Water Supply Outlook

California and Northern Nevada

January 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 TELemetry. 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

January 1, 2002

A healthy dose of precipitation in November and December has helped ease some of the concern about California's water supply situation this year. However, it remains too early to tell if the serious water deficit has been relieved in northeast California, the Klamath basin in Oregon, and northern Nevada.

Above average rainfall returned to California in December following on the heels of a productive November. Rainfall was 135 percent of the monthly average. This translates to about 125 percent of the seasonal average. It was only 47 percent of the seasonal average at this same time last year.

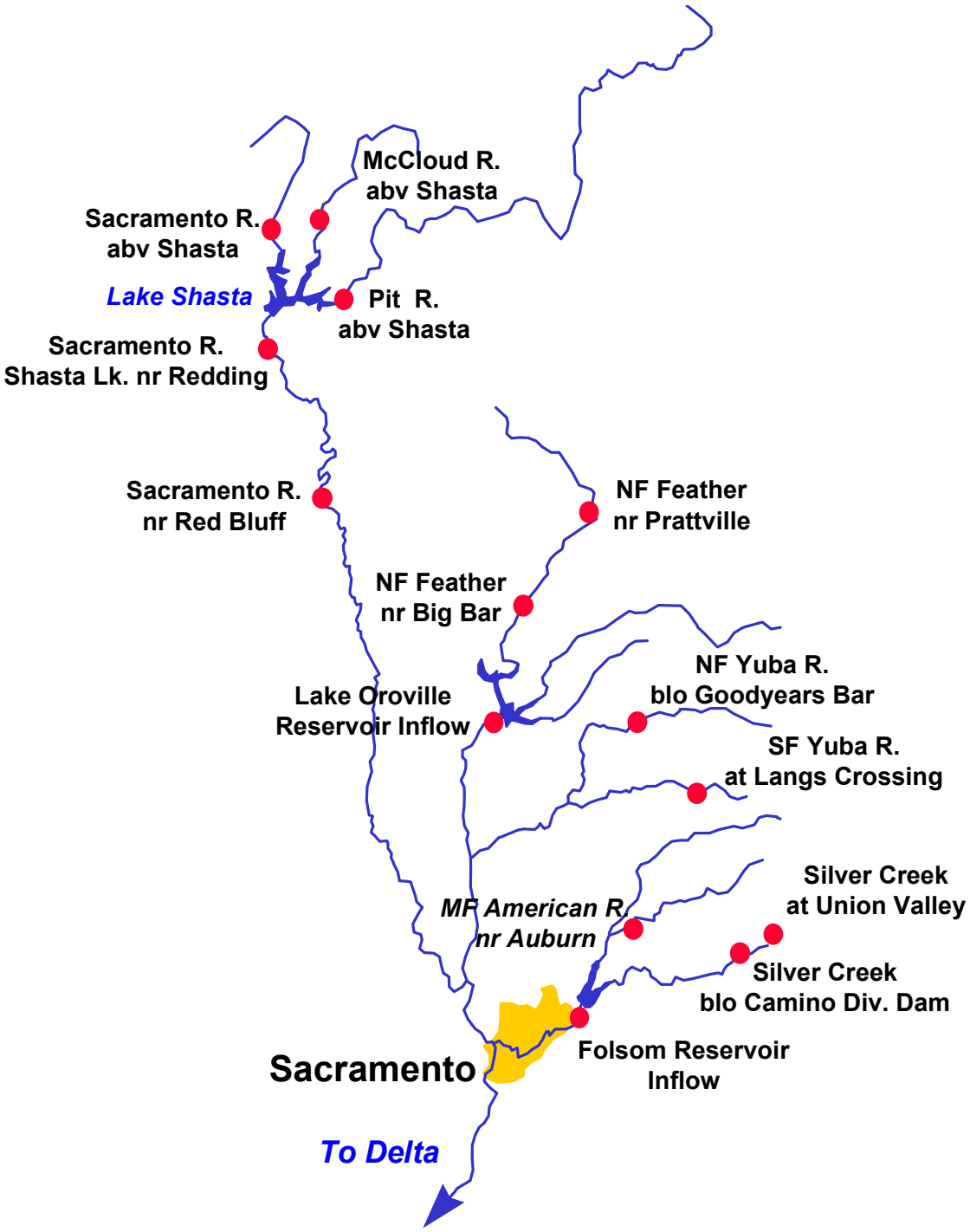
The mountain snowpack has had its best start since 1993. It stands at 60 percent of the April 1st average statewide. This compares with a meager 16 percent at this time last year.

Runoff occurring in November and December started to replenish some depleted reservoirs in California. Reservoir storage statewide is about 95 percent of average and 55 percent of total capacity.

