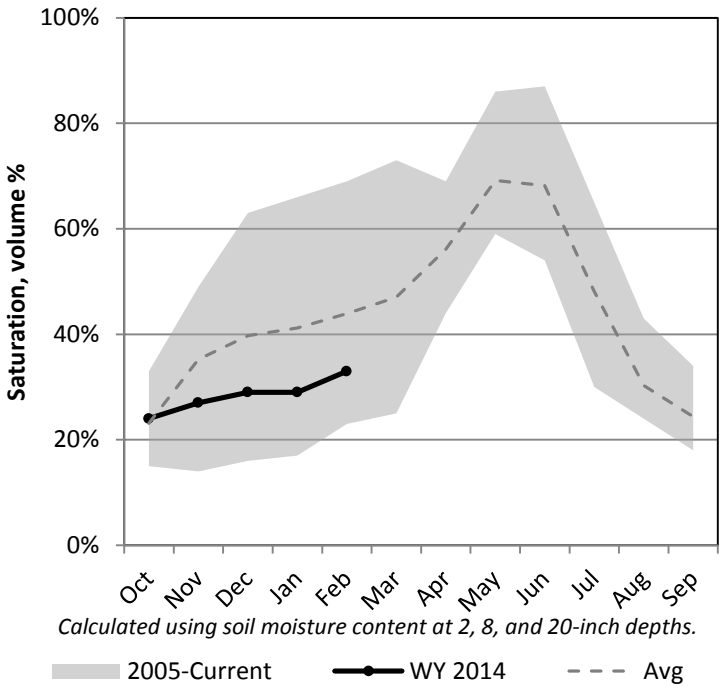
2/1/2014

Snowpack in the Upper Humboldt River Basin is much below average at 69% of normal, compared to 90% last year. Precipitation in January was below average at 87%, which brings the seasonal accumulation (Oct-Jan) to 67% of average. Soil moisture is at 33% compared to 36% last year. Forecast streamflow volumes range from 14% to 59% of average.

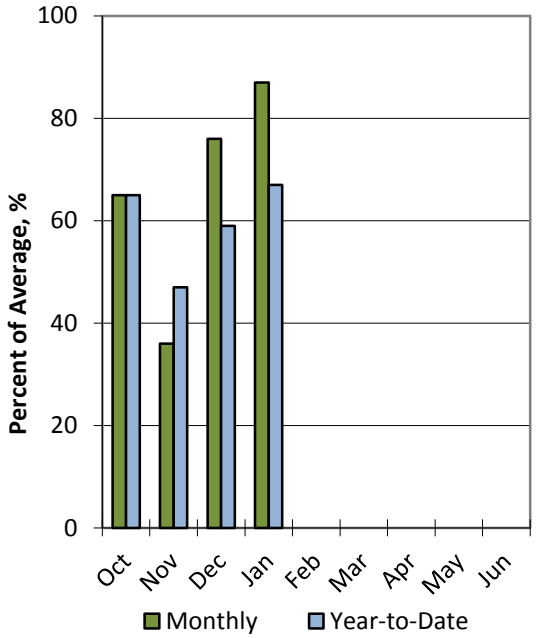
Snowpack



Soil Moisture



Precipitation



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Upper Humboldt River
Streamflow Forecasts - February 1, 2014

Upper Humboldt River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
Marys R nr Deeth								
	MAR-JUL	0.41	3	13	32%	23	38	41
	APR-JUL	0.36	1.08	10	28%	19.9	34	36
Lamoille Ck nr Lamoille								
	MAR-JUL	5.2	12.8	18	60%	23	31	30
	APR-JUL	4.2	11.8	17	59%	22	30	29
NF Humboldt R at Devils Gate								
	MAR-JUL	-17.1	-3.3	6	15%	15.3	29	39
	APR-JUL	0.34	1.02	5	16%	15.2	30	32
Humboldt R nr Elko								
	MAR-JUL	1.82	7.3	31	17%	70	126	159
	APR-JUL	1.54	6.2	30	19%	67	121	133
SF Humboldt R at Dixie								
	MAR-JUL	2.2	19.5	40	56%	60	91	72
	APR-JUL	1.32	12.3	32	48%	52	81	66
Humboldt R nr Carlin								
	MAR-JUL	2.7	8.2	36	15%	76	135	240
	APR-JUL	2.4	7.1	31	15%	69	124	205
Humboldt R at Palisades								
	MAR-JUL	2.7	8.1	40	15%	81	141	270
	APR-JUL	2.2	6.8	32	14%	74	137	225

