

Water Supply Outlook



CALIFORNIA AND NORTHERN NEVADA

April
2002



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 1st through July 31st, unless otherwise noted.

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

April 1st Average: The April 1st 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 30th.

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 1st through September 30th.

General Outlook

April 1, 2002

Storms returned during March with the central and portions of the southern Sierra Nevada receiving most of the precipitation. Monthly rainfall amounts were 87 percent in the Sacramento basin, 85 percent in the San Joaquin, and 87 percent in the Tulare Lake basin. The Truckee and Carson basins received over 90 percent of the March average and the Walker averaged 80 percent. About 68 percent of the monthly average fell in the Humboldt basin and 70 percent in the upper Klamath basin.

The Sierra snow pack experienced some gain from the March storms but some melt occurred due to warm weather during the last week of the month. The April 1st average ranges from 95 percent in the northern Sierra to 77 percent in the southern Sierra. Snow packs in the upper Klamath basin remain slightly above average at 112 percent, the Tahoe-Truckee basin stands at 97 percent, the Carson-Walker at 86 percent and the Humboldt at 85 percent.

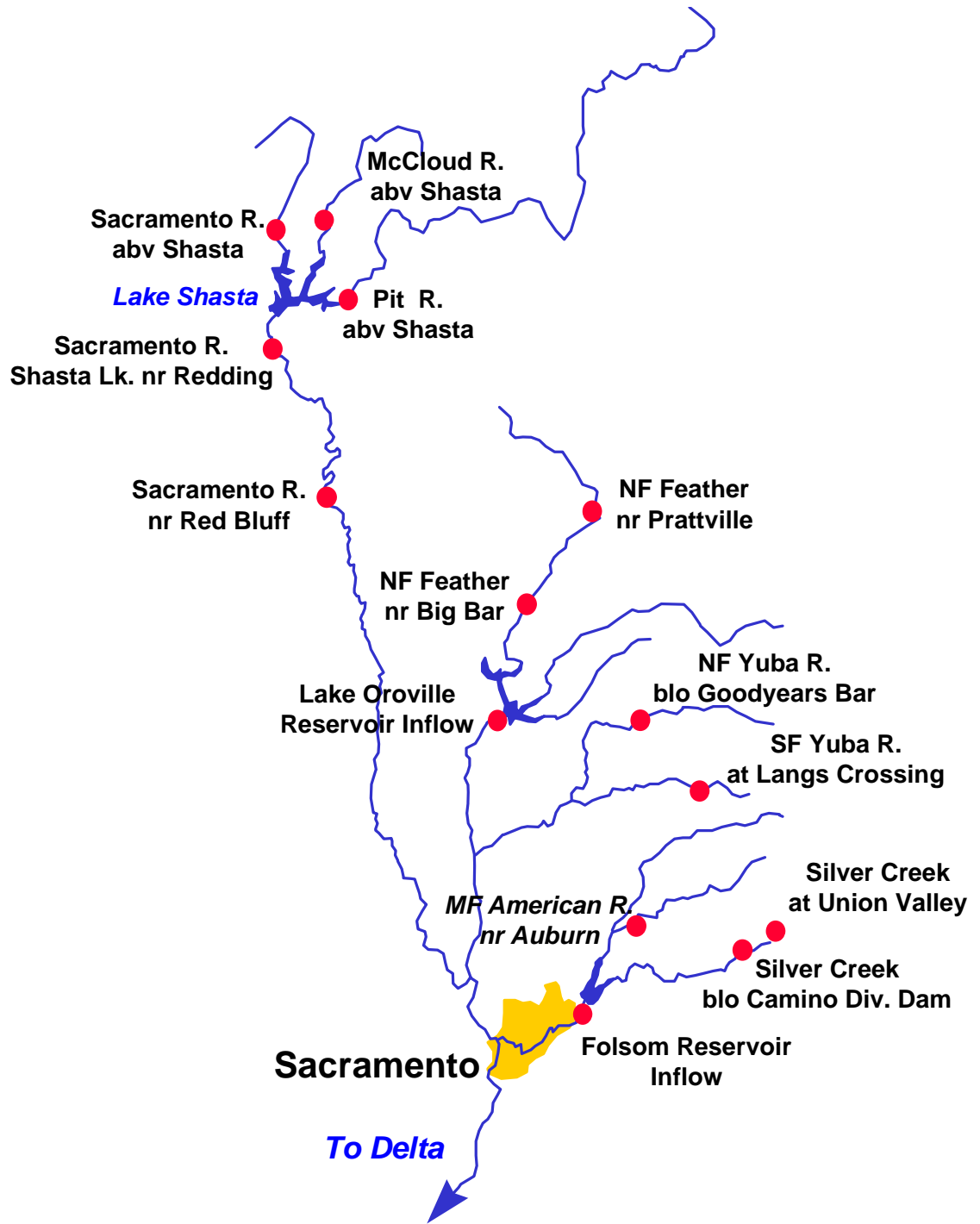
March runoff was below average in all water supply basins, ranging from 68 percent in the San Joaquin basin to 57 percent in the Tulare Lake basin.

Reservoir storage in the Sacramento basin was at 93 percent of average, the San Joaquin at 104 percent, and the Tulare lake basin at 80 percent. East-side Sierra reservoirs were at 61 percent of average. Storage at Rye Patch Reservoir in Nevada is at only 24 percent of the average-to-date, Lahontan Reservoir stands at 74 percent.