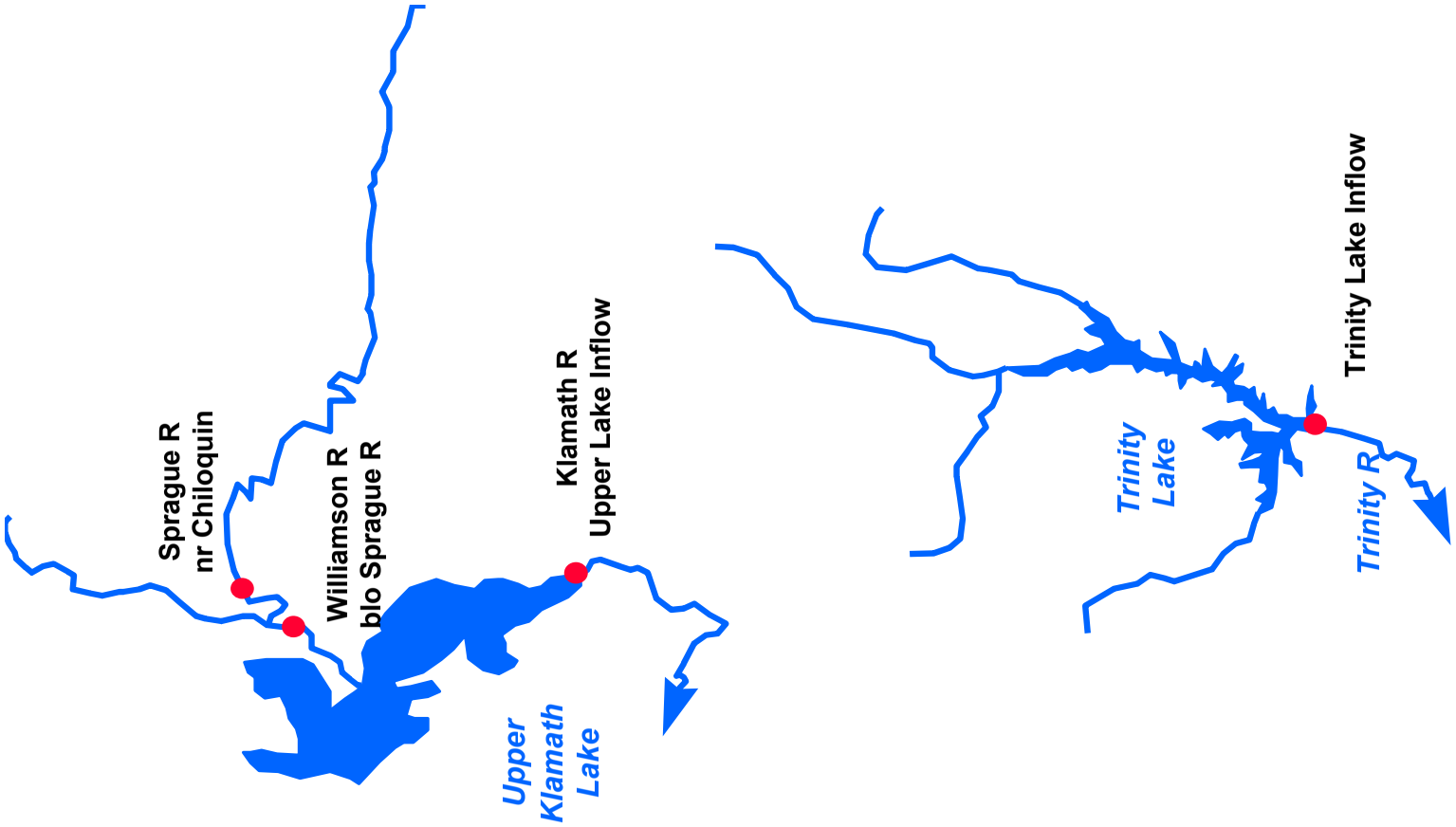
Runoff forecasts range from 120 percent of average in the Yuba, Kings, and Kern River basins to 109 percent in the Mokelumne river drainage. The east side Sierra Nevada and Humboldt River basin forecasts are slightly above average, ranging from 108 to 119 percent for the east side Sierra Nevada, and 112 to 121 percent for the Humboldt.

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	585	116	615	335	505
Sprague River						
Chiloquin, nr	Mar-Sep	340	111	370	151	305
Upper Klamath Falls River						
Inflow	Mar-Sep	825	115	875	475	715
Trinity River						
Clair Engle Inflow	Apr-Jul	700	110	1010	285	635
SACRAMENTO RIVER BASIN						
SACRAMENTO RIVER ABOVE BEND BRIDGE						
Pit River						
Montgomery Creek, nr	Apr-Jul	1180	110	1320	735	1070
Mccloud River						
Shasta Lake, abv	Apr-Jul	425	115	510	240	370
Sacramento River						
Delta	Apr-Jul	320	110	445	107	290
Shasta Lake, Redding, nr	Apr-Jul	1930	108	2390	1010	1790
Bend Bridge, abv, Red Bluff	Apr-Jul	2680	110	3390	1310	2440
FEATHER RIVER ABOVE OROVILLE RESERVOIR						
NF Feather River						
Prattville, nr	Apr-Jul	350	105	475	170	333*
Big Bar	Apr-Jul	1070	111	1380	480	962*
Feather River						
Oroville Reservoir Inflow	Apr-Jul	1970	112	2550	790	1760

Water Supply Forecasts

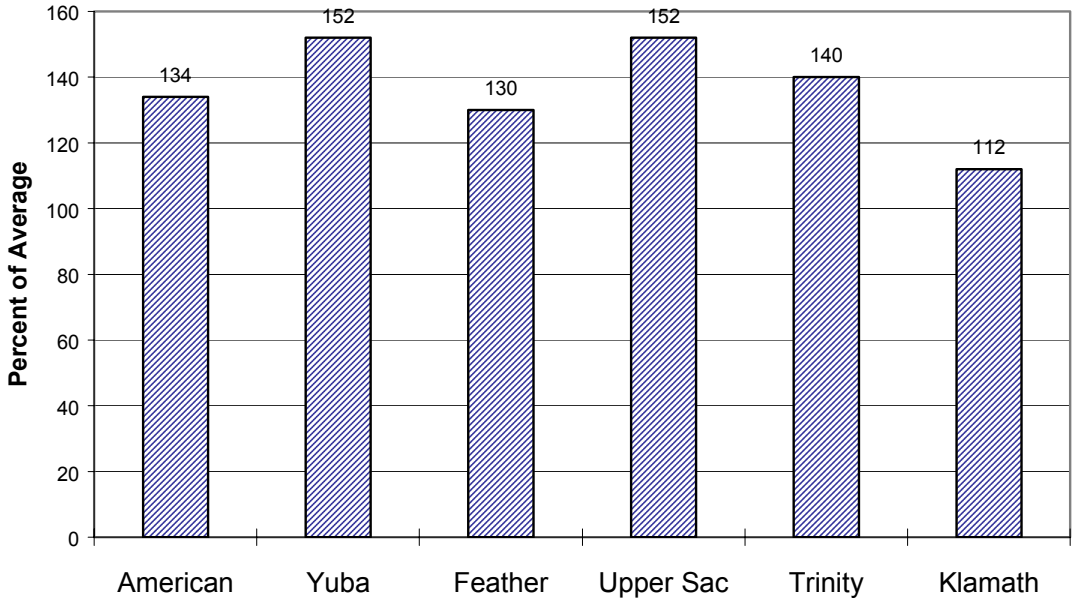
		Most Prob Vol KAF	Most Prob Vol %Nrml	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
Yuba River above Smartville						
North Yuba River						
Goodyears Bar, blo	Apr-Jul	325	119	400	98	273*
South Yuba River						
Langs Crossing	Apr-Jul	270	120	340	82	225*
Yuba River						
Smartville, nr	Apr-Jul	1190	120	1440	325	995
American River above Folsom Reservoir						
MF American River						
Auburn, nr	Apr-Jul	570	116	690	170	490*
Silver Ck						
Union Valley	Apr-Jul	110	112	141	35	98*
Camino Dam, blo	Apr-Jul	180	114	235	55	158*
American River						
Folsom Reservoir Inflow	Apr-Jul	1420	115	1700	405	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