1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

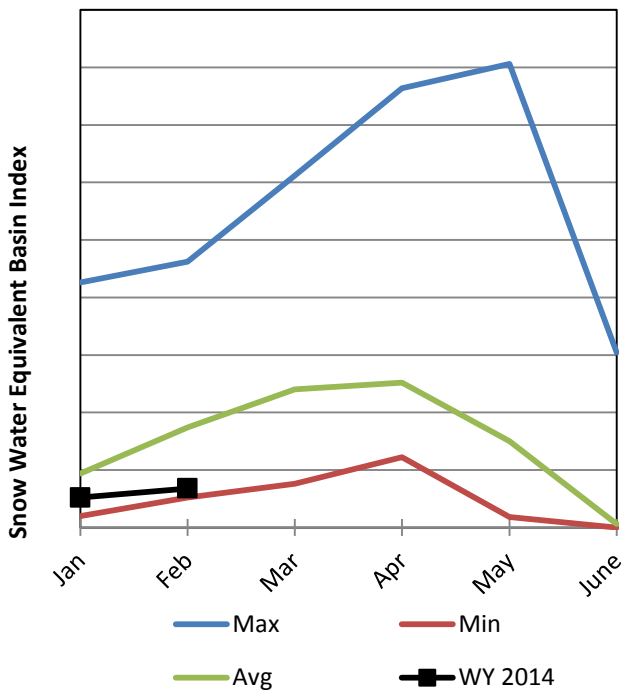
Watershed Snowpack Analysis February 1, 2014	# of Sites	% Median	Last Year % Median
Humboldt Rv. At Palisades	15	56%	88%
Lamoille Creek	3	49%	73%
S. Fork Humboldt	4	75%	103%
Mary's River	1	36%	71%
N. Fork Humboldt	2	28%	81%

Lower Humboldt River Basin

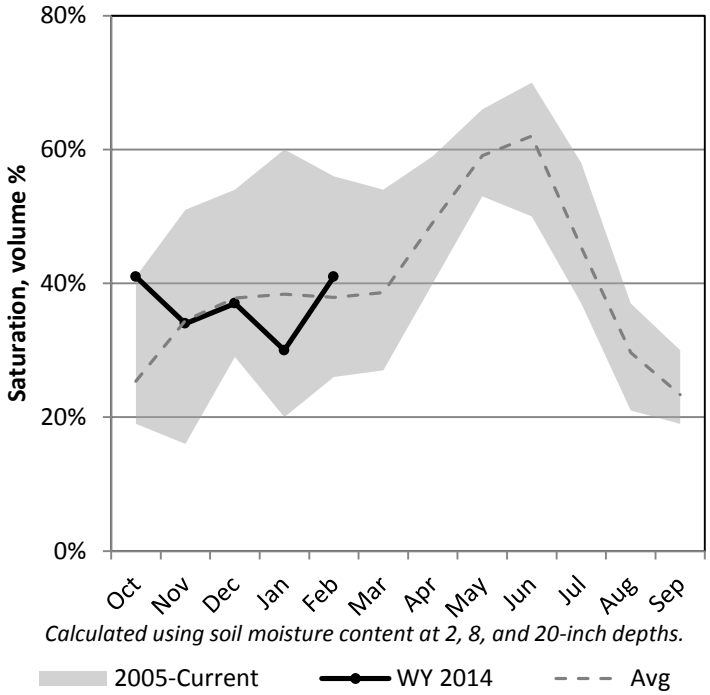
2/1/2014

Snowpack in the Lower Humboldt River Basin is much below average at 39% of normal, compared to 95% last year. Precipitation in January was much below average at 59%, which brings the seasonal accumulation (Oct-Jan) to 53% of average. Soil moisture is at 41% compared to 47% last year. Reservoir storage is at 4% of capacity, compared to 9% last year. Forecast streamflow volumes range from 2% to 13% of average.

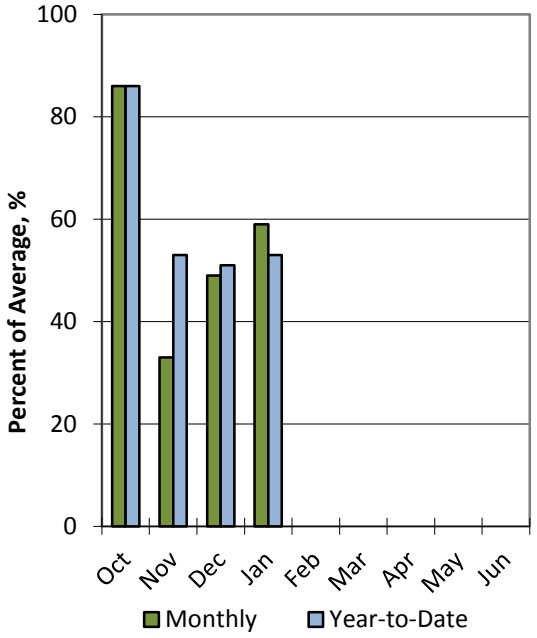
Snowpack



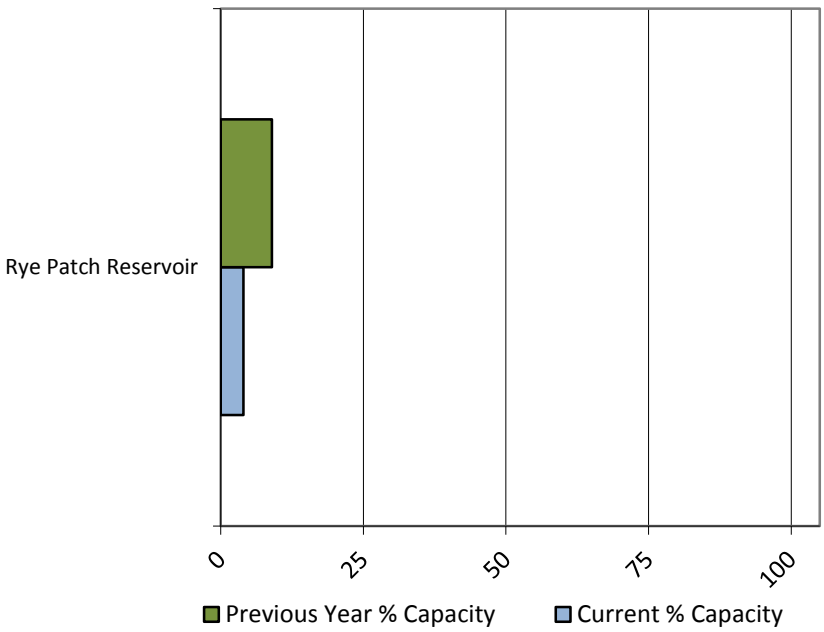
Soil Moisture



Precipitation



Reservoir Storage



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Lower Humboldt River
Streamflow Forecasts - February 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

