

# Water Supply Outlook



## CALIFORNIA AND NORTHERN NEVADA

April 2001



California Nevada River Forecast Center  
NOAA National Weather Service  
Sacramento, California

## DEFINITIONS:

**Acre-Feet:** The volume equal to one acre covered one foot deep (43,560 cubic feet).

**Forecast Period:** Generally, April 1<sup>st</sup> through July 31<sup>st</sup>, unless otherwise noted.

**April-High Forecast Period:** For the Lake Tahoe Stage Rise, the period from April 1<sup>st</sup> to the highest recorded lake stage level.

**April 1st Average:** The April 1<sup>st</sup> snowpack average is used as a reference point because it is normally the end of the winter snowfall season and the beginning of the spring runoff season.

**Residual Period:** The forecast period from the first of the current month through September 30<sup>th</sup>.

**Probability Forecasts:** Precipitation and snowfall accumulation of known probability as determined by analysis of past records are utilized in the preparation of probability runoff forecasts. The forecasts include an evaluation of the standard error of the prediction model. The forecasts are presented at three levels of probability as follows:

- **Most Probable Volume:** Given the current hydrometeorological conditions to date, this is the best estimate of what the actual runoff volume will be this season.
- **Most Probable Volume (% Normal):** Most probable volume in percent of the 1961-1990 average.
- **Reasonable Maximum Volume:** Given current hydrometeorological conditions, the seasonal runoff that has a 10 percent chance of being exceeded.
- **Reasonable Minimum Volume:** Given current hydrometeorological conditions, the seasonal runoff that has a 90 percent chance of being exceeded.

**SNOTEL:** Acronym for SNOw TELelemetry. This is a automated snow measurement system operated by the USDA - Natural Resources Conservation Service. These sites use meteor burst communications technology to transmit hydrometeorological information such as snow water equivalent from snow pillows, accumulated precipitation and maximum, minimum and average air temperature.

**Water equivalent:** The depth of water that would result from melting the snowpack at a point.

**Water Year:** The period from October 1<sup>st</sup> through September 30<sup>th</sup>.

# General Outlook

**April 1, 2001**

The hopeful continuation of precipitation, following a promising trend in February, did not materialize in the snow basins during the month of March. Although copious precipitation fell in portions of the central and south coast basins, snow and rainfall amounts were less than average in the major water supply basins in the Sierra Nevada. Also, early melt of the Sierra snowpack occurred during the latter half of the month, reducing the potential April through July volumes.

March precipitation ranged from 145 percent in the central coast to near 30 percent in the Tulare basin. It was about 70 percent of normal statewide. The seasonal precipitation in the critical water supply areas of California is about two-thirds of average, the highest being 80 percent in the San Joaquin basin.

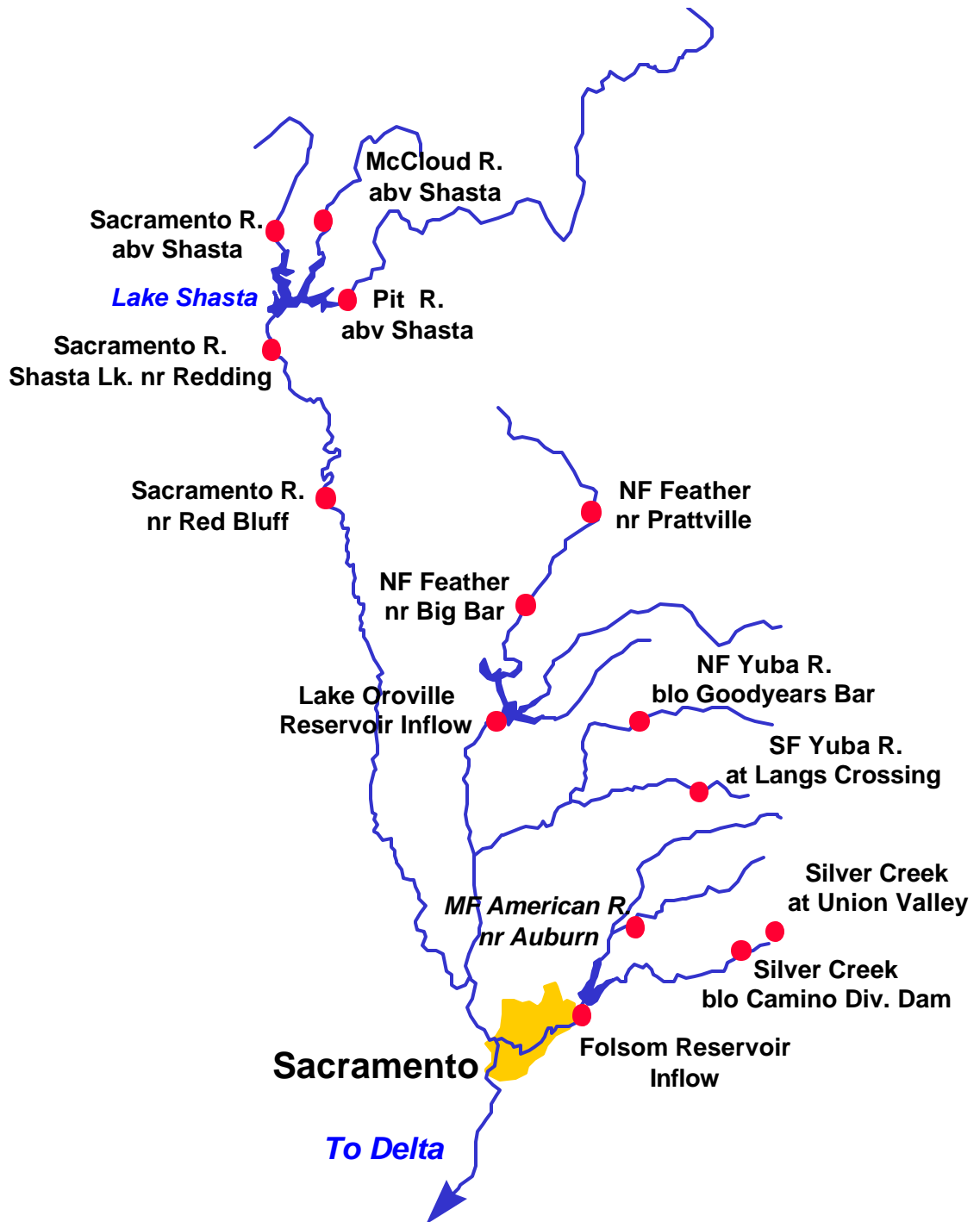
The snowpack accumulation started well in March, reaching a maximum of 77 percent of the April 1st average by mid-month. However, it slipped downward to 58 percent by the end of the month due to the early melt. The snowpack for the upper Klamath basin in Oregon is about 28 percent of average as of April 1st, while the east side Sierra Nevada and Humboldt basins also remain much below seasonal averages.

March runoff was about 67 percent of average for California. This brings the seasonal average to about 44 percent. It was 101 percent at this same time last year.