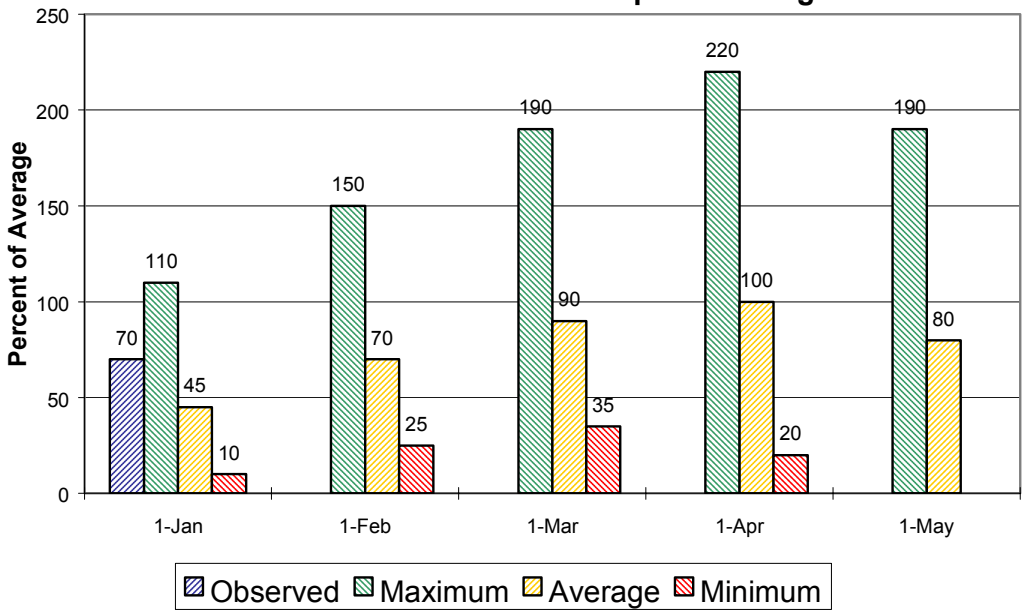
Seasonal Basin Precipitation

October 1 to Date



Seasonal Basin Snowpack

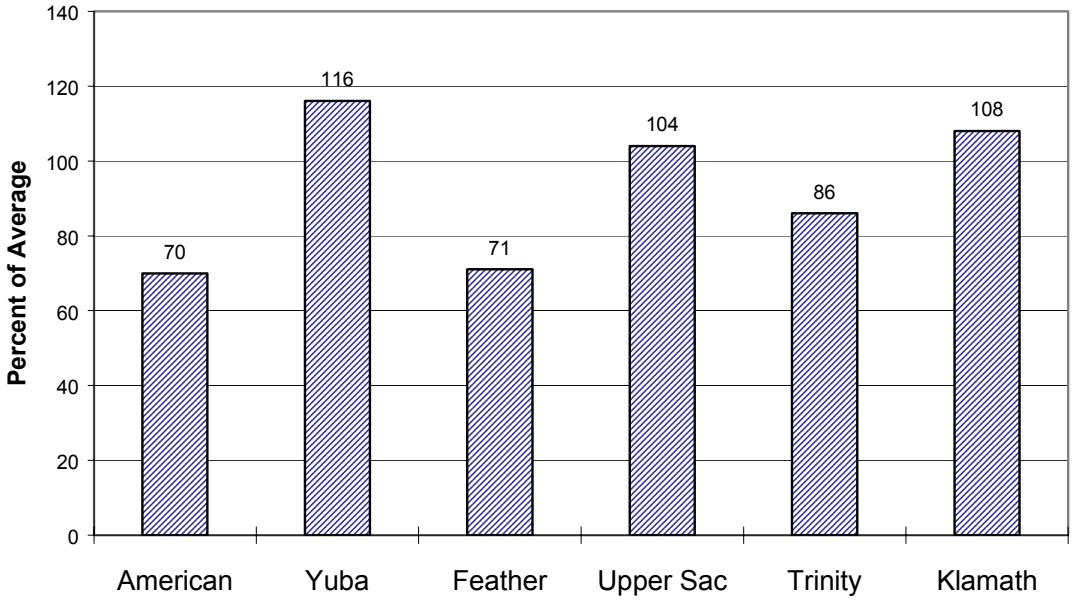
Water Content in % of April 1 Average



Sacramento/Trinity/Klamath River Basins

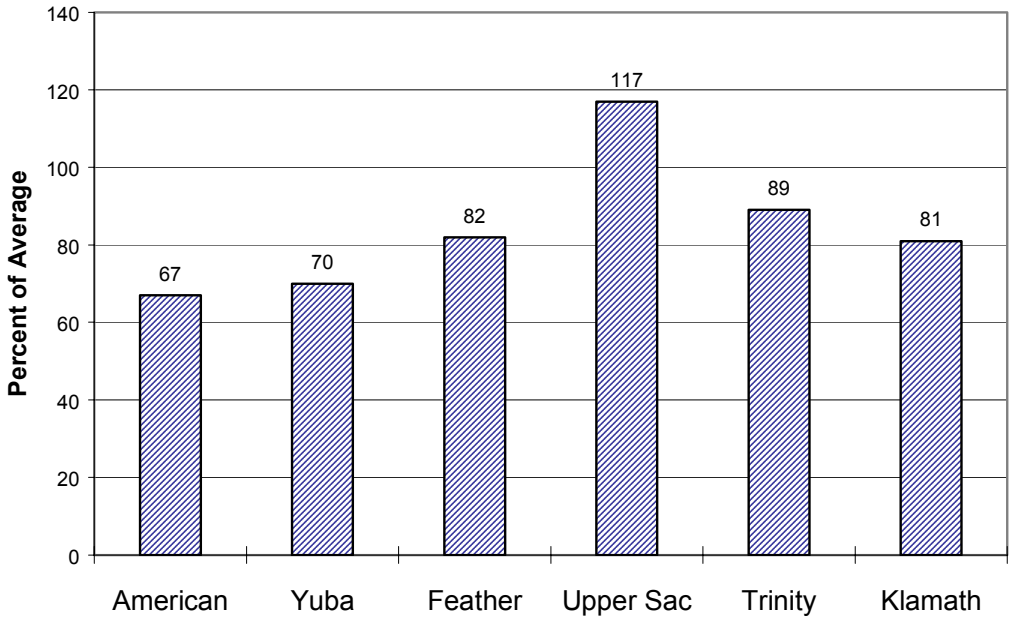
Basin Reservoir Storage

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 Lake	Apr-Jul	225	117	320	120	192*
San Joaquin River						
Millerton Lk	Apr-Jul	1490	117	2150	850	1270
Merced River						
Pohono Bridge, at, Yosemite	Apr-Jul	425	118	600	225	360*
Merced Falls, blo	Apr-Jul	750	116	1050	400	645