Lower Humboldt River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Rock Ck nr Battle Mtn								
	MAR-JUL	0.27	0.54	0.81	3%	4.1	9	27
	APR-JUL	0.182	0.55	1.25	7%	3.2	6	18.2
Humboldt R at Comus								
	MAR-JUL	0	2.6	5.5	2%	56	130	255
	APR-JUL	0	2.2	5	2%	55	129	215
L Humboldt R nr Paradise								
	MAR-JUL	0.105	0.21	0.52	5%	4.3	9.8	10.5
	APR-JUL	0.097	0.194	1	10%	4.6	9.9	9.7
Martin Ck nr Paradise								
	MAR-JUL	0.11	0.22	0.85	4%	7.6	17.5	22
	APR-JUL	0.175	0.52	1	6%	7	15.9	17.5
Humboldt R nr Imlay								
	MAR-JUL	0	1.78	4.4	2%	60	142	210
	APR-JUL	0.188	1.88	5	3%	64	150	178

1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

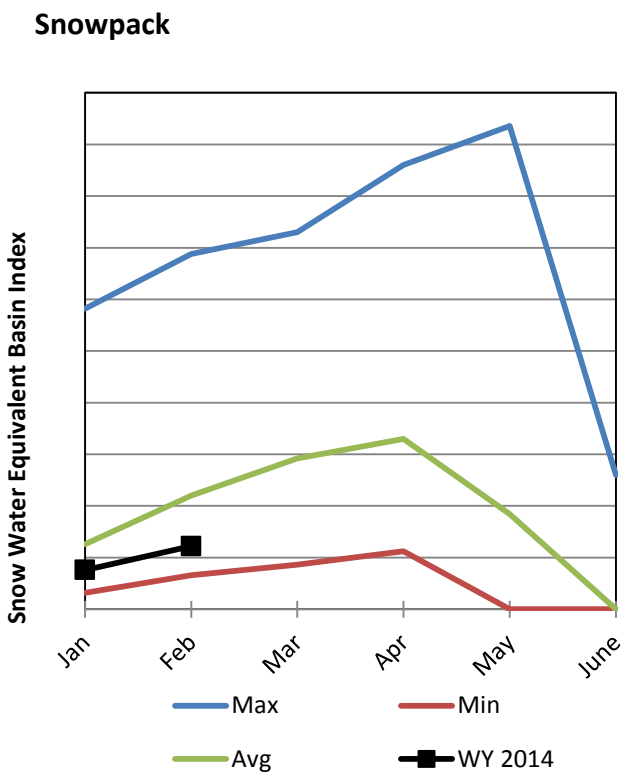
Reservoir Storage End of January, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
RYE PATCH RE NR RYE PATCH, NV	8.0	18.0	83.8	194.3
Basin-wide Total	8.0	18.0	83.8	194.3
# of reservoirs	1	1	1	1

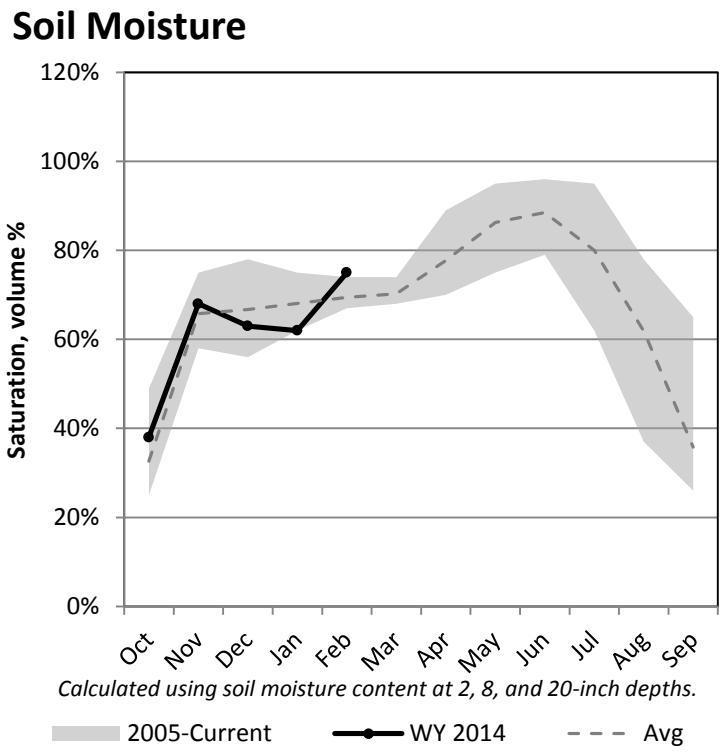
Watershed Snowpack Analysis February 1, 2014	# of Sites	% Median	Last Year % Median
Lower Humboldt River	5	39%	95%
Little Humboldt River	4	34%	93%
Martin Creek	3	30%	92%
Reese River	2	53%	98%
Rock Creek	1	8%	71%