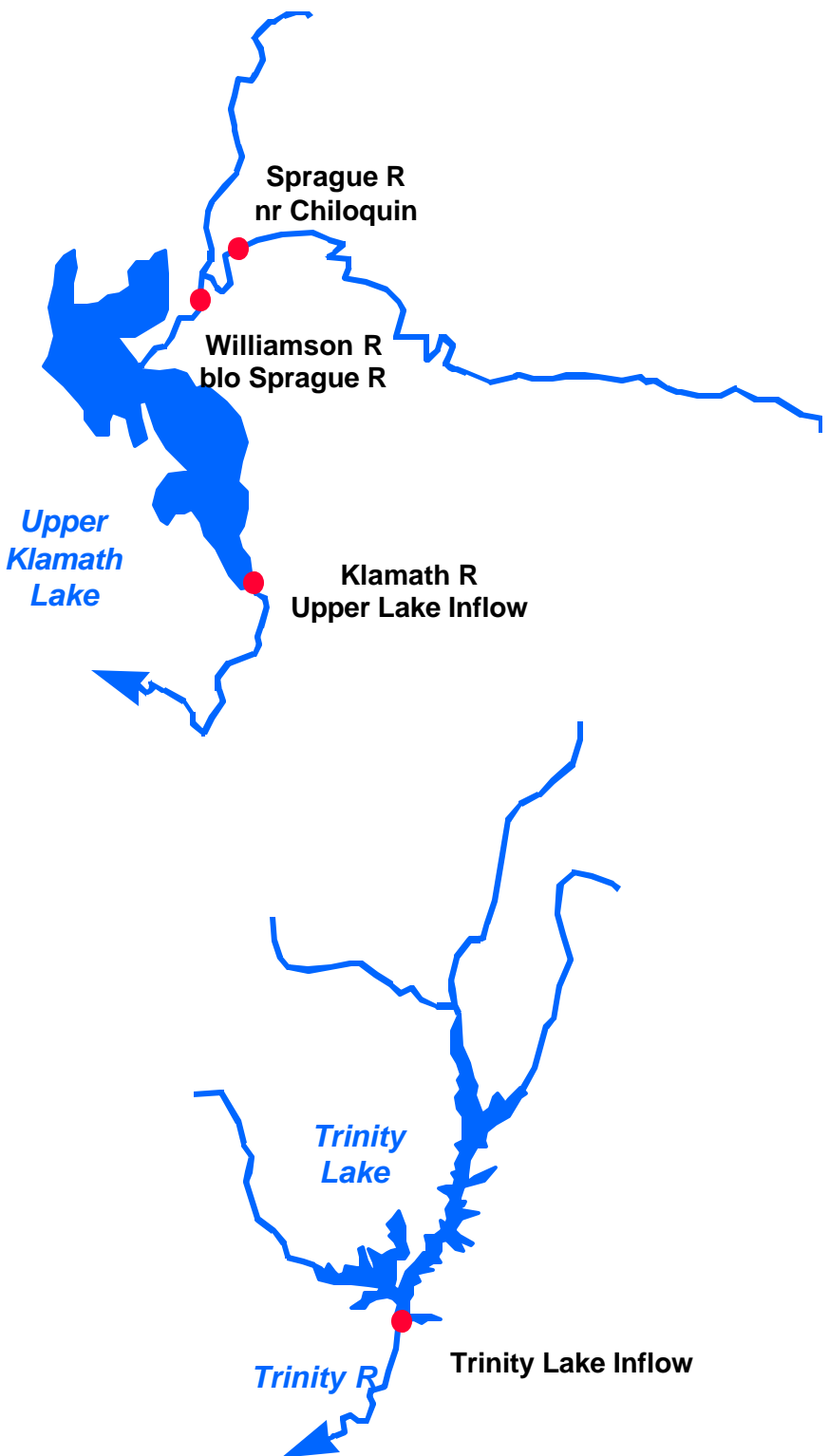
Storage statewide is near historical average for this time of year, helped by the good carryover from last year. This translates into 69 percent of capacity. However, some reservoirs are showing deficits, notably Lake Oroville and some of the smaller reservoirs operated by the electrical utilities.

Runoff forecasts have been revised downward due to the below average monthly precipitation and early melt of the snowpack. It ranges from 72 percent for the McCloud River above Shasta Lake to 34 percent in the Tule basin. Runoff forecasts remain much below average for the upper Klamath, east side Sierra Nevada, and Humboldt basins.

# Sacramento River Basin



# Upper Klamath and Trinity River Basins



# Water Supply Forecasts

Most Prob. Vol. (KAF)	Most Prob. Vol. (%Norm)	Reas. Max Vol. (KAF)	Reas. Min Vol. (KAF)	30 Year Avg. (KAF)
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## COASTAL BASINS

Williamson River Sprague, blo	Mar-Sep	190	38	325	60	504
Sprague River Chiloquin, nr	Mar-Sep	75	26	145	30	292
Upper Klamath Falls River						
Inflow	Mar-Sep	220	31	460	85	706
Trinity River Trinity Lake Inflow	Apr-Jul	380	62	550	210	615

## SACRAMENTO RIVER BASIN

### SACRAMENTO RIVER ABOVE BEND BRIDGE

Pit River Montgomery Ck, nr	Apr-Jul	660	63	885	550	1054
McCloud River Shasta Lk, abv	Apr-Jul	280	72	390	220	390
Sacramento River						
Delta	Apr-Jul	200	72	330	120	279
Shasta Lake, Redding, nr	Apr-Jul	1210	69	1760	790	1759
Bend Bridge, abv, Red Bluff,	Apr-Jul	1570	65	2400	1090	2411

### FEATHER RIVER ABOVE OROVILLE RESERVOIR

NF Feather River Prattville, nr	Apr-Jul	160	48	265	140	333
Big Bar	Apr-Jul	480	50	820	390	962
Feather River Oroville Reservoir Inflow	Apr-Jul	790	45	1350	600	1746

Most Prob. Vol. (KAF)	Most Prob. Vol. (%Norm)	Reas. Max Vol. (KAF)	Reas. Min Vol. (KAF)	30 Year Avg. (KAF)
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### Yuba River above Smartville

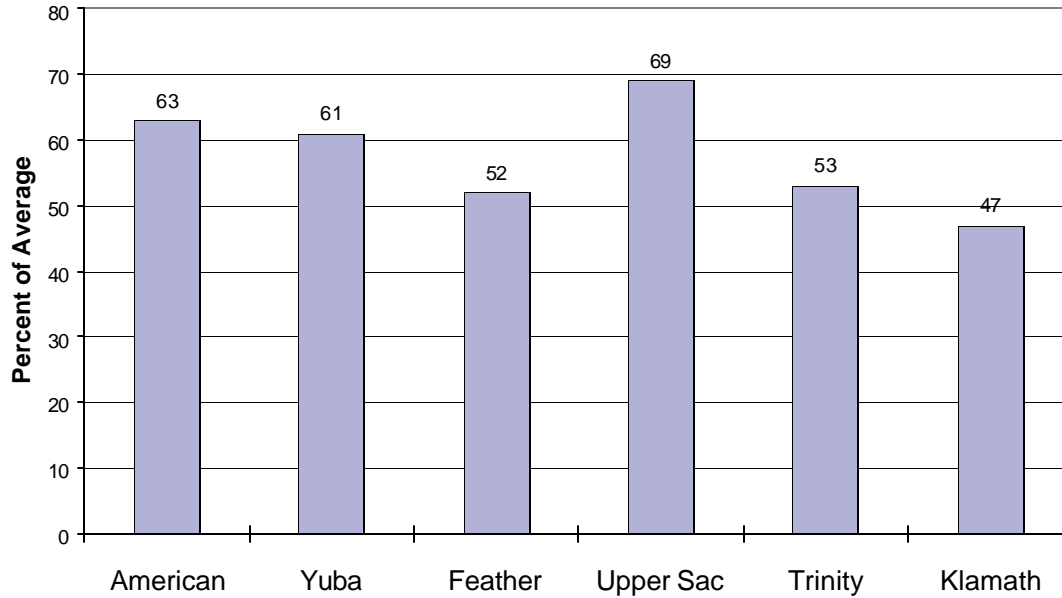
North Yuba River Goodyears Bar, blo	Apr-Jul	145	53	215	100	273
South Yuba River Langs Crossing	Apr-Jul	125	56	189	80	225
Yuba River Smartville, nr	Apr-Jul	540	55	805	300	980