Tuolumne River						
Hetch Hetchy, nr	Apr-Jul	690	116	950	400	596*
La Grange, nr	Apr-Jul	1400	114	2000	700	1230
MF Stanislaus River						
Beardsley Dam, blo	Apr-Jul	370	116	530	190	320*
Stanislaus River						
Goodwin Dam, blo, Knights Ferry	Apr-Jul	785	113	1150	450	695
NF Mokelumne River						
West Point	Apr-Jul	450	108	650	220	416*
Mokelumne River						
Mokelumne Hill	Apr-Jul	500	109	730	250	460
Cosumnes River						
Michigan Bar	Apr-Jul	140	114	200	80	123

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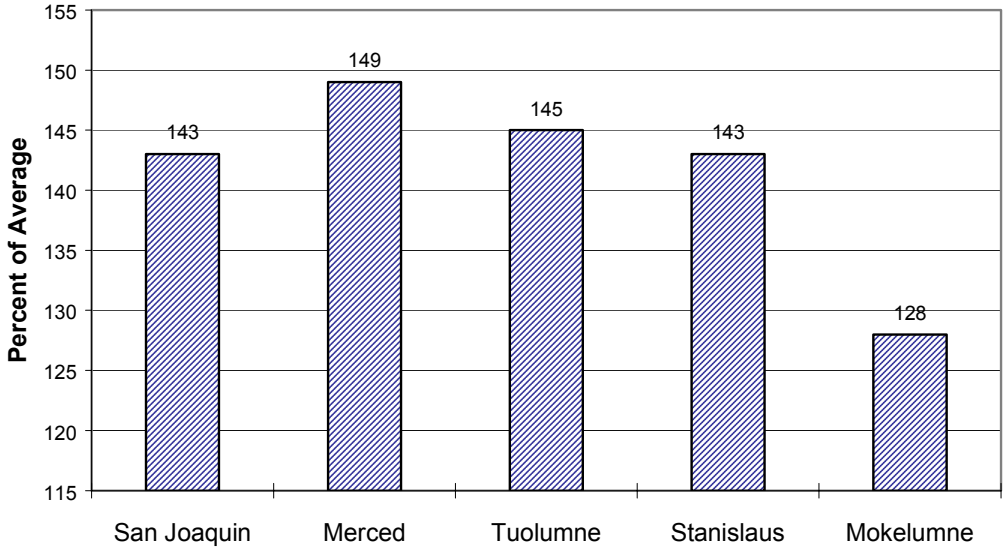
San Joaquin Basin