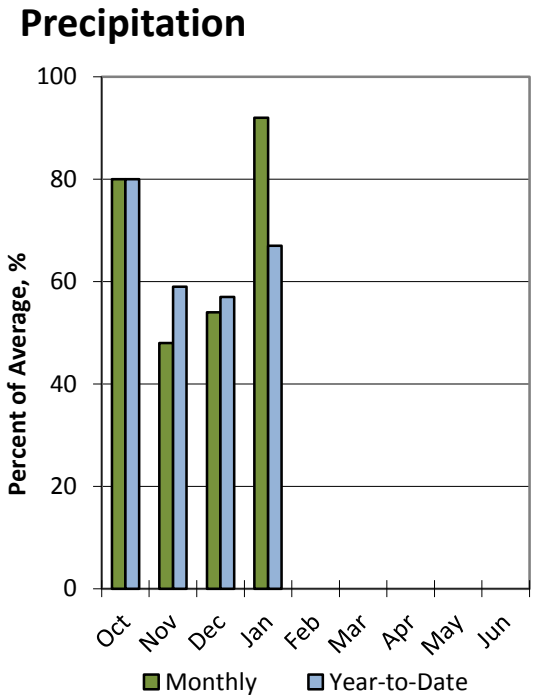
Clover Valley & Franklin River Basin

2/1/2014

Snowpack in the Clover Valley & Franklin River Basin is much below average at 55% of normal, compared to 47% last year. Precipitation in January was near average at 92%, which brings the seasonal accumulation (Oct-Jan) to 67% of average. Soil moisture is at 75% compared to 68% last year. The forecast streamflow volume for the Franklin River is 29% of average.







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Clover Valley & Franklin River
Streamflow Forecasts - February 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

Clover Valley & Franklin River	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Franklin Ck nr Arthur								
	APR-JUL	0.069	0.12	1.04	15%	1.96	3.3	6.9

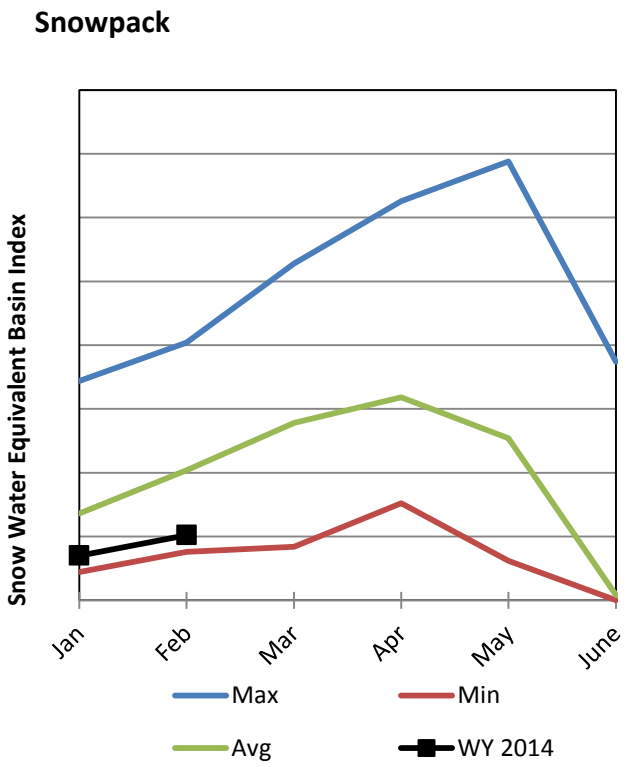
1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

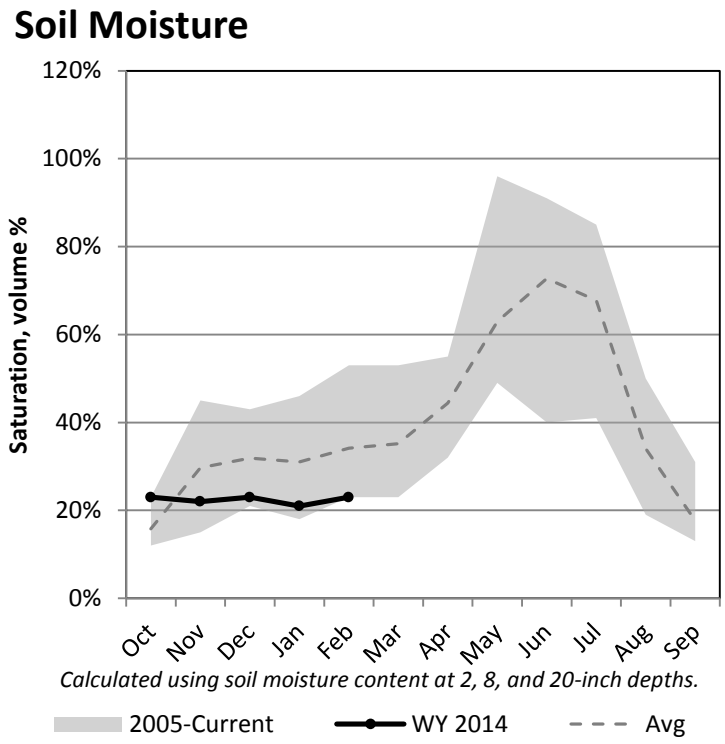
Watershed Snowpack Analysis February 1, 2014	# of Sites	% Median	Last Year % Median
Clover Valley & Franklin River	1	55%	47%
Franklin River	1	55%	47%
Clover Valley	1	55%	47%