### American River above Folsom Reservoir

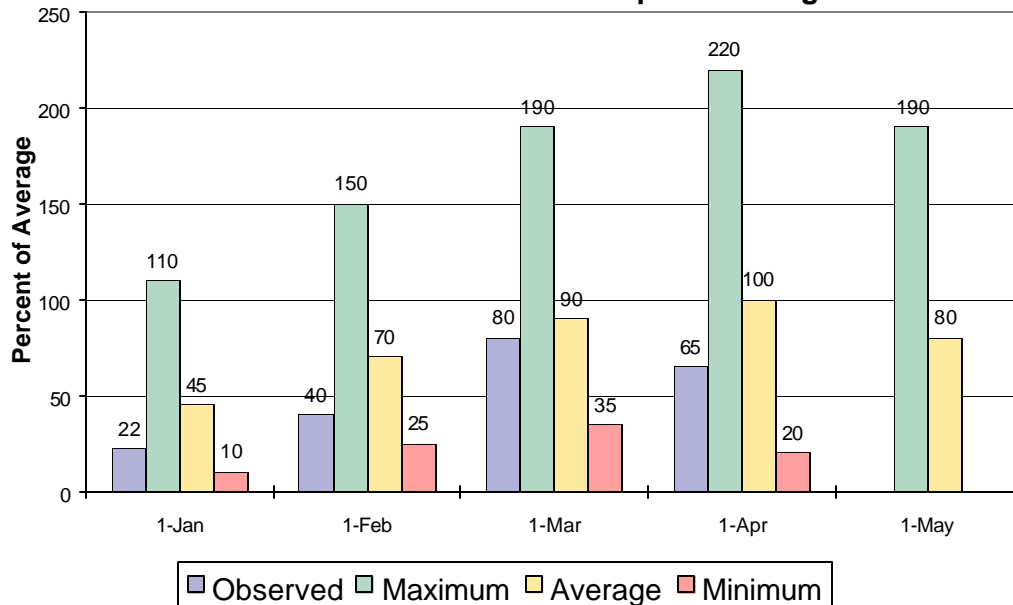
MF American River Auburn, nr	Apr-Jul	220	45	375	150	490
Silver Ck Union Valley	Apr-Jul	46	47	72	25	98
Camino Dam, blo	Apr-Jul	75	47	118	40	158
American River Folsom Reservoir Inflow	Apr-Jul	540	45	935	300	1199

# Sacramento/Trinity/Klamath River Basins

## Seasonal Basin Precipitation October 1 to Date



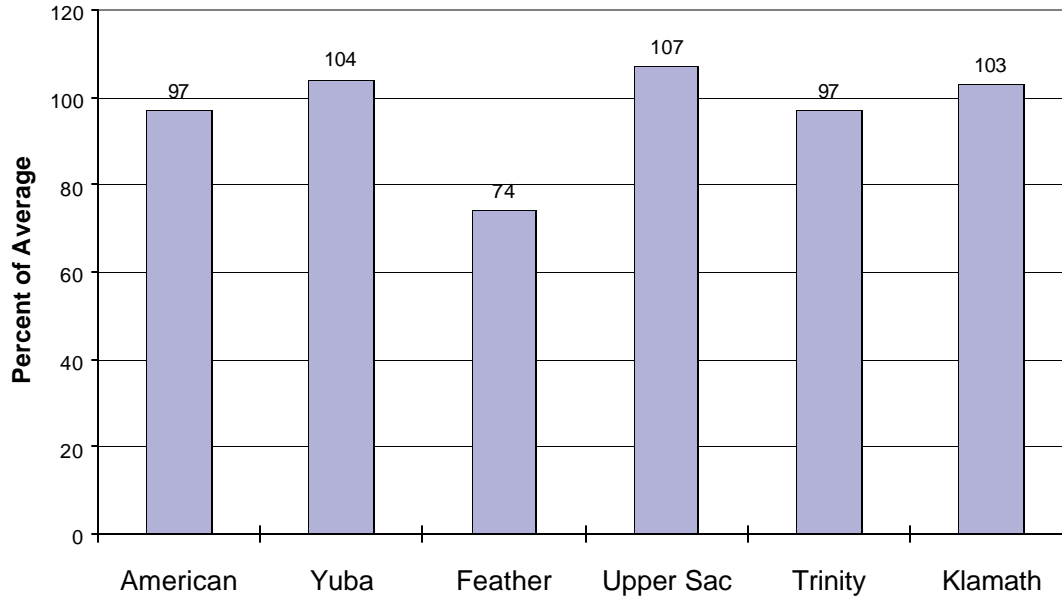
## Seasonal Basin Snowpack Water Content in % of April 1 Average