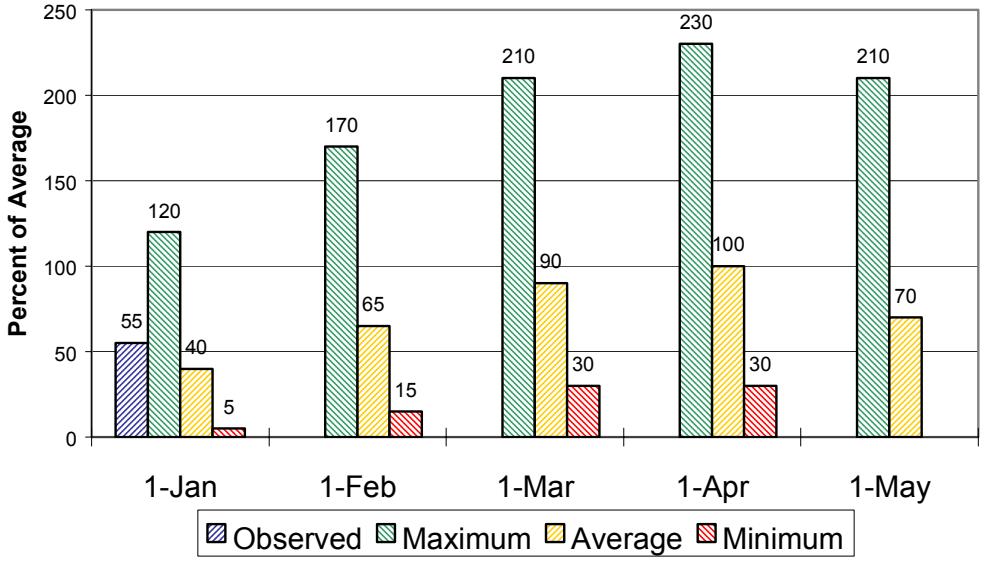
Seasonal Basin Precipitation

October 1 to Date



Seasonal Basin Snowpack

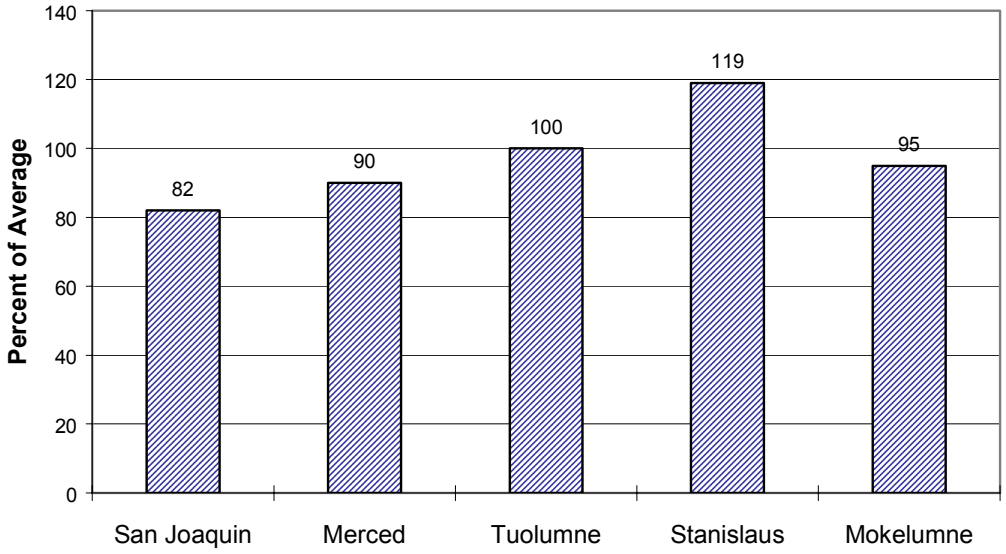
Water Content in % of April 1 Average



San Joaquin Basin

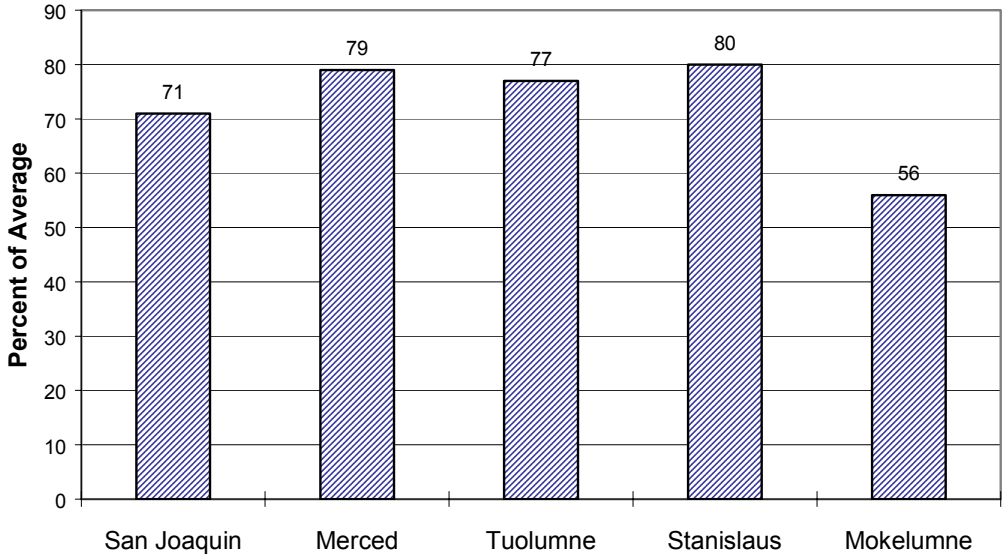
Basin Reservoir Storage

Contents of Major Reservoirs in % of Average

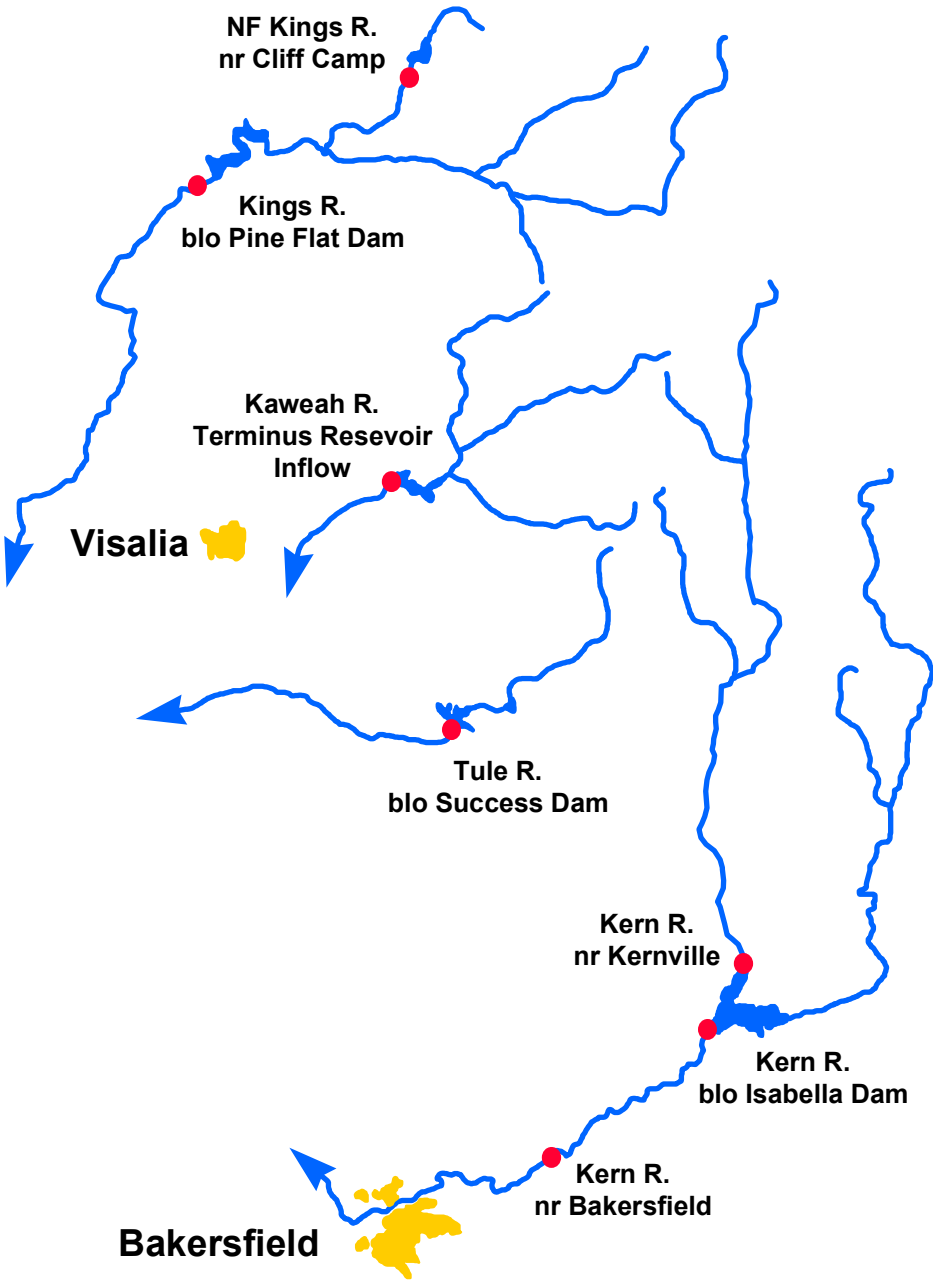


Season Basin Runoff

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	475	119	720	320	398*