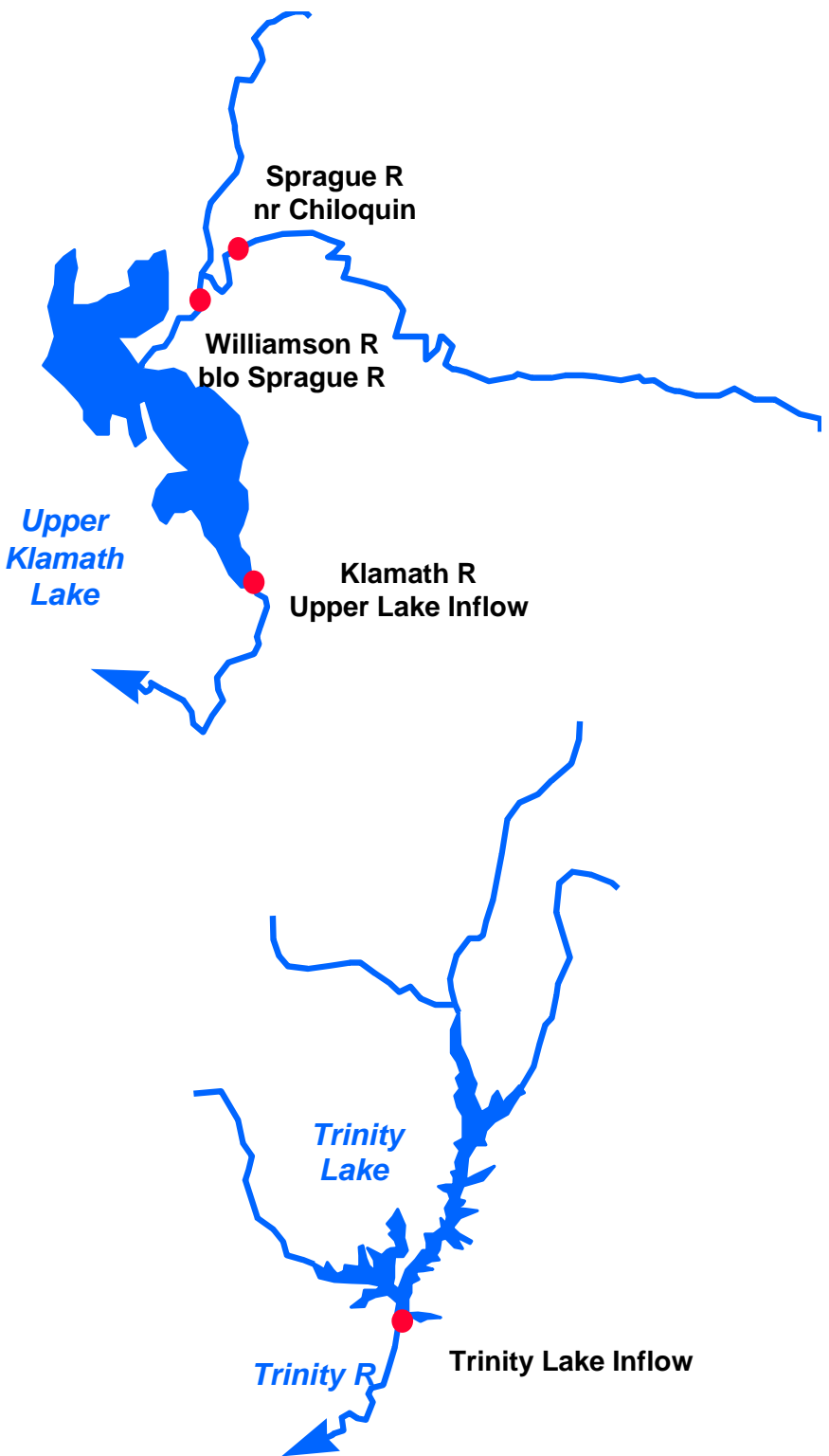
The April through July runoff forecasts range from 96 percent in the Trinity and Yuba to 73 percent for the Merced basin. However, forecasts remain drier in portions of the Tulare basin, ranging from 56 percent in the Kern River below Isabella Dam to 77 percent for the Kings River near Cliff Camp. Forecasts vary from 56 to 77 percent for the east-side Sierra basins, and 56 to 91 percent in the Humboldt basin of northern Nevada. The March through September forecast for the upper Klamath basin is 71 percent.

Please note: The Water Supply Outlook is available on the World Wide Web at <http://www.wrh.noaa.gov/cnrfc>.

Sacramento River Basin



Upper Klamath and Trinity River Basins



Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Nrml	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
COASTAL BASINS						
Williamson River Sprague, blo	Mar-Sep	385	76	490	280	505
Sprague River Chiloquin, nr	Mar-Sep	210	69	305	117	305
Upper Klamath Falls River Inflow	Mar-Sep	505	71	660	350	715
Trinity River Trinity Lake Inflow	Apr-Jul	610	96	780	440	635
SACRAMENTO RIVER BASIN						
SACRAMENTO RIVER ABOVE BEND BRIDGE						
Pit River Montgomery Ck, nr	Apr-Jul	950	89	1170	725	1070
Mccloud River Shasta Lk, abv	Apr-Jul	340	92	450	230	370
Sacramento River Delta	Apr-Jul	250	86	380	119	290
Shasta Lake, Redding, nr	Apr-Jul	1580	88	2130	1030	1790
Bend Bridge, abv, Red Bluff, n	Apr-Jul	2150	88	2980	1320	2440
FEATHER RIVER ABOVE OROVILLE RESERVOIR						
NF Feather River Prattville, nr	Apr-Jul	300	90	405	193	333*
Big Bar	Apr-Jul	800	83	1140	460	962*
Feather River Oroville Reservoir Inflow	Apr-Jul	1510	86	2070	950	1760

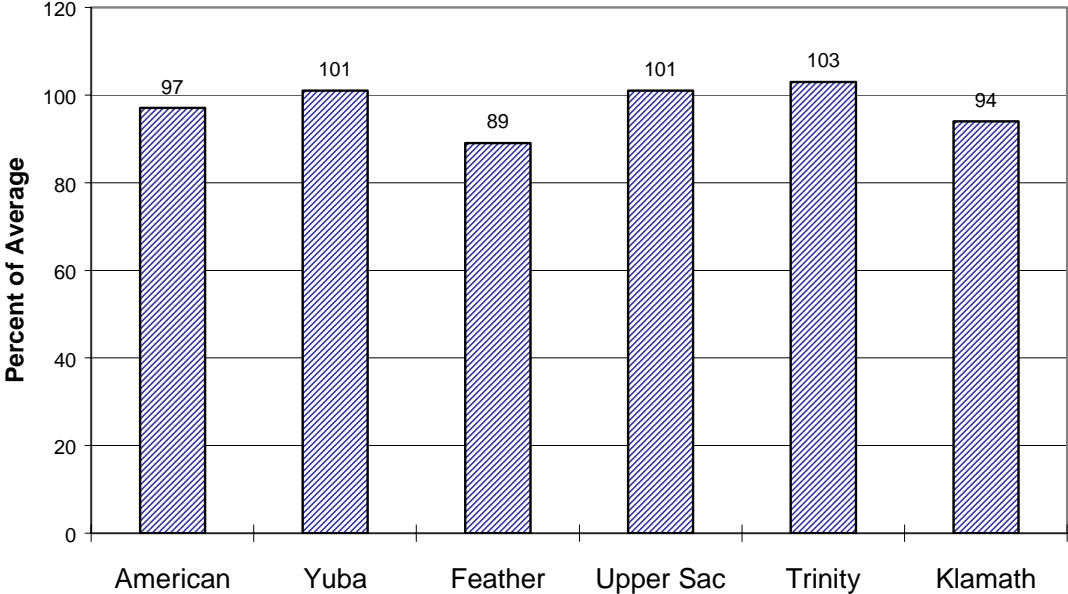
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Nrml	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
Yuba River above Smartville						
North Yuba River Goodyears Bar, blo	Apr-Jul	260	95	330	192	273*
South Yuba River Langs Crossing	Apr-Jul	215	96	280	151	225*
Yuba River Smartville, nr	Apr-Jul	955	96	1220	690	995
American River above Folsom Reservoir						
MF American River Auburn, nr	Apr-Jul	470	96	625	315	490*
Silver Ck Union Valley	Apr-Jul	92	94	118	66	98*
Camino Dam, blo	Apr-Jul	150	95	193	107	158*
American River Folsom Reservoir Inflow	Apr-Jul	1170	95	1560	775	1230