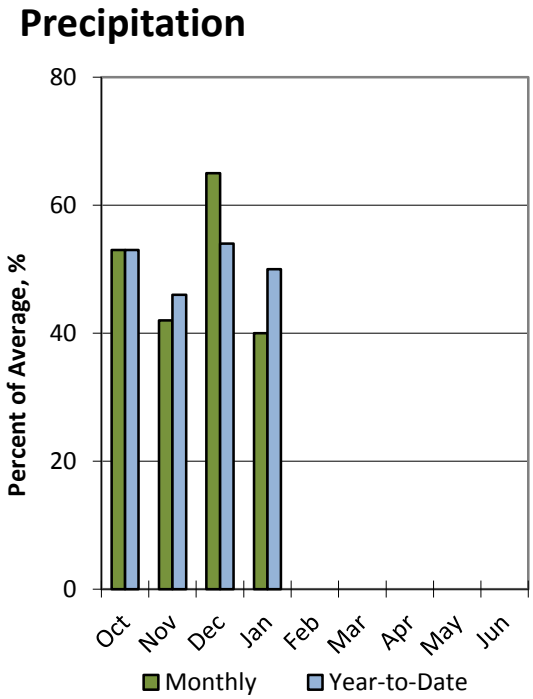
Snake River Basin

2/1/2014

Snowpack in the Snake River Basin is much below average at 50% of normal, compared to 95% last year. Precipitation in January was much below average at 40%, which brings the seasonal accumulation (Oct-Jan) to 50% of average. Soil moisture is at 23% compared to 36% last year. The forecast streamflow volume for Salmon Falls is 46% of average.







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Snake River Basin
Streamflow Forecasts - February 1, 2014

Snake River Basin	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
Salmon Falls Ck nr San Jacinto								
	MAR-JUL	8	17.5	26	32%	36	54	81

1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

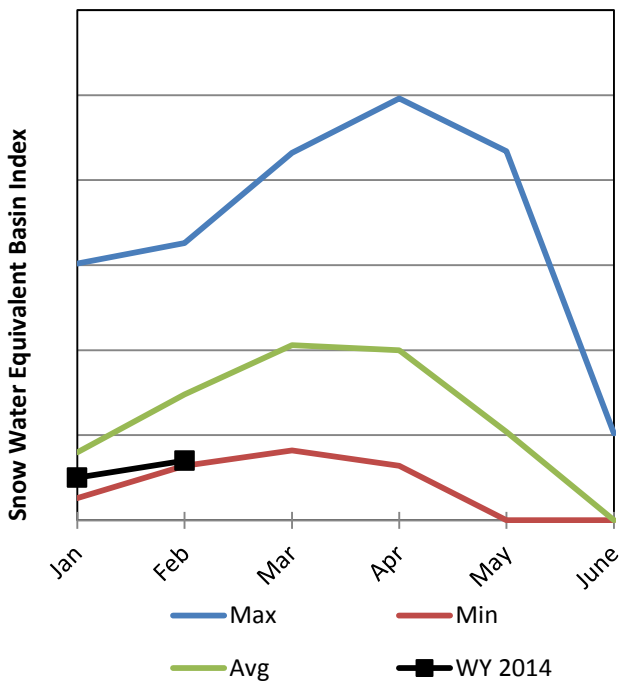
Watershed Snowpack Analysis February 1, 2014	# of Sites	% Median	Last Year % Median
Snake River Basin	3	50%	95%
Salmon Falls Creek	7	53%	99%

Owyhee River Basin

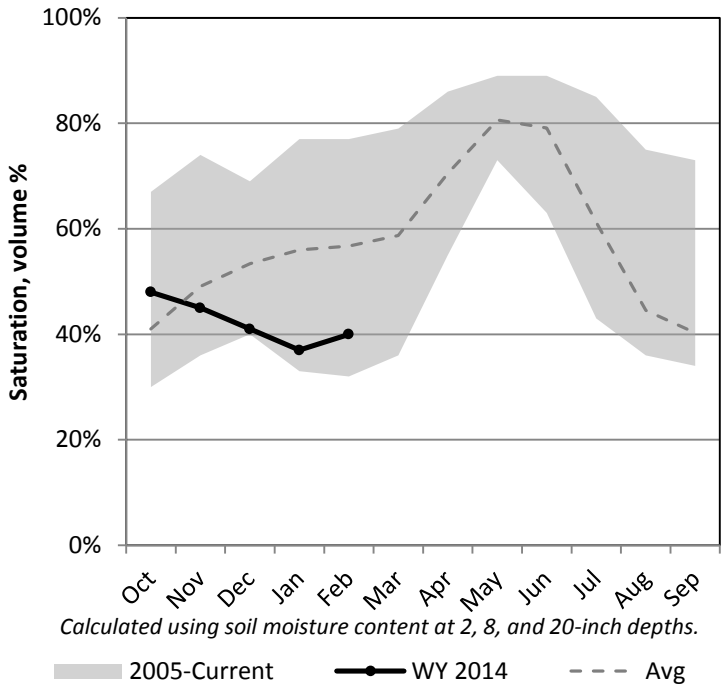
2/1/2014

Snowpack in the Owyhee River Basin is much below average at 47% of normal, compared to 89% last year. Precipitation in January was much below average at 50%, which brings the seasonal accumulation (Oct-Jan) to 52% of average. Soil moisture is at 40% compared to 55% last year. Reservoir storage is at 18% of capacity, compared to 36% last year. The forecast streamflow volume for the Owthee River near Gold Creek is 10% of average.