Isabella Dam, blo	Apr-Jul	575	120	850	350	480
Bakersfield, nr	Apr-Jul	590	120	850	350	490
Tule River						
Success Dam	Apr-Jul	80	121	115	50	66
Kaweah River						
Terminus Dam	Apr-Jul	340	117	500	240	290
NF Kings River						
Cliff Camp, nr	Apr-Jul	280	117	400	160	240*
Kings River						
Pine Flat Dam, blo	Apr-Jul	1500	120	2100	800	1250

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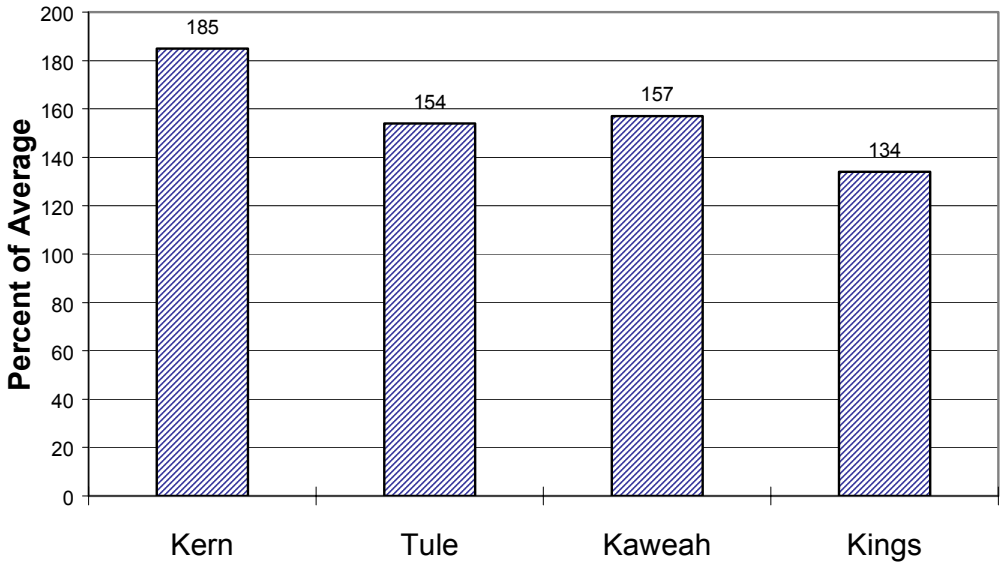
Tulare Lake Basin