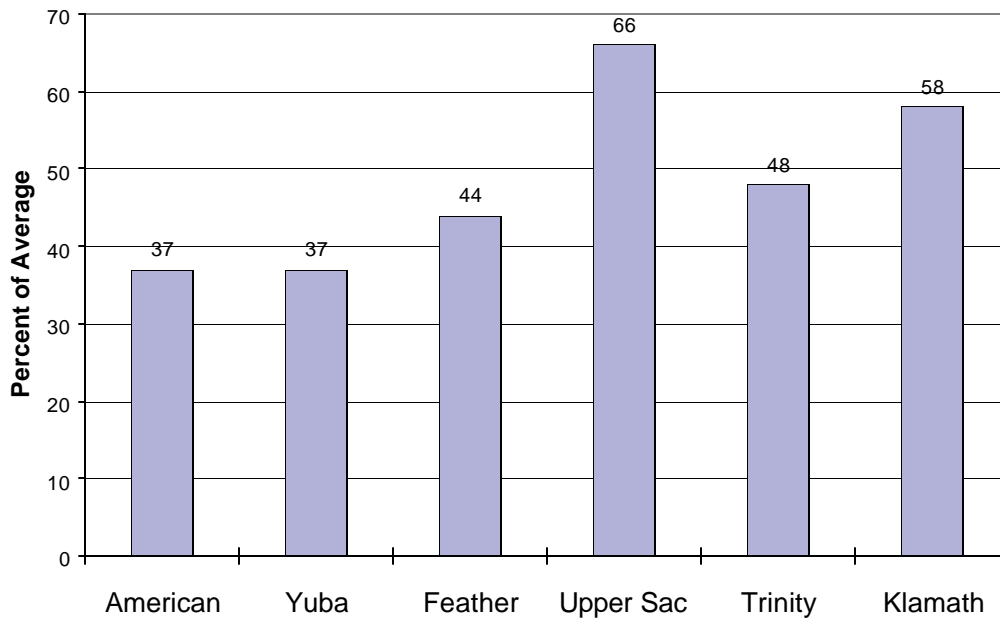


# Sacramento/Trinity/Klamath River Basins

## Basin Reservoir Storage Contents of Major Reservoirs in % of Average



## Seasonal Basin Runoff October 1 to Date



# San Joaquin Basin

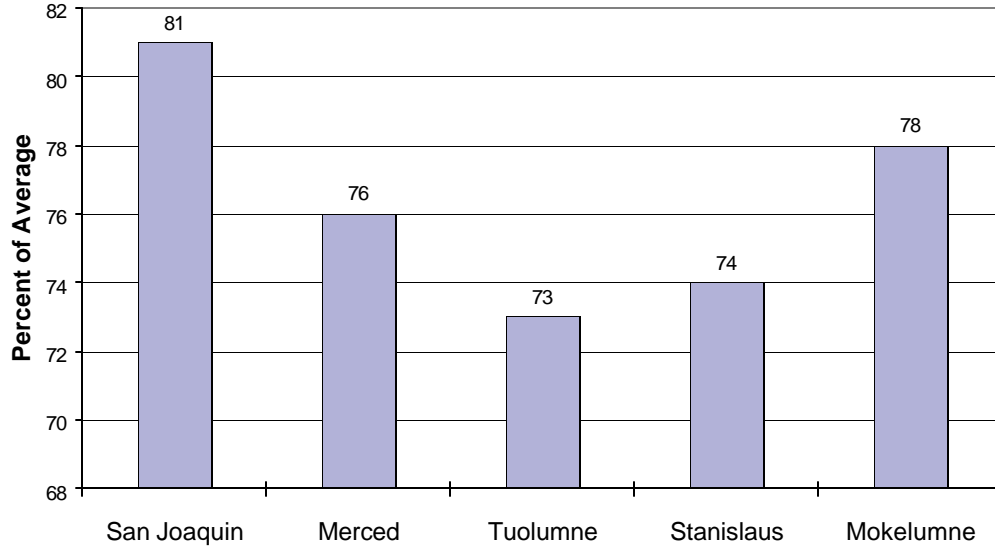


# Water Supply Forecast

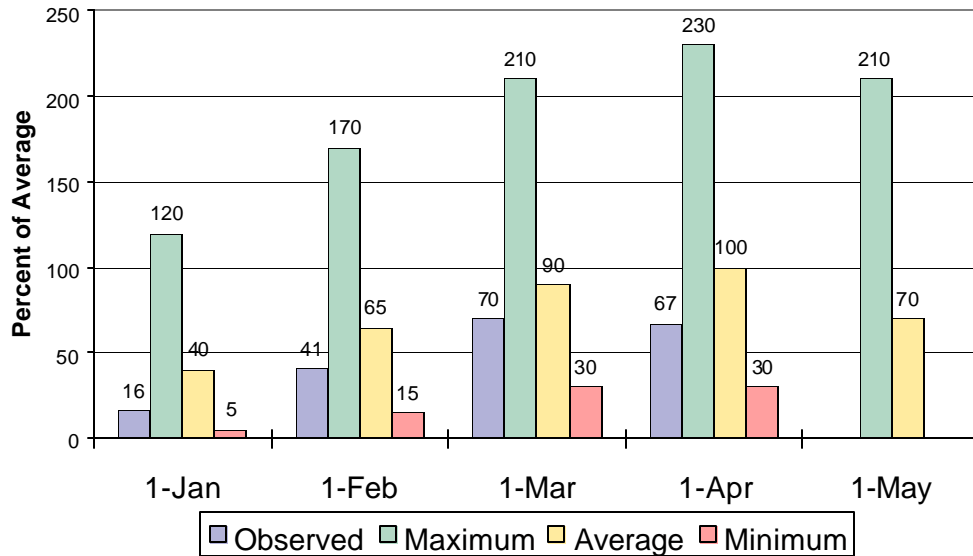
		Most Prob. Vol. (KAF)	Most Prob. Vol. (%Norm)	Reas. Max Vol. (KAF)	Reas. Min Vol. (KAF)	30 Year Avg. (KAF)
<b>SF San Joaquin River</b>						
Hooper Ck, blo, Florence Lk	Apr-Jul	120	62	193	70	192
<b>San Joaquin River</b>						
Millerton Lk	Apr-Jul	740	60	955	525	1237
<b>Merced River</b>						
Pohono Bridge, at, Yosemite	Apr-Jul	230	64	315	147	360
Merced Falls, blo	Apr-Jul	370	60	570	190	620
<b>Tuolumne River</b>						
Hetch Hetchy, nr	Apr-Jul	390	65	480	300	596
La Grange, nr	Apr-Jul	740	62	985	495	1189
<b>MF Stanislaus River</b>						
Beardsley Dam, blo	Apr-Jul	180	56	260	110	320
<b>Stanislaus River</b>						
Goodwin Dam blo Knights Ferry	Apr-Jul	400	58	580	220	689
<b>NF Mokelumne River</b>						
West Point	Apr-Jul	200	48	320	150	416
<b>Mokelumne River</b>						
Mokelumne Hill	Apr-Jul	220	49	325	145	450
<b>Cosumnes River</b>						
Michigan Bar	Apr-Jul	50	41	138	25	122