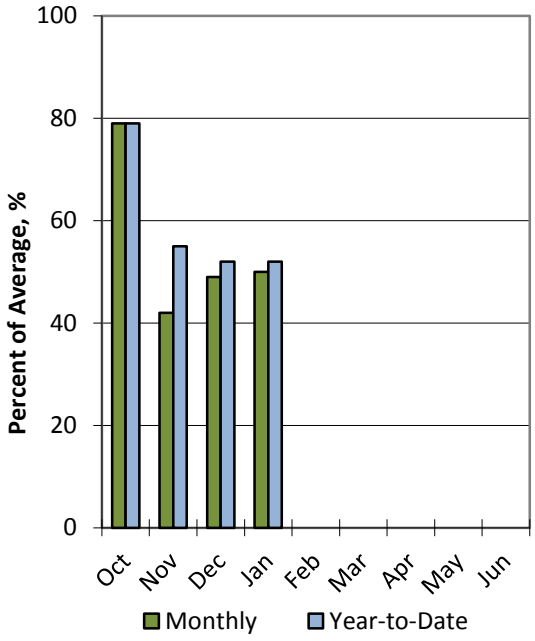
Snowpack



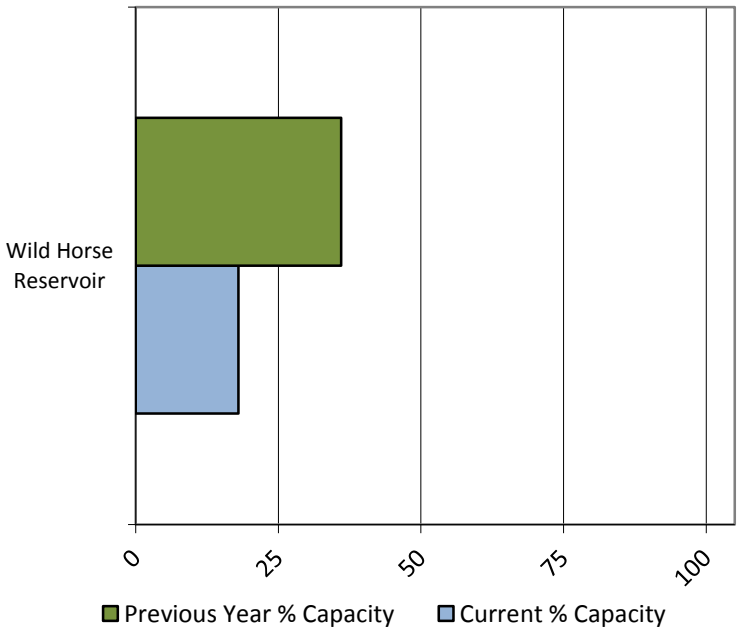
Soil Moisture



Precipitation



Reservoir Storage



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Owyhee River Basin
Streamflow Forecasts - February 1, 2014

Owyhee River Basin	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
Owyhee R nr Gold Ck[2]								
	MAR-JUL	1.67	3.7	5.8	21%	8.5	14	28
	APR-JUL	0.18	1.04	2.3	10%	4.3	9	22

1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Reservoir Storage End of January, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
WILD HORSE RE NR GOLD CREEK, NV	13.0	25.5	33.2	71.5
Basin-wide Total	13.0	25.5	33.2	71.5
# of reservoirs	1	1	1	1

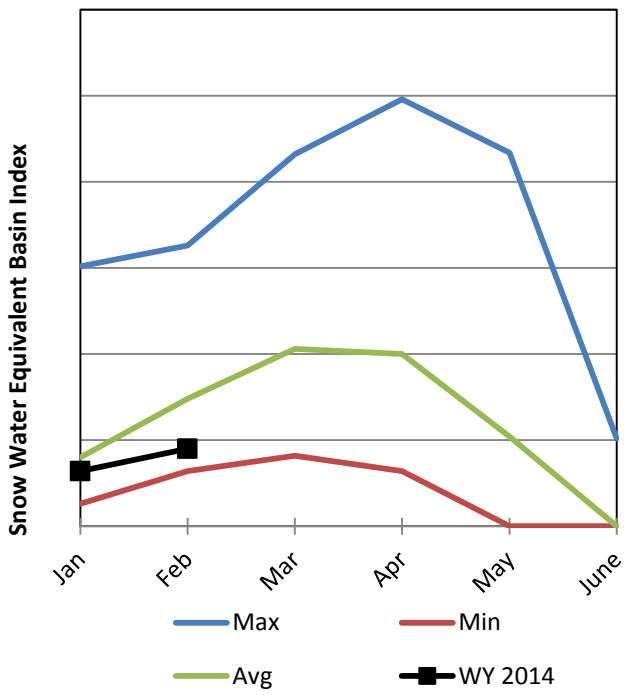
Watershed Snowpack Analysis February 1, 2014	# of Sites	% Median	Last Year % Median
Owyhee River Basin	5	47%	89%
Owyhee River nr Owyhee	4	42%	92%
Owyhee R. nr Gold Creek	2	43%	105%
S. Fork Owyhee River	2	37%	77%