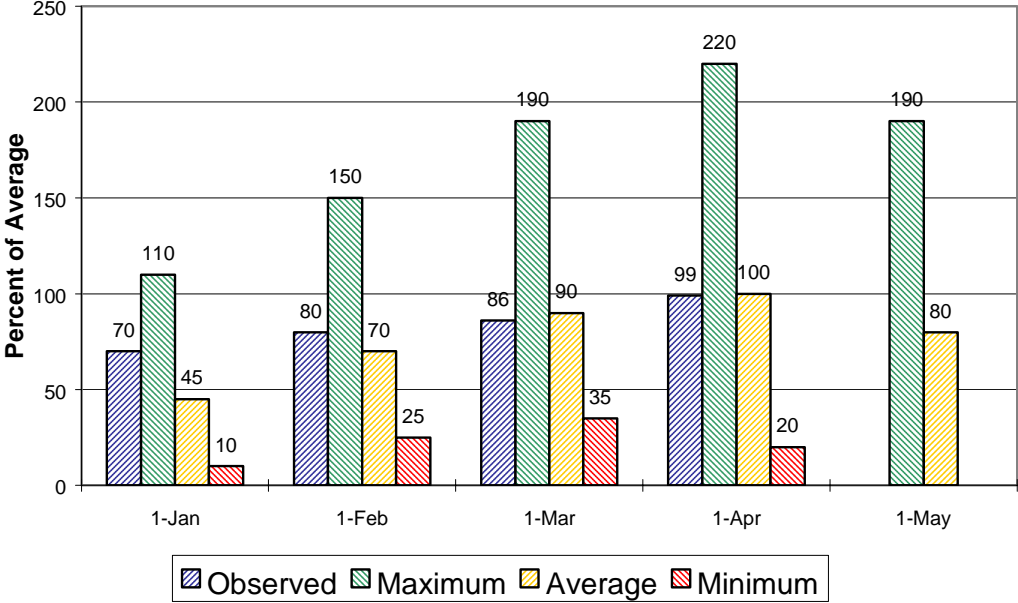
***30 Year Averages for 1971-2000 are incomplete. Those forecast points with an asterisk have incomplete averages, so 1961-1990 averages are listed. The new averages will be incorporated into this report when the complete data sets become available.**