# San Joaquin Basin

## Seasonal Basin Precipitation October 1 to Date

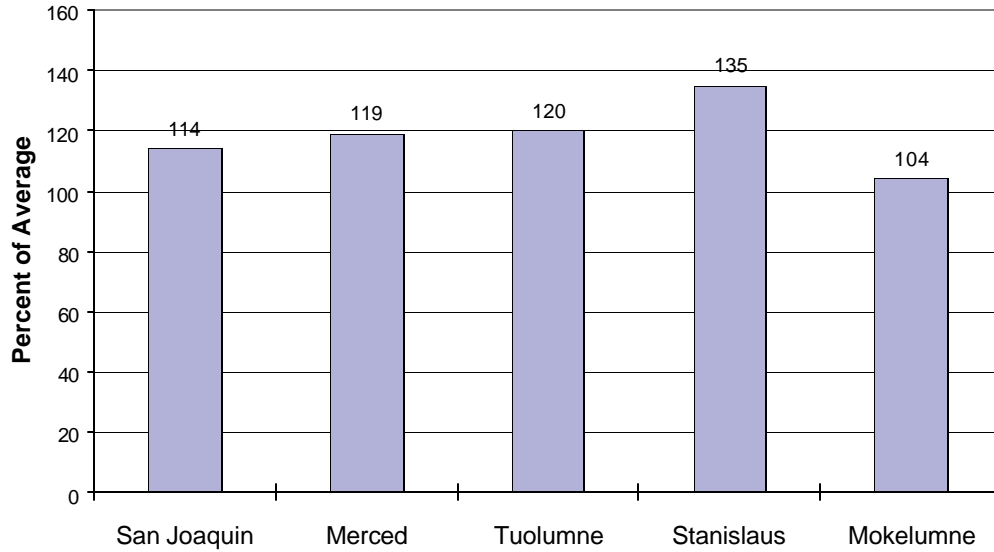


## Seasonal Basin Snowpack Water Content in % of April 1 Average

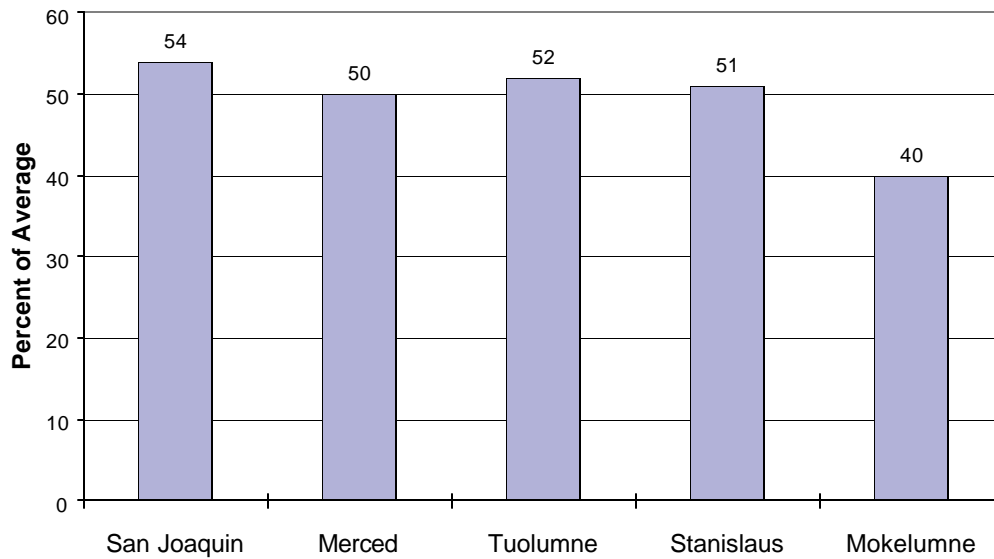


# San Joaquin Basin

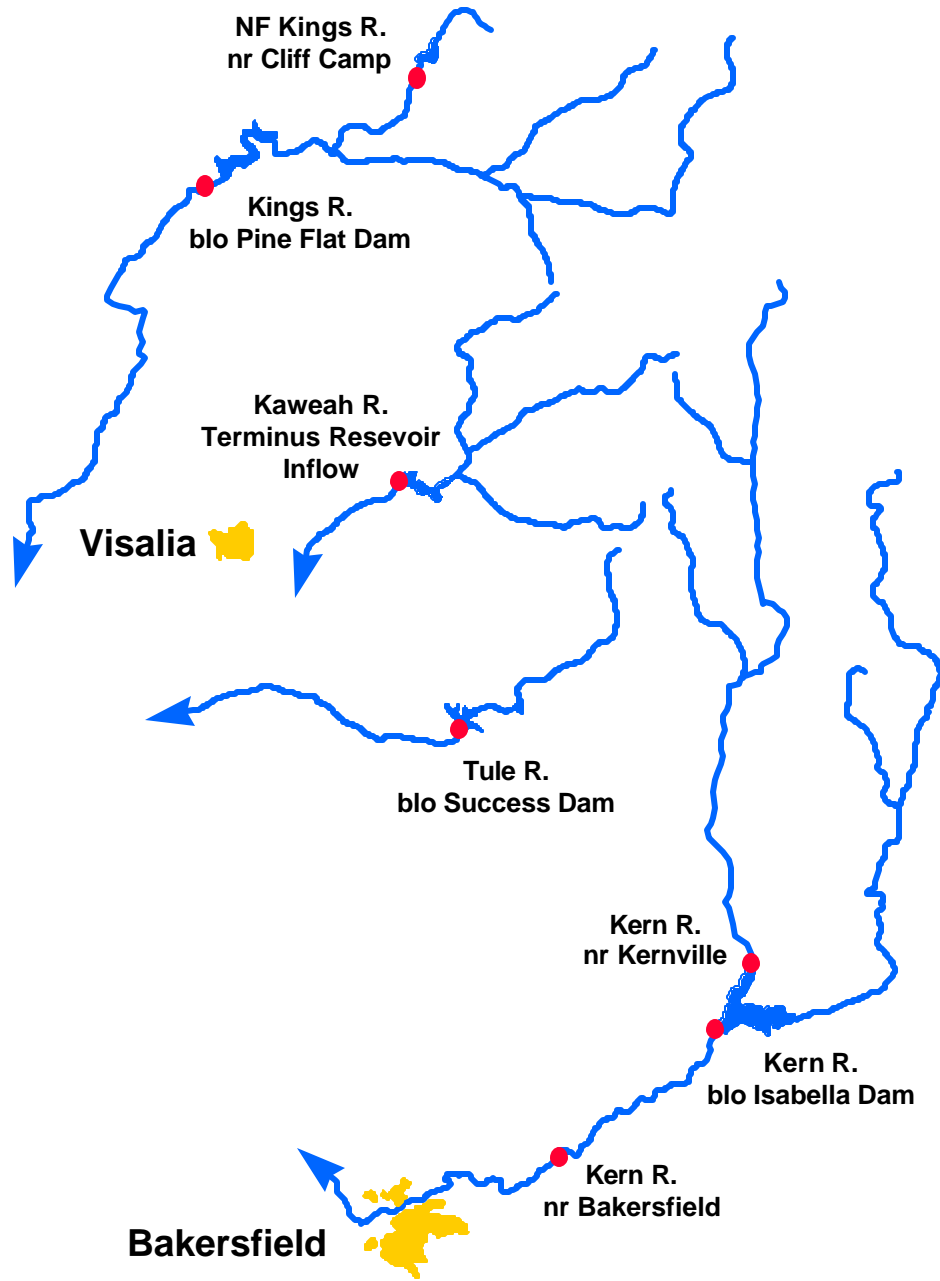
## Basin Reservoir Storage Contents of Major Reservoirs in % of Average