Eastern Nevada Basin

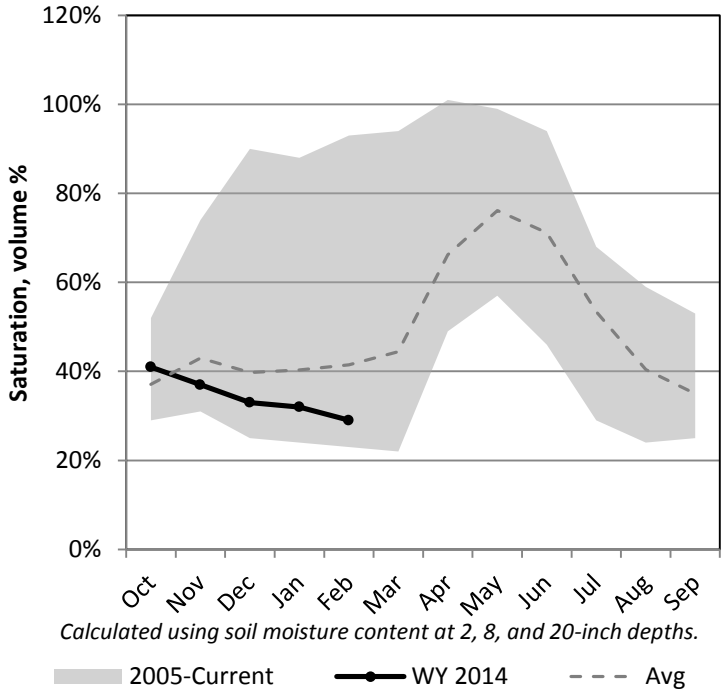
2/1/2014

Snowpack in the Eastern Nevada Basin is much below average at 68% of normal, compared to 93% last year. Precipitation in January was much below average at 57%, which brings the seasonal accumulation (Oct-Jan) to 80% of average. Soil moisture is at 29% compared to 27% last year. Forecast streamflow volumes range from 35% to 69% of average.

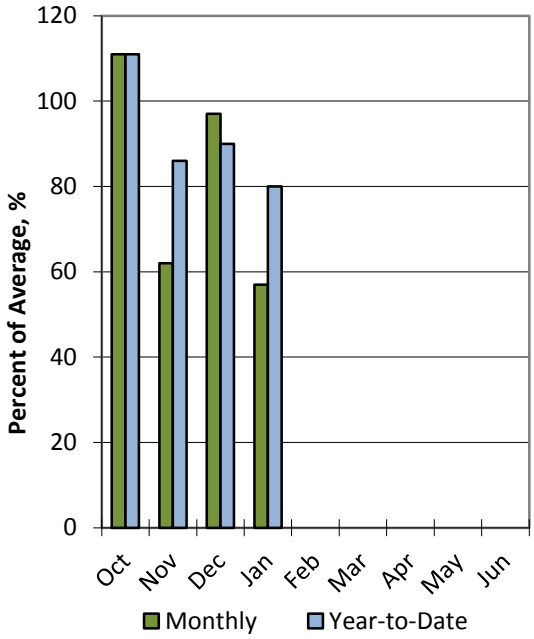
Snowpack



Soil Moisture



Precipitation



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Eastern Nevada
Streamflow Forecasts - February 1, 2014

Eastern Nevada	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
Kingston Ck nr Austin								
	APR-JUL	0.036	0.18	1.26	35%	3.1	5.7	3.6
Lehman Ck nr Baker								
	APR-JUL	0.082	1.01	1.8	66%	2.6	3.7	2.7
Cleve Ck nr Ely								
	APR-JUL	0.32	1.86	2.9	66%	3.9	5.5	4.4
Steptoe Ck nr Ely								
	APR-JUL	0.1	1.02	1.65	69%	2.3	3.2	2.4

1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

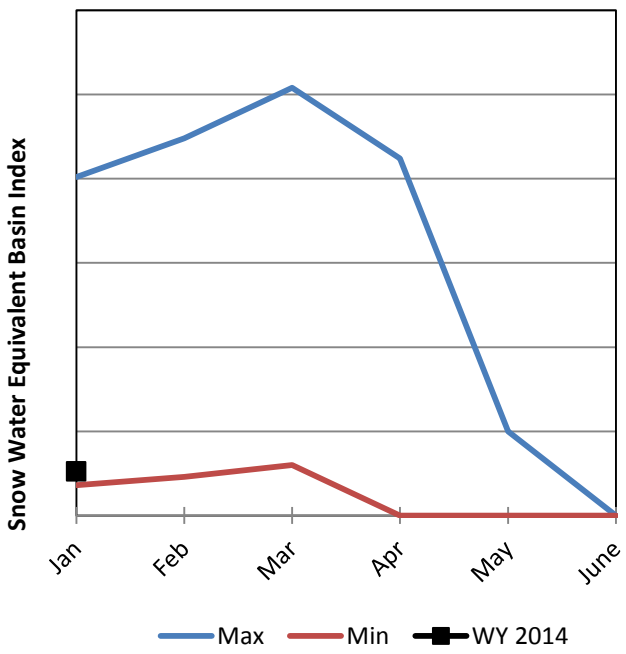
Watershed Snowpack Analysis February 1, 2014	# of Sites	% Median	Last Year % Median
Eastern Nevada	3	68%	93%
Kingston Creek	1	78%	101%
Steptoe Valley	2	58%	80%