Sacramento/Trinity/Klamath River Basins

Seasonal Basin Precipitation October 1 to Date

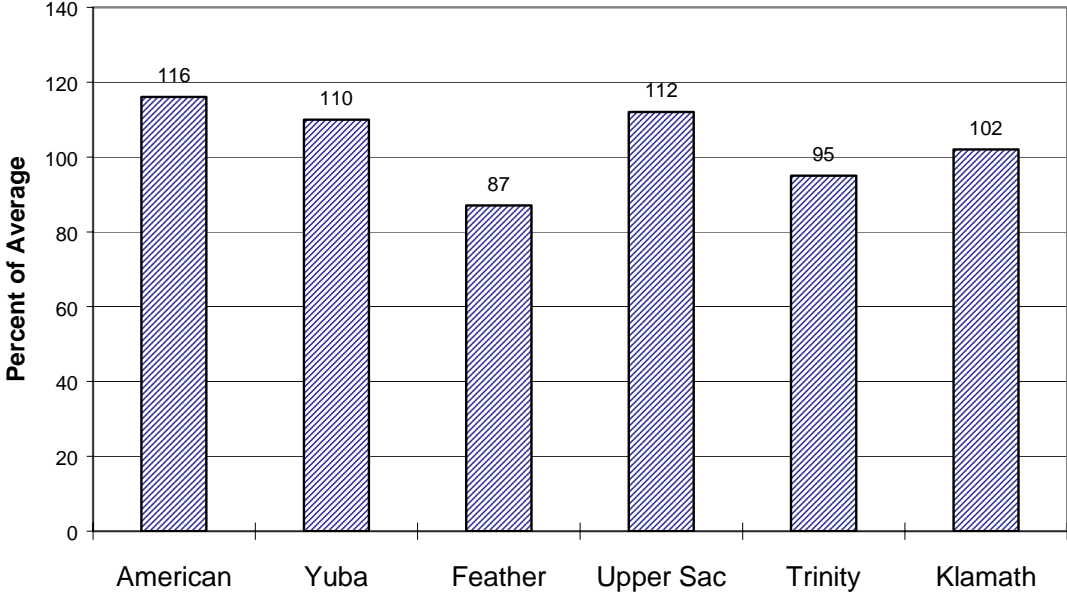


Seasonal Basin Snowpack Water Content in % of April 1 Average

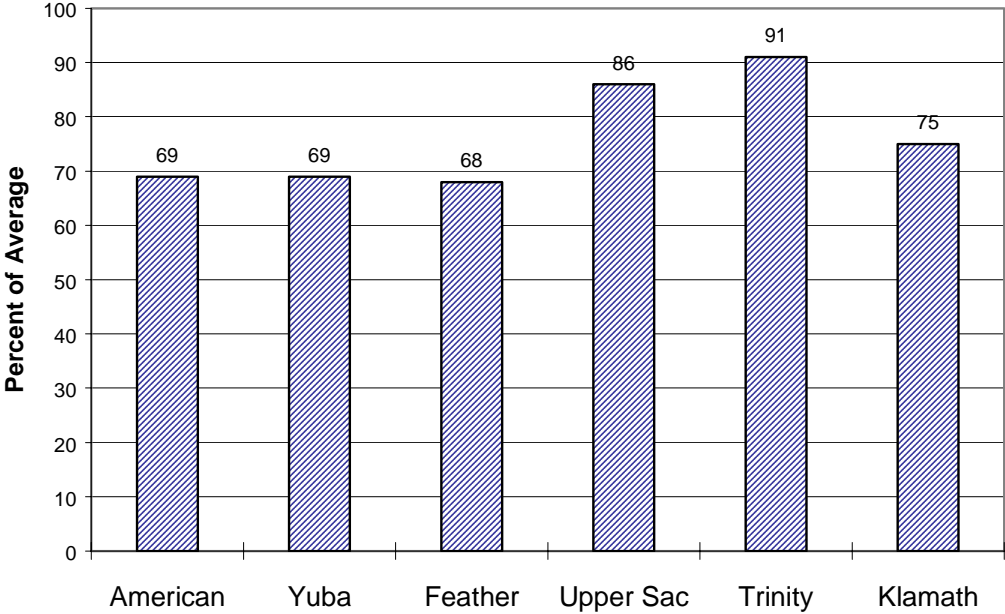


Sacramento/Trinity/Klamath River Basins

Basin Reservoir Storage Contents of Major Reservoirs in % of Average



Seasonal Basin Runoff October 1 to Date



San Joaquin Basin



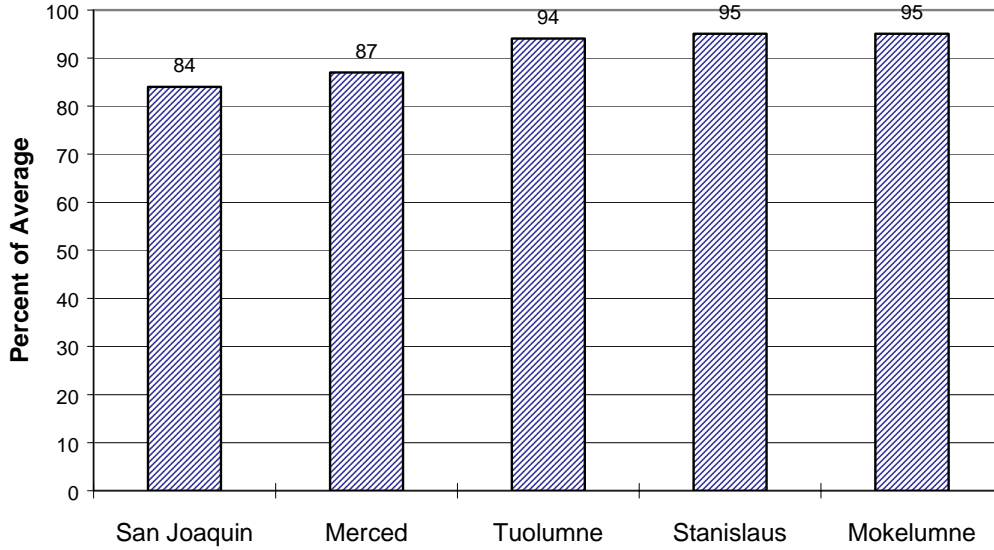
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Nrml	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
SF San Joaquin River						
Hooper Ck, blo, Florence Lk, n	Apr-Jul	145	76	205	85	192*
San Joaquin River						
Millerton Lk	Apr-Jul	940	74	1280	700	1270
Merced River						
Pohono Bridge, at, Yosemite, n	Apr-Jul	275	76	380	195	360*
Merced Falls, blo	Apr-Jul	470	73	670	300	645
Tuolumne River						
Hetch Hetchy, nr	Apr-Jul	515	86	605	425	596*
La Grange, nr	Apr-Jul	1020	83	1410	750	1230
MF Stanislaus River						
Beardsley Dam, blo	Apr-Jul	280	88	360	200	320*
Stanislaus River						
Goodwin Dam, blo, Knights Ferr	Apr-Jul	590	85	790	410	695
NF Mokelumne River						
West Point	Apr-Jul	360	87	480	240	416*
Mokelumne River						
Mokelumne Hill	Apr-Jul	395	86	525	290	460
Cosumnes River						
Michigan Bar	Apr-Jul	105	85	140	75	123

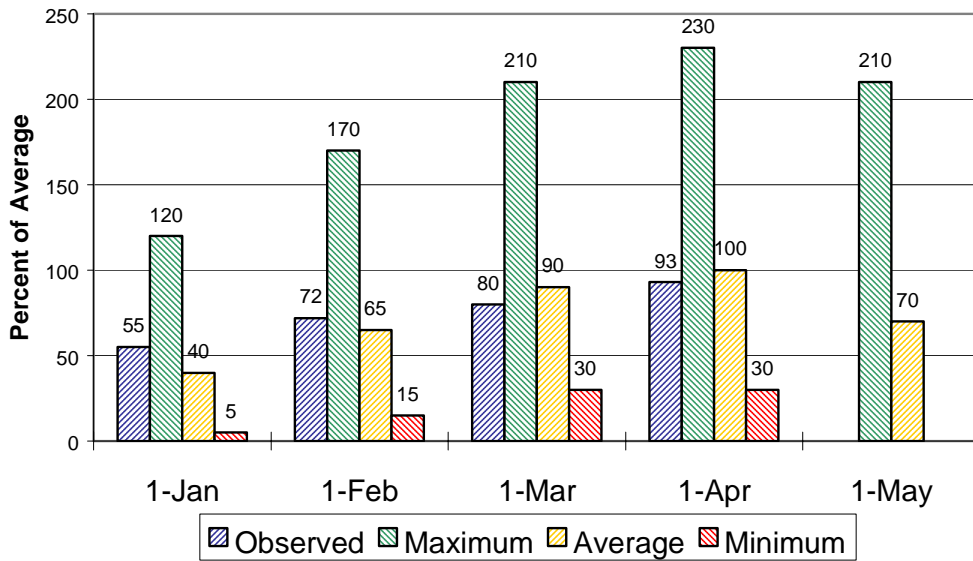
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San Joaquin Basin

Seasonal Basin Precipitation October 1 to Date



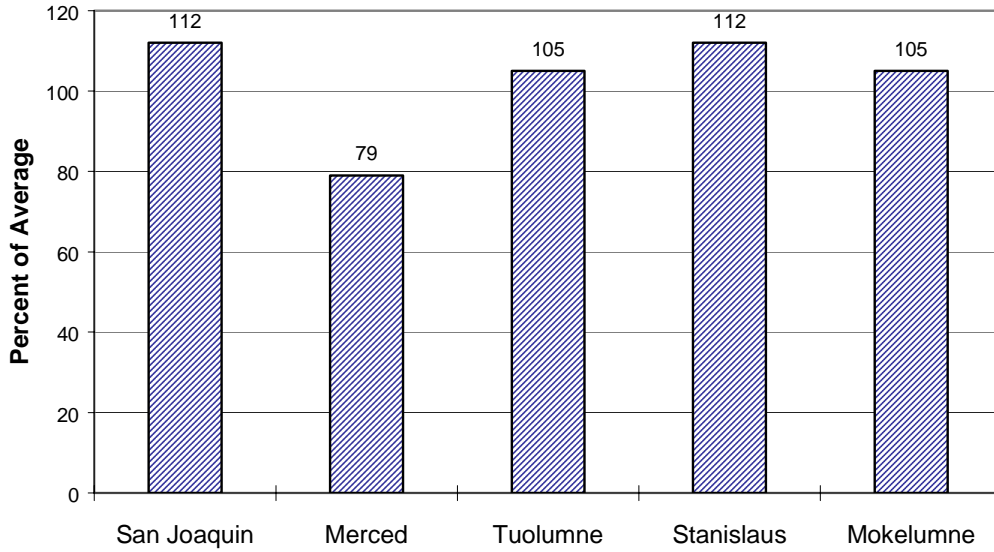
Seasonal Basin Snowpack Water Content in % of April 1 Average