## Season Basin Runoff October 1 to Date



# Tulare Basin

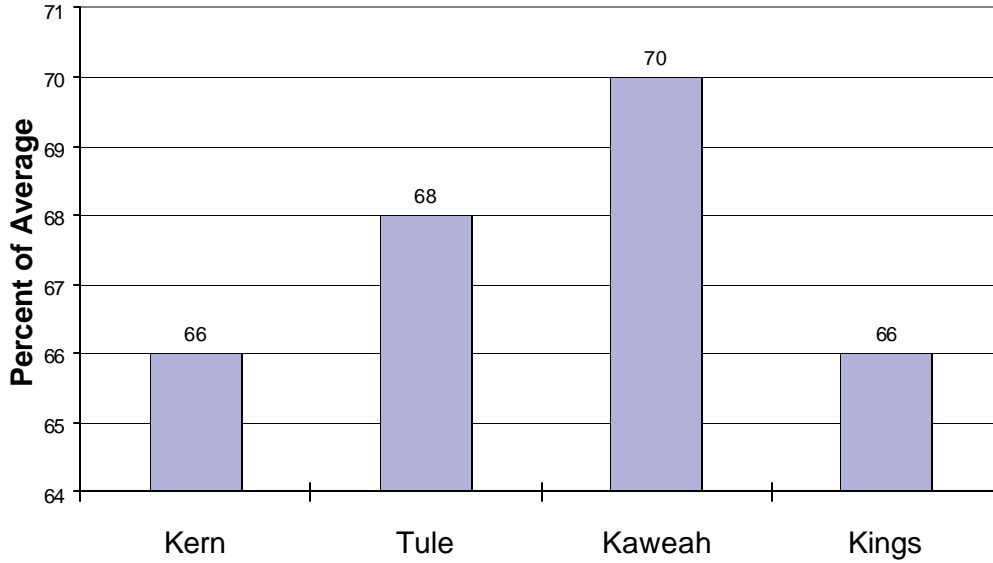


# Water Supply Forecasts

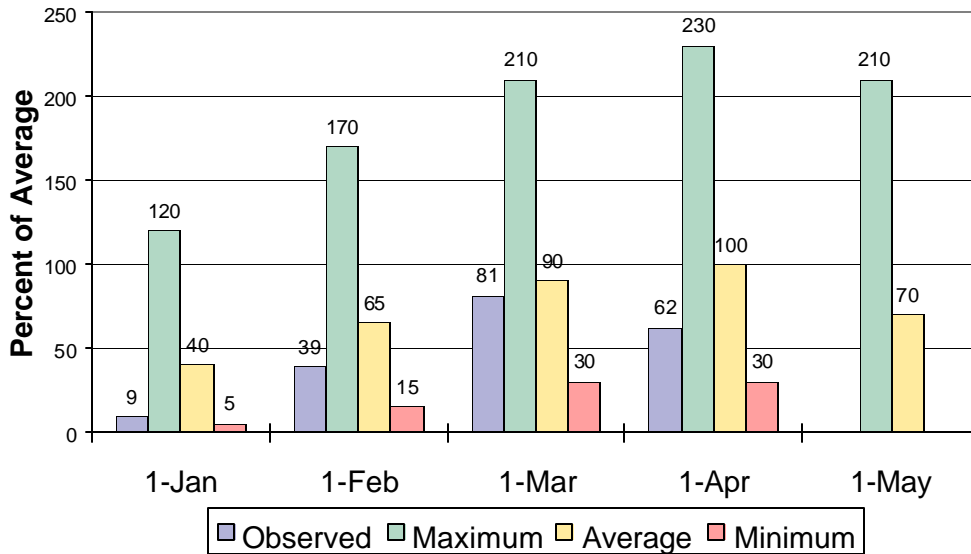
		Most Prob. Vol. (KAF)	Most Prob. Vol. (%Norm)	Reas. Max Vol. (KAF)	Reas. Min Vol. (KAF)	30 Year Avg. (KAF)
<b>Kern River</b>						
Kernville, nr	Apr-Jul	220	55	310	128	398
Isabella Dam, blo	Apr-Jul	230	48	375	100	484
Bakersfield, nr	Apr-Jul	240	48	395	110	499
<b>Tule River</b>						
Success Dam	Apr-Jul	22	34	61	5	65
<b>Kaweah River</b>						
Terminus Dam	Apr-Jul	150	52	235	70	290
<b>NF Kings River</b>						
Cliff Camp, nr	Apr-Jul	150	62	197	103	243
<b>Kings River</b>						
Pine Flat Dam, blo	Apr-Jul	700	57	890	510	1230