Lower Colorado River Basin

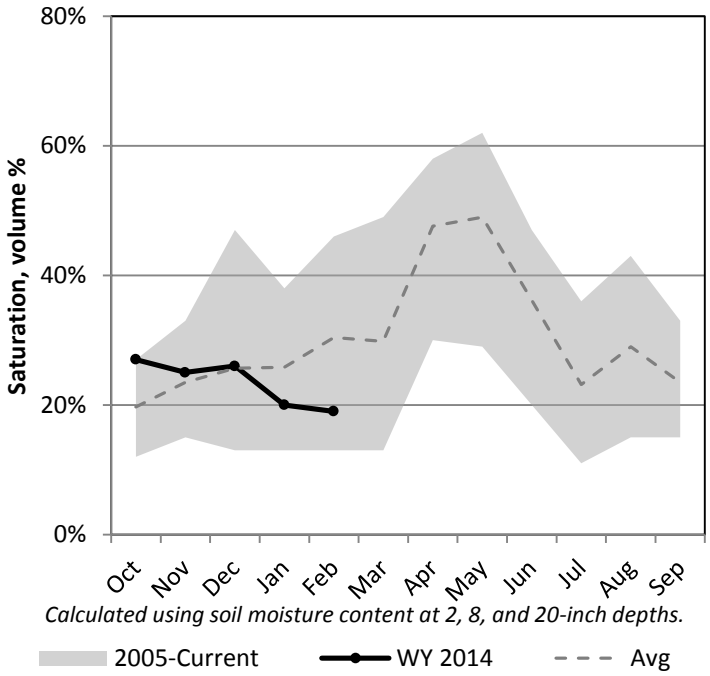
2/1/2014

Precipitation at SNOTEL stations within the Lower Colorado River Basin in January averaged inches, which brings the average SNOTEL seasonal accumulation within the basin (Oct-Jan) to inches. Soil moisture is at 19% compared to 19% last year. Reservoir storage is at 51% of capacity, compared to 55% last year. Forecast streamflow volumes range from 38% to 94% of average.

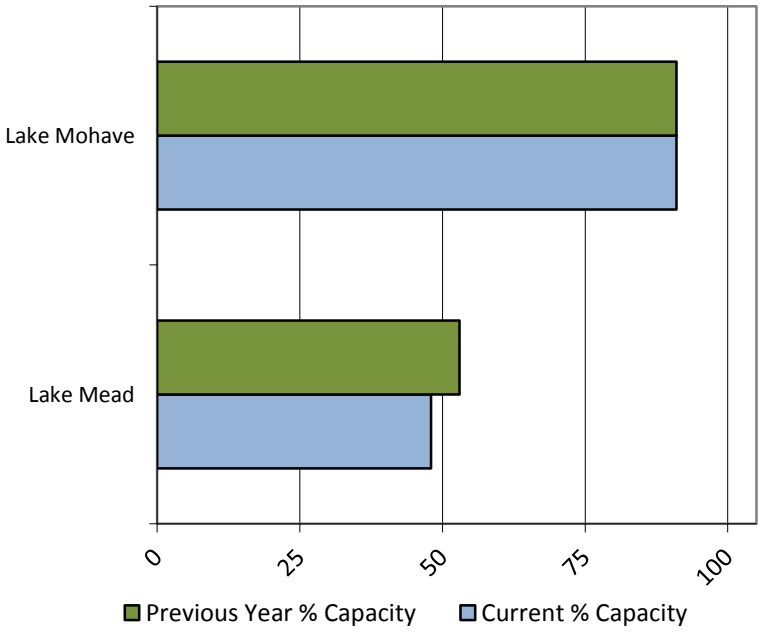
Snowpack



Soil Moisture



Reservoir Storage



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Lower Colorado River Basin
Streamflow Forecasts - February 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

Lower Colorado River Basin	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Virgin R at Littlefield								
	APR-JUL	2.9	13.3	25	38%	39	67	65
Lake Powell Inflow [2]								
	APR-JUL	3870	5460	6700	94%	8060	10300	7160
Virgin R nr Hurricane								
	APR-JUL	3.7	13.7	24	38%	38	63	63

1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Reservoir Storage End of January, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
LAKE MEAD	12543.0	13828.0	20452.0	26159.0
LAKE MOHAVE	1640.0	1649.8	1676.0	1810.0
Basin-wide Total	14183.0	15477.8	22128.0	27969.0
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis February 1, 2014	# of Sites	% Median	Last Year % Median
Lower Colorado River Basin	0		
Spring Mountains	0		

Issued by

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Nevada Water Supply Outlook Report

Natural Resources Conservation Service
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