San Joaquin Basin

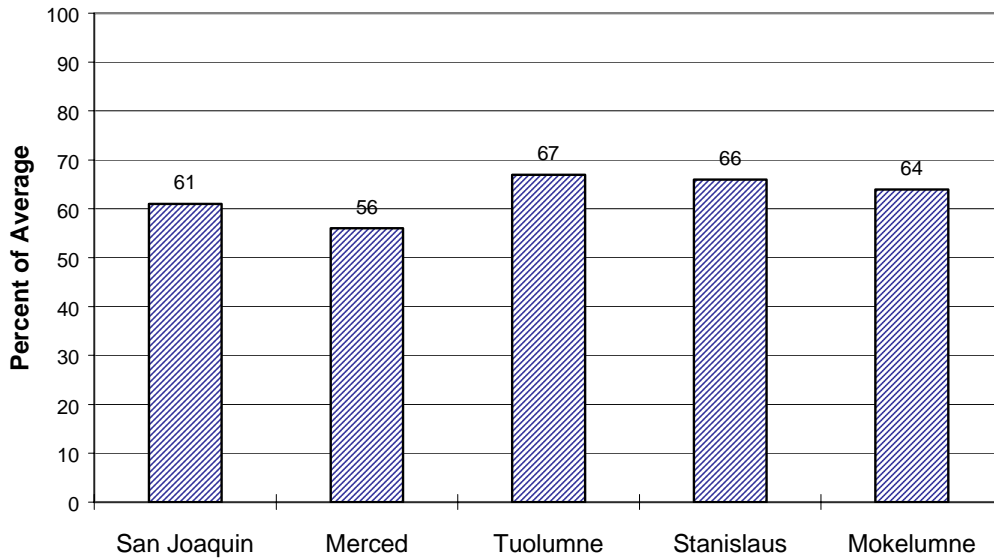
Basin Reservoir Storage

Contents of Major Reservoirs in % of Average

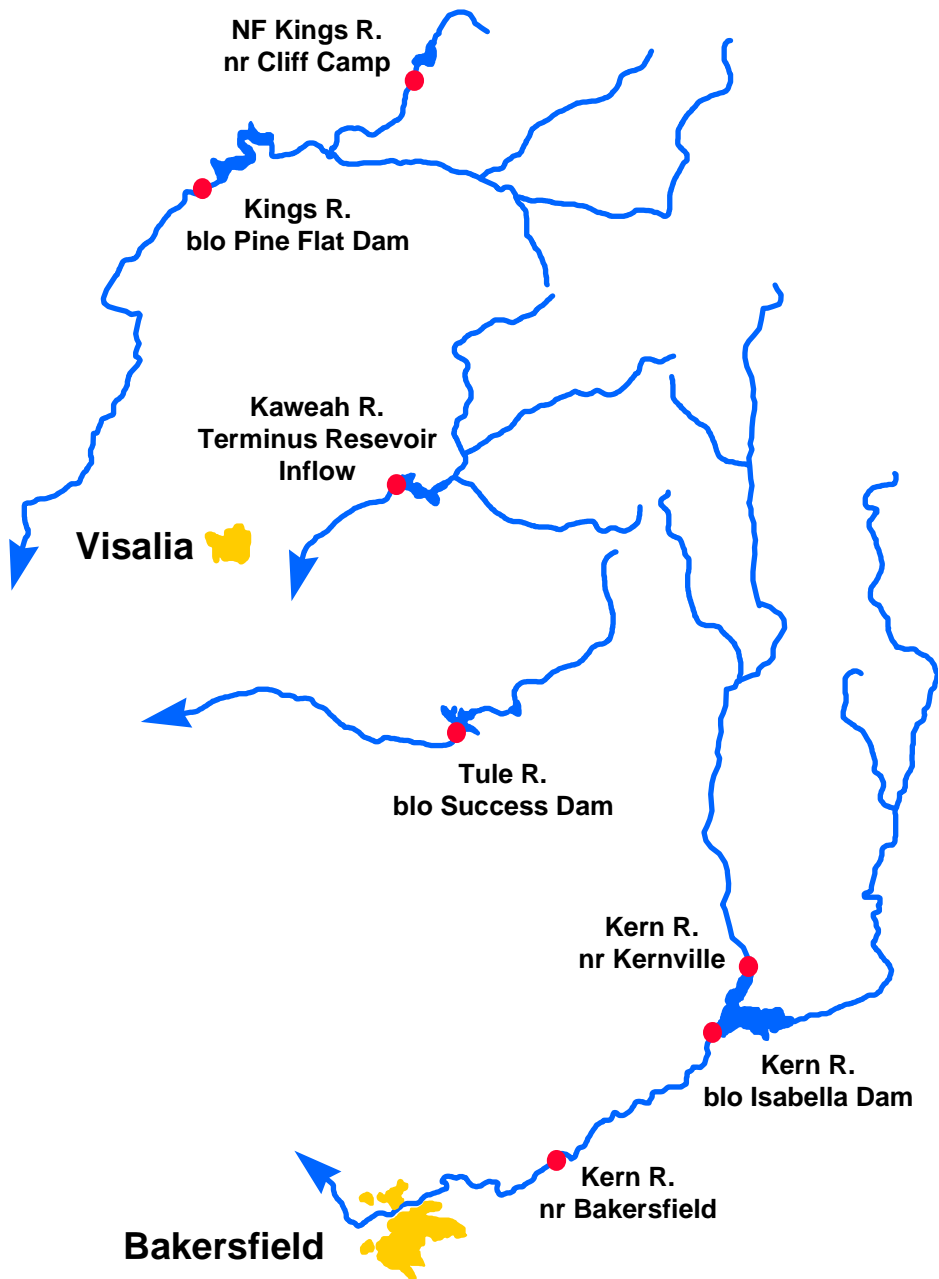


Season Basin Runoff

October 1 to Date



Tulare Basin



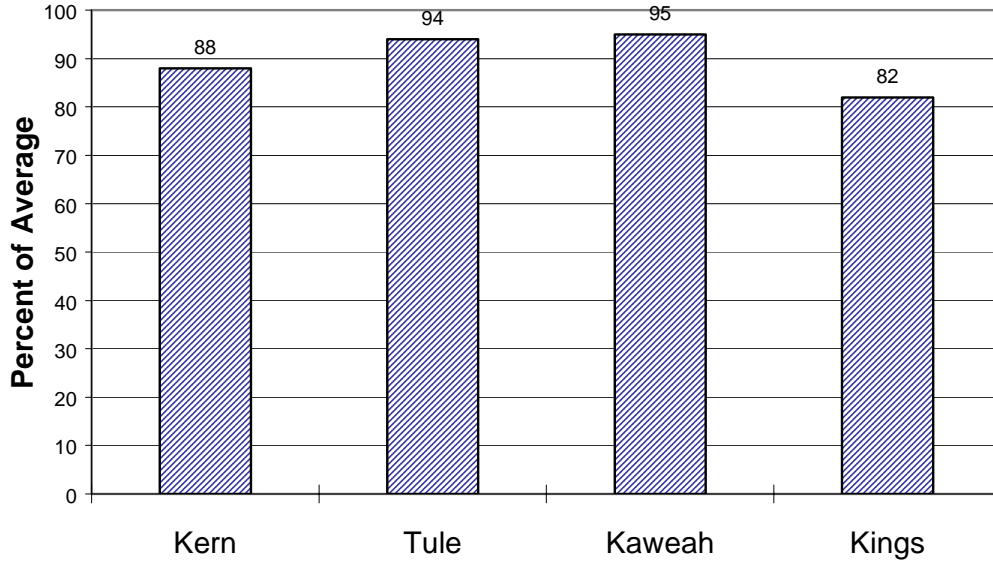
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Nrml	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
Kern River						
Kernville, nr	Apr-Jul	240	60	330	148	398*
Isabella Dam, blo	Apr-Jul	270	56	400	150	480
Bakersfield, nr	Apr-Jul	280	57	420	160	490
Tule River						
Success Dam	Apr-Jul	38	58	55	20	66
Kaweah River						
Terminus Dam	Apr-Jul	220	76	305	134	290
NF Kings River						
Cliff Camp, nr	Apr-Jul	185	77	260	135	240*
Kings River						
Pine Flat Dam, blo	Apr-Jul	950	76	1300	700	1250