# Tulare Lake Basin

## Seasonal Precipitation October 1 to Date



## Seasonal Basin Snowpack Water Content in % of April 1 Average

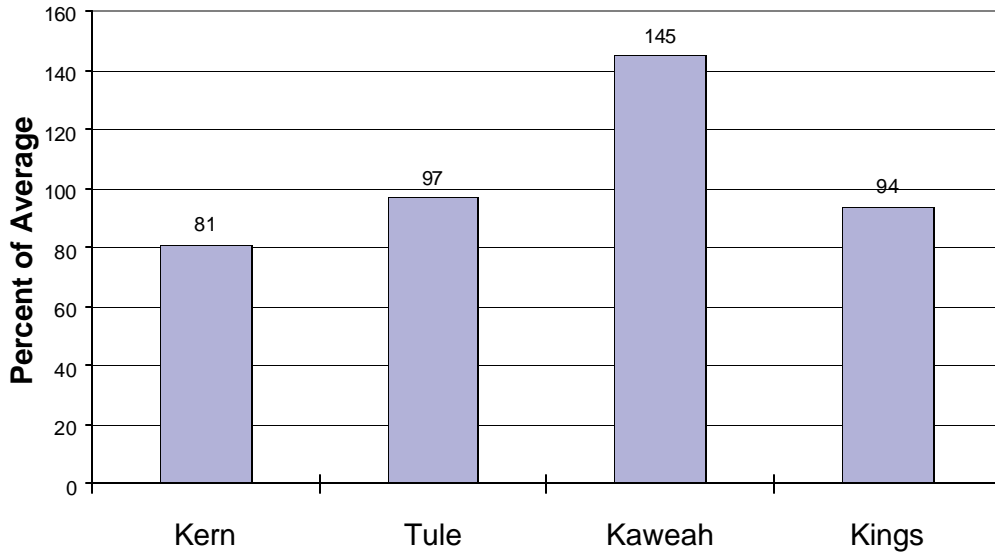




# Tulare Lake Basin

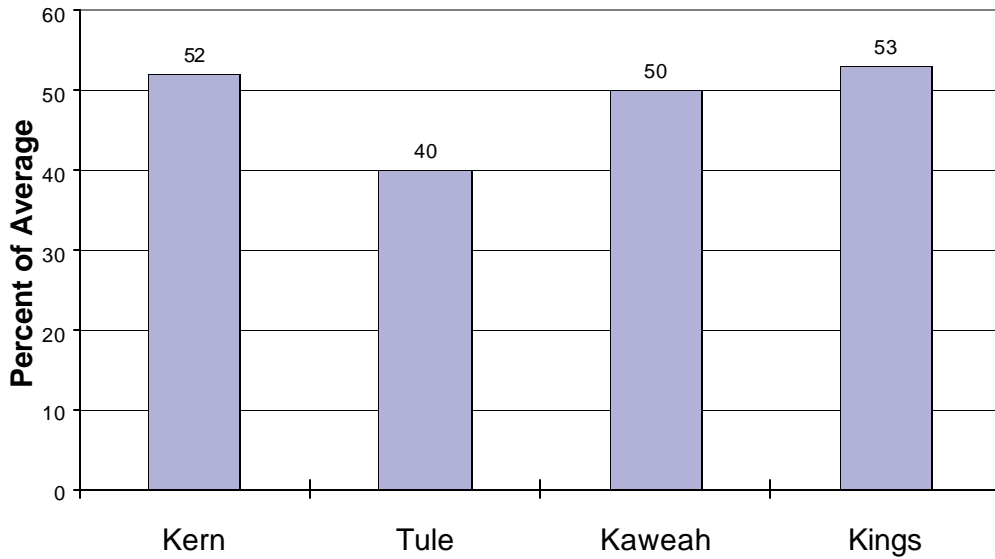
## Basin Reservoir Storage

Contents of Major Reservoirs in % of Average

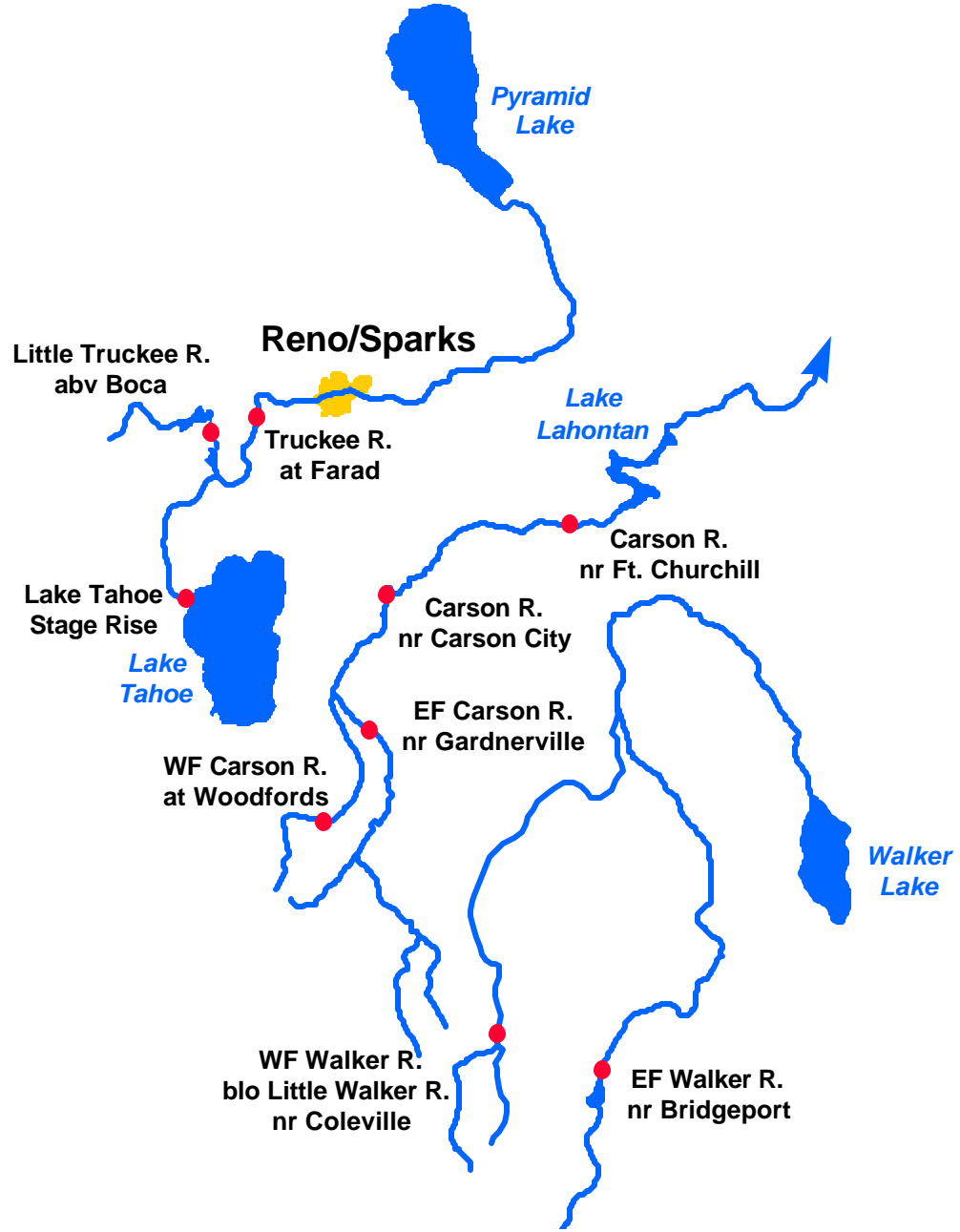


## Seasonal Basin Runoff

October 1 to Date



# East Side Sierra Nevada Basins



# Water Supply Forecasts

Most Prob. Vol. (KAF)	Most Prob. Vol. (%Norm)	Reas. Max Vol. (KAF)	Reas. Min Vol. (KAF)	30 Year Avg. (KAF)
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## Truckee River

### Truckee River

Lake Tahoe Stage Rise	Apr-High	0.3	22	0.7	0.1	1.4
Farad	Apr-Jul	65	25	133	50	263

## Carson River

### EF Carson River

Gardnerville, nr	Apr-Jul	70	38	95	45	186
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### WF Carson River

Woodfords	Apr-Jul	20	37	29	13	54
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### Carson River

Carson City, nr	Apr-Jul	50	27	93	20	182
Fort Churchill, nr	Apr-Jul	30	18	77	15	167

## Walker River

### East Walker River

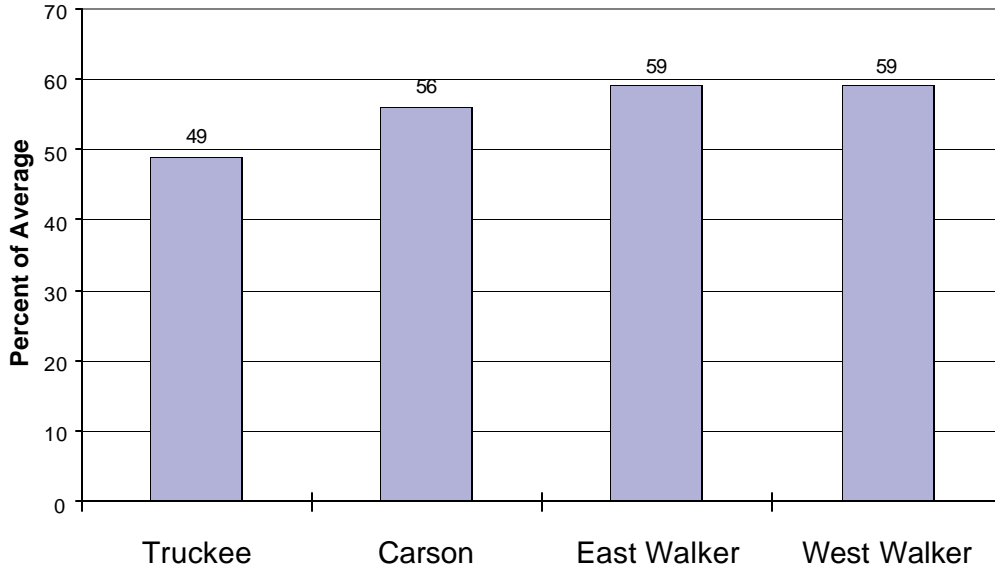
Bridgeport, nr	Apr-Aug	23	31	40	10	74
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### West Walker River

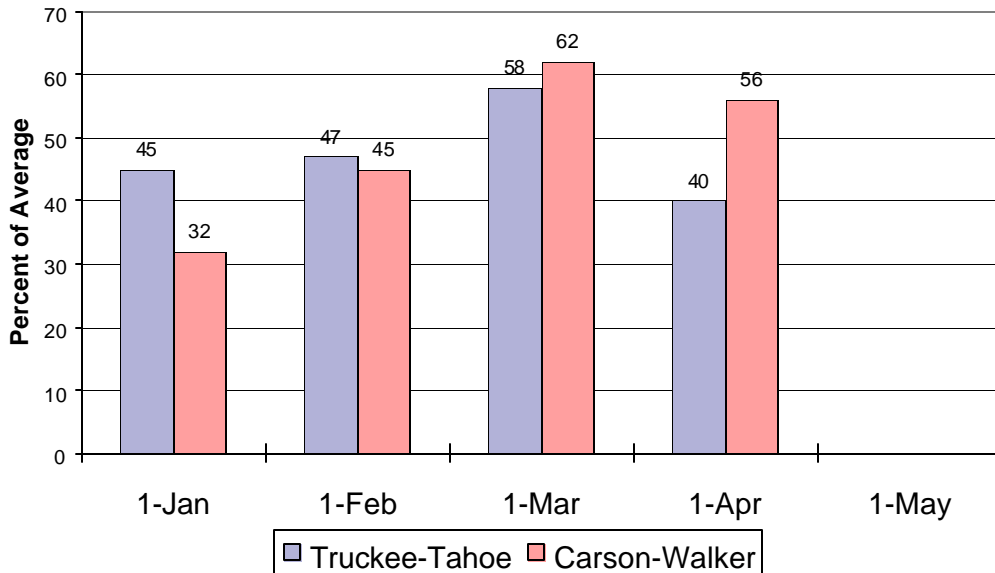
Ltl Walker, blo, Coleville, nr	Apr-Jul	60	41	76	44	147
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# East Side Sierra Nevada Basins