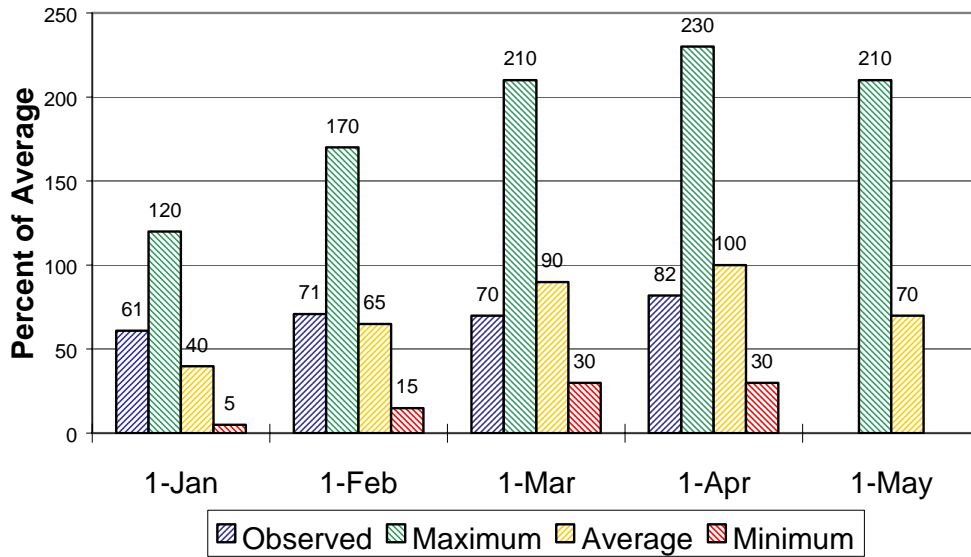
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Tulare Lake Basin

Seasonal Precipitation October 1 to Date

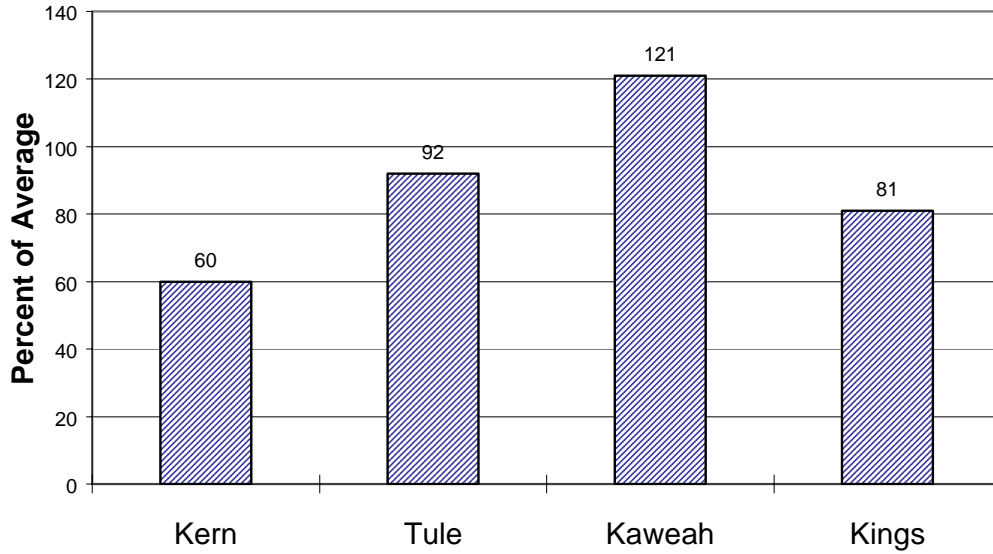


Seasonal Basin Snowpack Water Content in % of April 1 Average

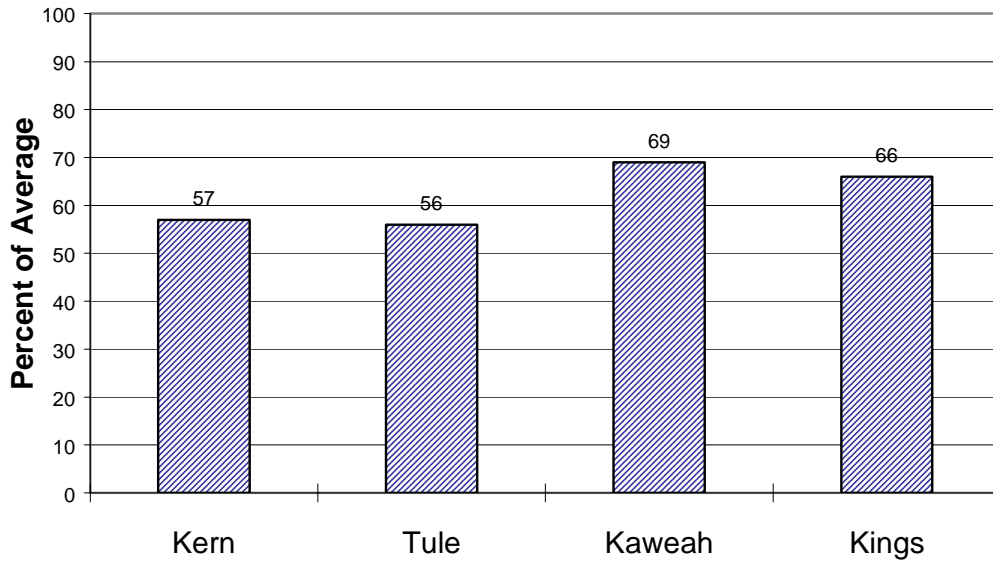


Tulare Lake Basin

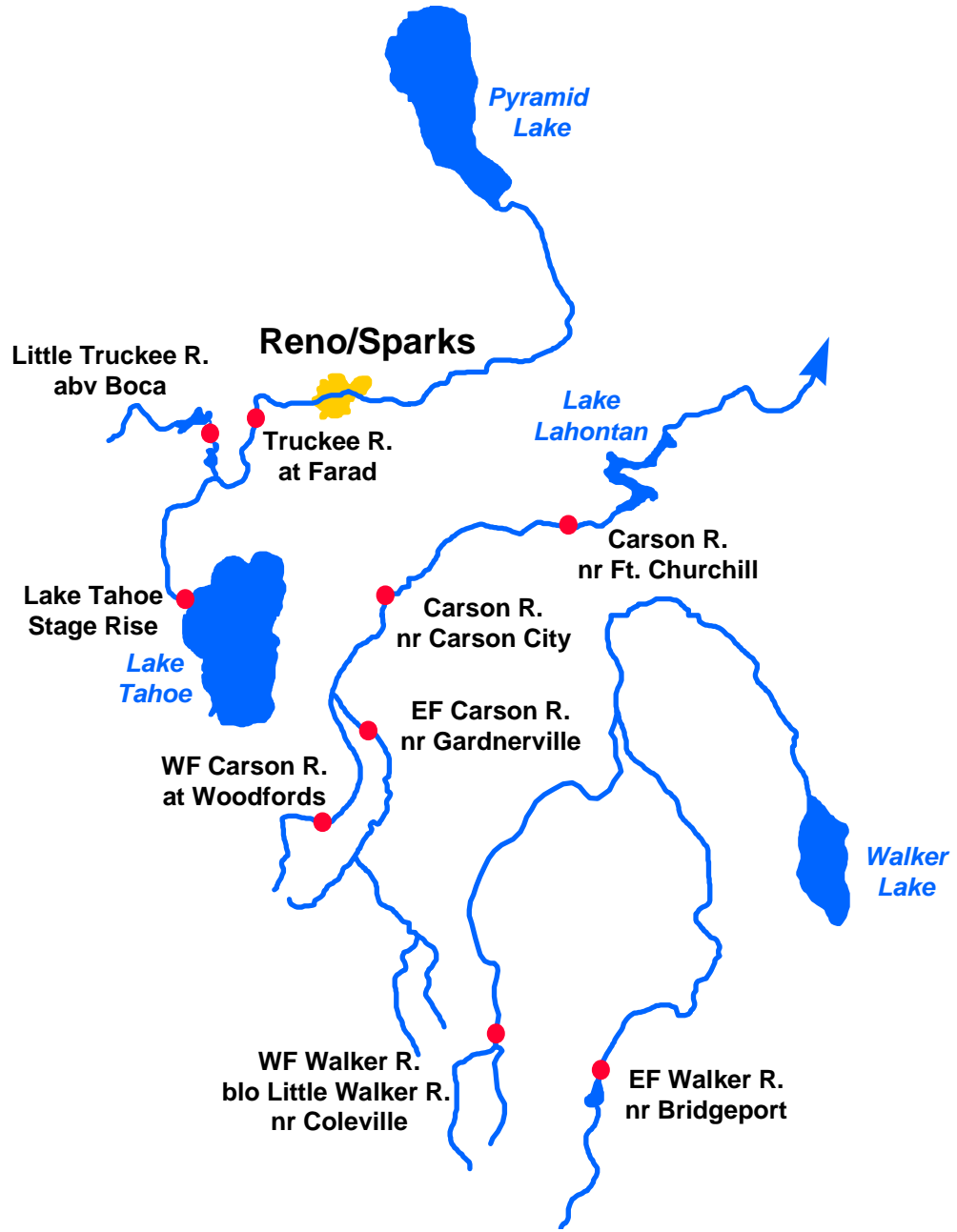
Basin Reservoir Storage Contents of Major Reservoirs in % of Average



Seasonal Basin Runoff October 1 to Date



East Side Sierra Nevada Basins



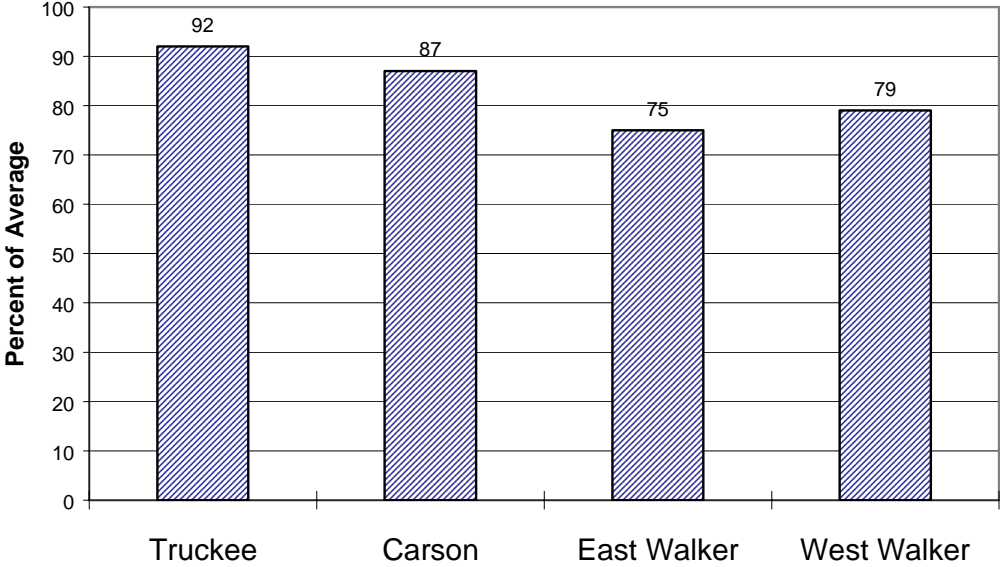
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %NrmI	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
Truckee River						
Truckee River						
Lake Tahoe Stage Rise	Apr-High	1.0	72	1.4	0.6	1.4
Farad	Apr-Jul	190	73	260	122	260
Carson River						
EF Carson River						
Gardnerville, nr	Apr-Jul	136	72	161	111	189
WF Carson River						
Woodfords	Apr-Jul	39	70	49	31	56
Carson River						
Carson City, nr	Apr-Jul	109	58	152	66	188
Fort Churchill, nr	Apr-Jul	99	56	145	51	178
Walker River						
East Walker River						
Bridgeport, nr	Apr-Aug	44	66	61	27	67
West Walker River						
Ltl Walker, blo, Coleville, nr	Apr-Jul	120	77	150	89	156