## Seasonal Basin Precipitation October 1 to Date



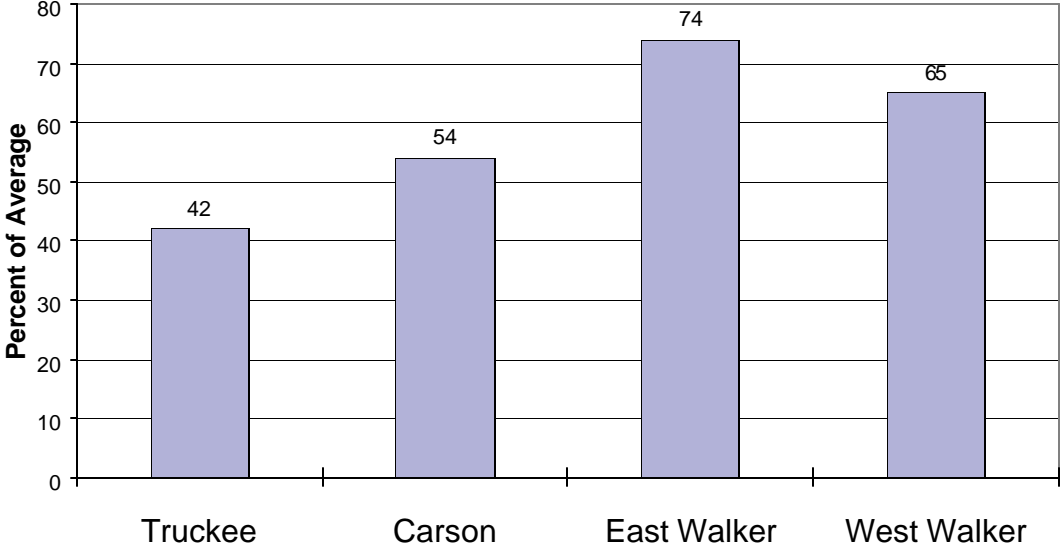
## Basin Snowpack % of Average SWE to Date



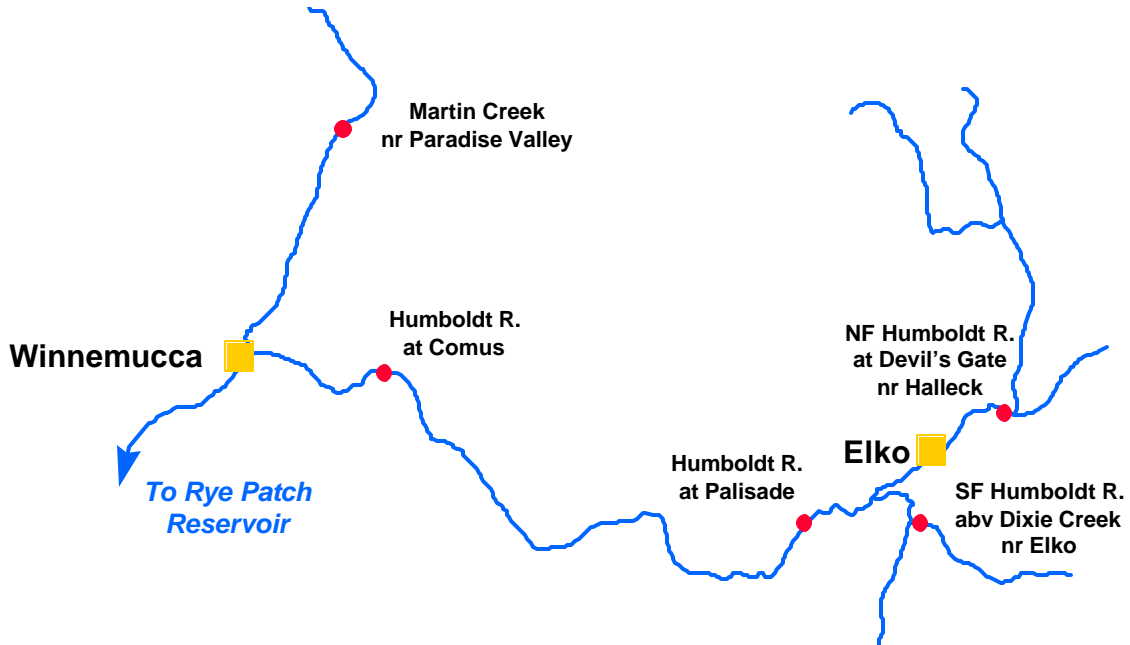
# East Side Sierra Nevada Basins

## Seasonal Basin Runoff

October 1 to Date



# Humboldt River Basin



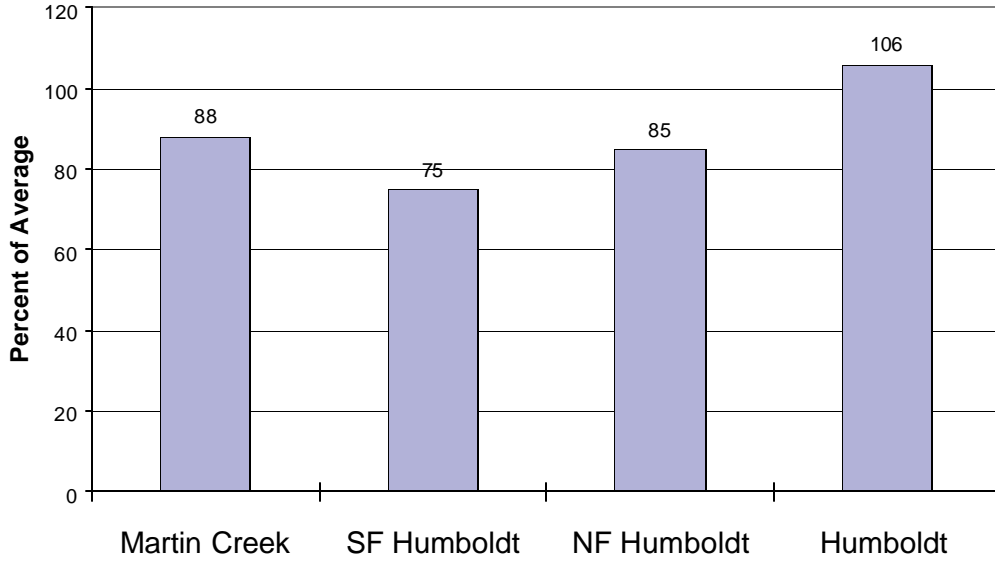
## Water Supply Forecasts

Most Prob. Vol. (KAF)	Most Prob. Vol. (%Norm)	Reas. Max Vol. (KAF)	Reas. Min Vol. (KAF)	30 Year Avg. (KAF)
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NF Humboldt River						
Devl's Gate, at, Halleck, nr	Apr-Jul	10	29	24	4	34
SF Humboldt River						
Dixie Ck, abv, Elko, nr	Apr-Jul	33	49	64	15	68
Humboldt River						
Palisade	Apr-Jul	80	33	225	25	245
Comus	Apr-Jul	45	22	210	15	209
Martin Ck						
Paradise Valley, nr	Apr-Jul	5	28	12	3	18

# Humboldt River Basin

## Seasonal Basin Precipitation October 1 to Date



## Basin Snowpack % of Average SWE to Date