East Side Sierra Nevada Basins

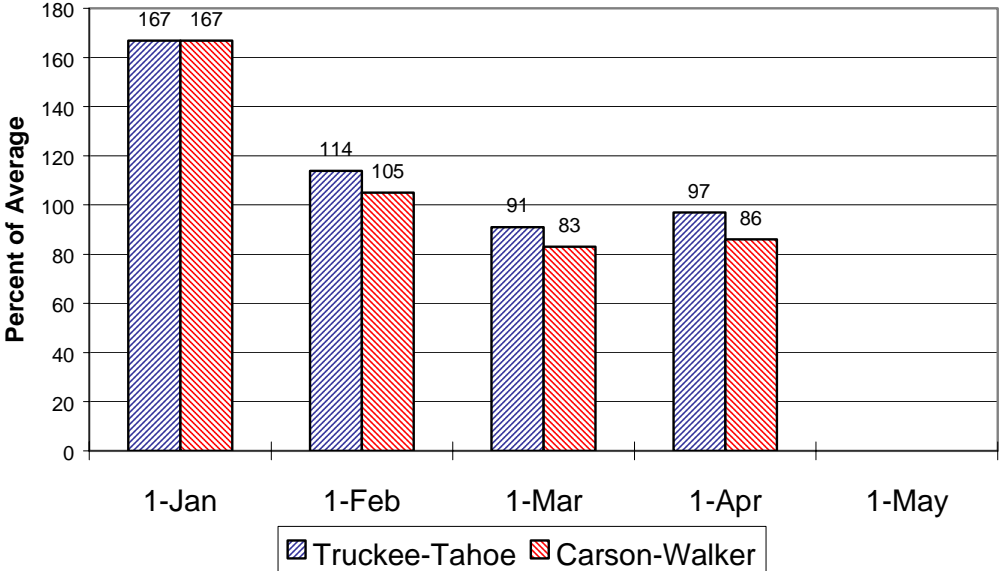
Seasonal Basin Precipitation

October 1 to Date



Basin Snowpack

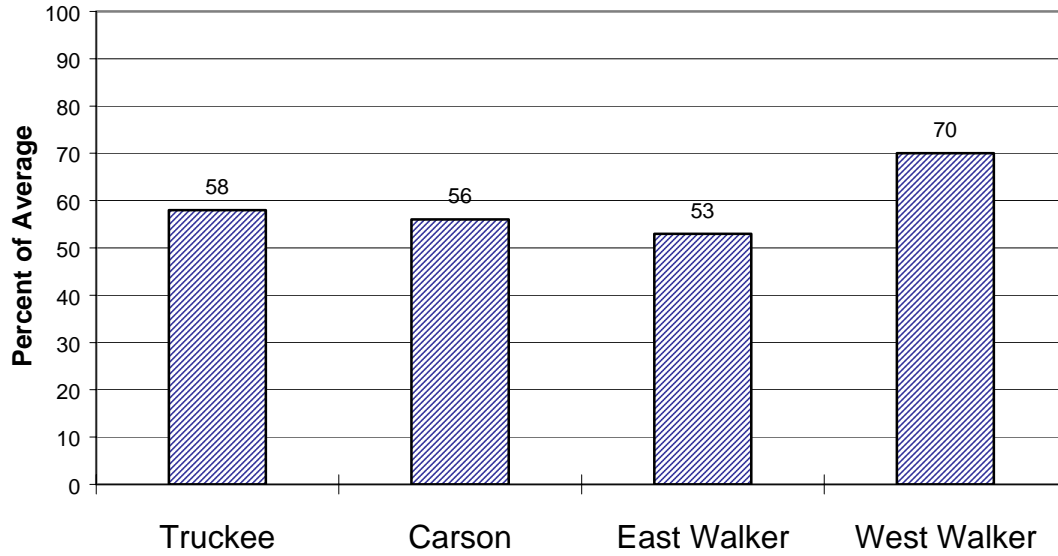
% of Average SWE to Date



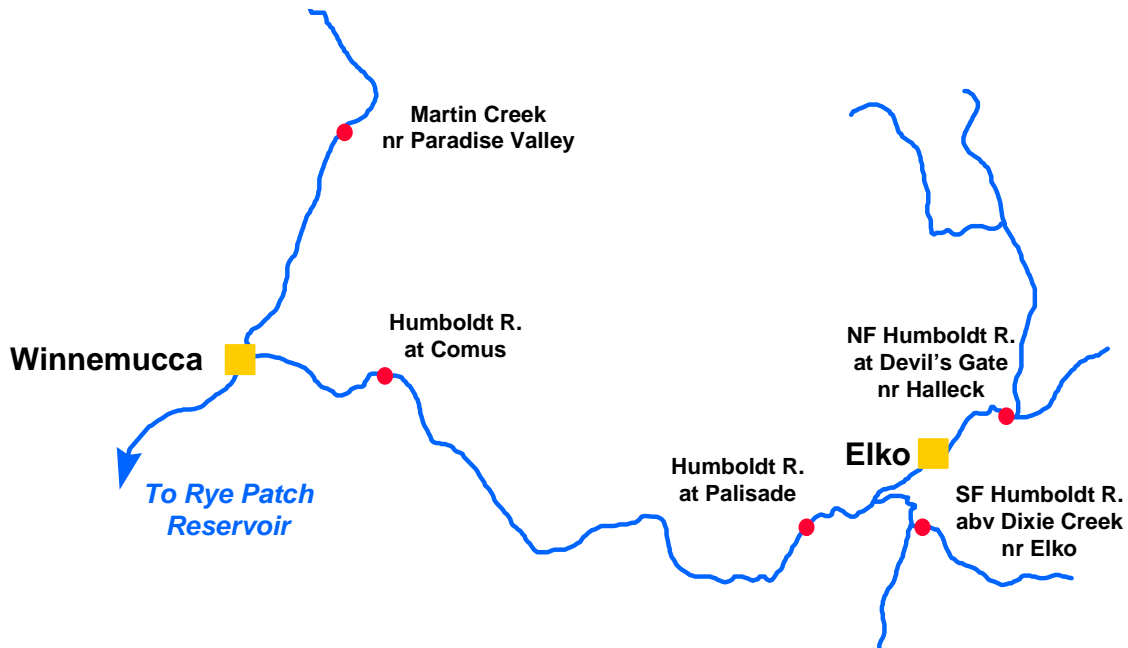
East Side Sierra Nevada Basins

Seasonal Basin Runoff

October 1 to Date



Humboldt River Basin



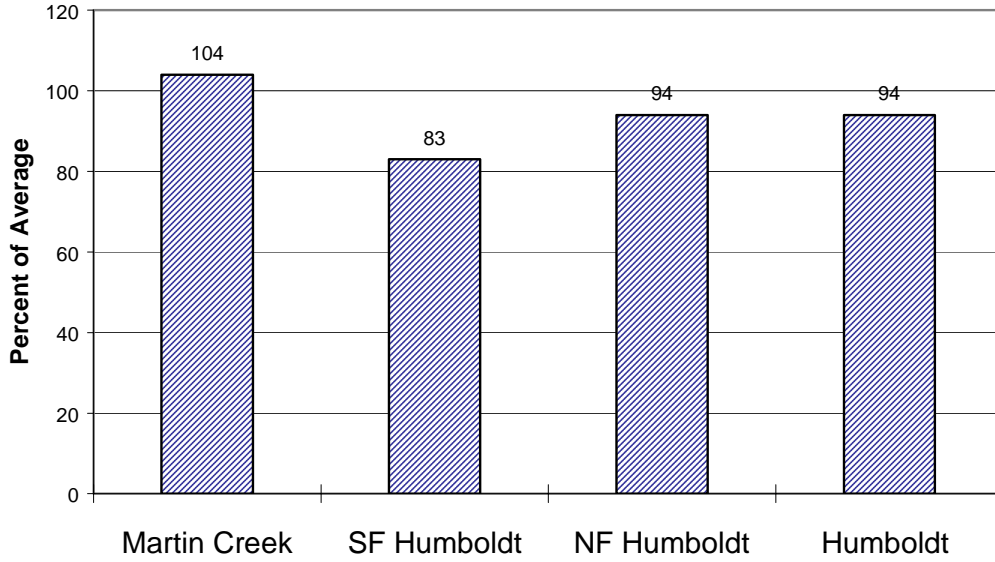
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Nrml	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
NF Humboldt River						
Devils Gate, at, Halleck, nr	Apr-Jul	24	71	38	9.6	34*
SF Humboldt River						
Dixie Ck, abv, Elko, nr	Apr-Jul	56	74	87	25	76
Humboldt River						
Palisade	Apr-Jul	145	58	290	75	250
Comus	Apr-Jul	125	56	290	68	225
Martin Ck						
Paradise Valley, nr	Apr-Jul	17.0	91	24	10.1	18.7

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Humboldt River Basin

Seasonal Basin Precipitation October 1 to Date



Basin Snowpack % of Average SWE to Date