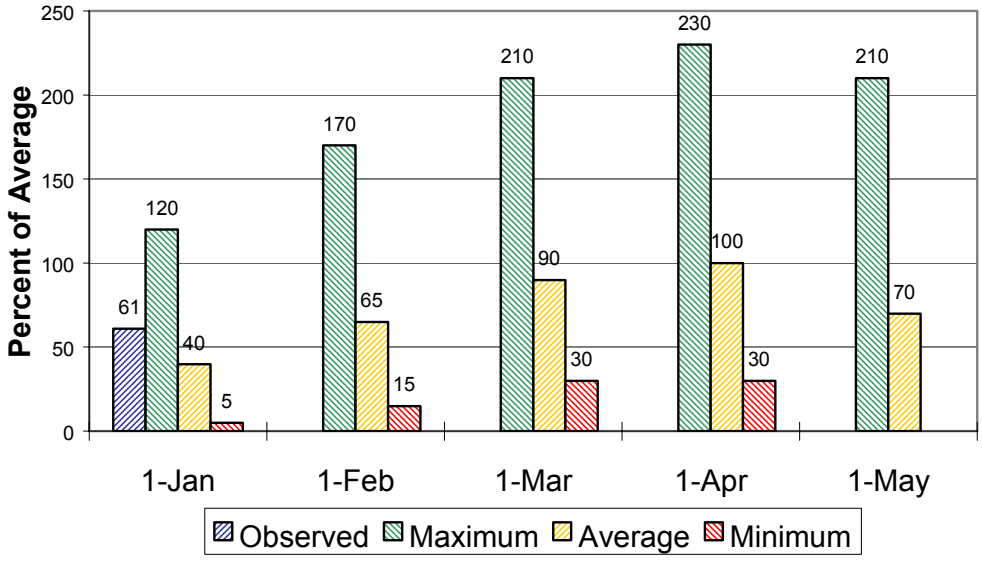
Seasonal Precipitation

October 1 to Date



Seasonal Basin Snowpack

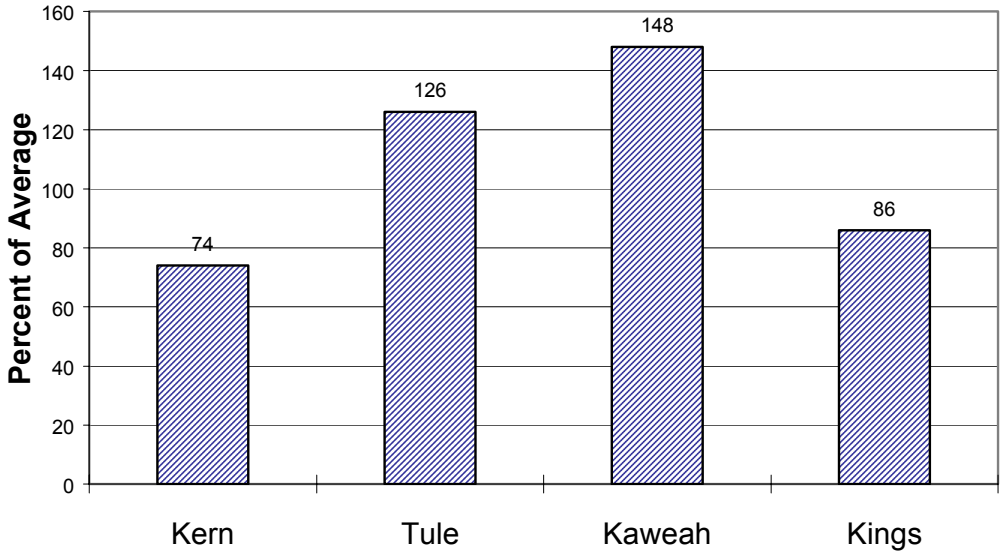
Water Content in % of April 1 Average



Tulare Lake Basin

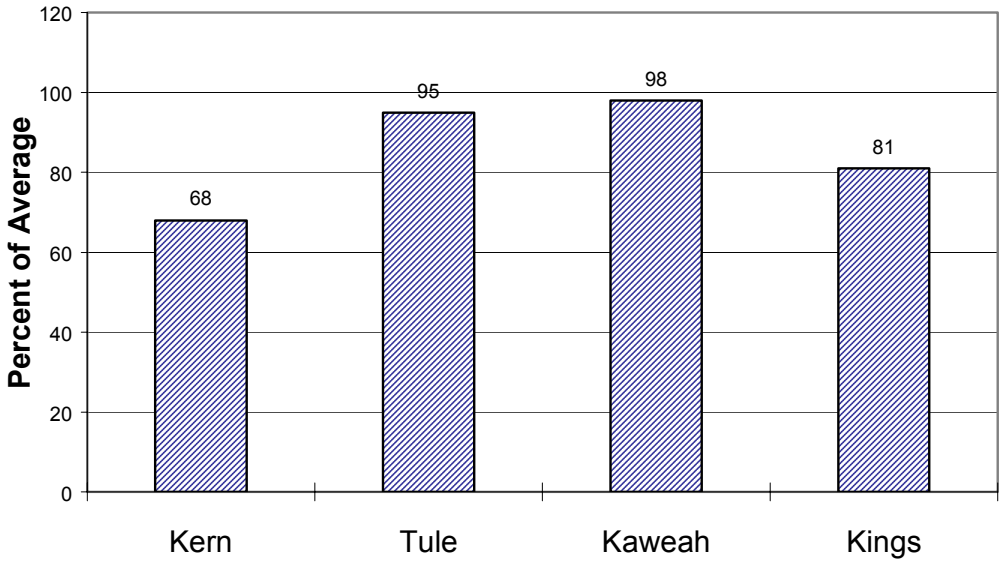
Basin Reservoir Storage

Contents of Major Reservoirs in % of Average

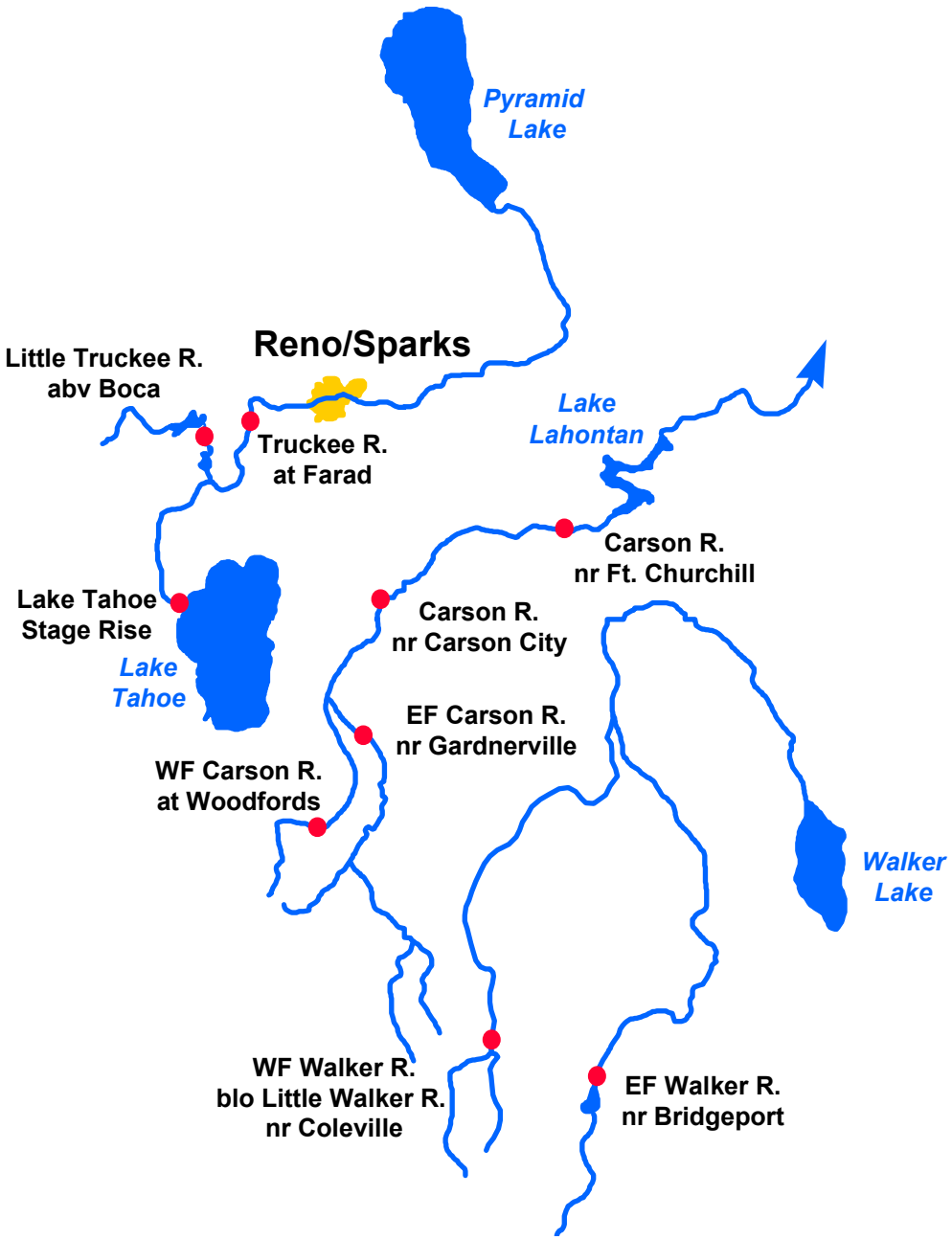


Seasonal Basin Runoff

October 1 to Date



East Side Sierra Nevada Basins



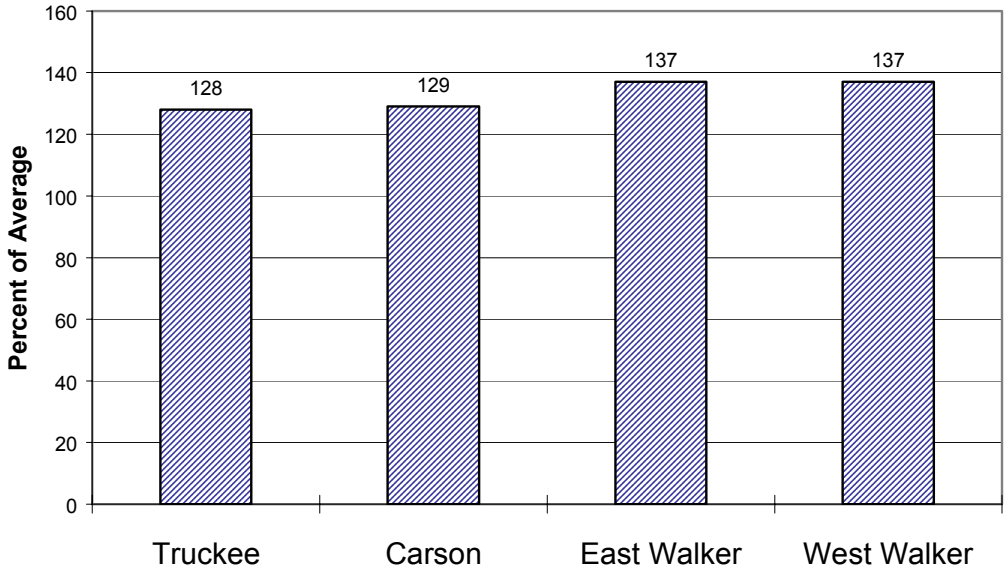
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Nrml	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
Truckee River						
Truckee River						
Lake Tahoe Stage Rise	Apr-High	1.5	109	2.1	0.5	1.4
Farad	Apr-Jul	325	108	450	105	300
Carson River						
EF Carson River						
Gardnerville, nr	Apr-Jul	210	111	280	62	189
WF Carson River						
Woodfords	Apr-Jul	63	112	84	26	56
Carson River						
Carson City, nr	Apr-Jul	215	114	310	75	188
Fort Churchill, nr	Apr-Jul	205	115	295	70	178
Walker River						
East Walker River						
Bridgeport, nr	Apr-Aug	75	112	114	27	67
West Walker River						
Ltl Walker, blo, Coleville	Apr-Jul	185	119	220	52	156

East Side Sierra Nevada Basins

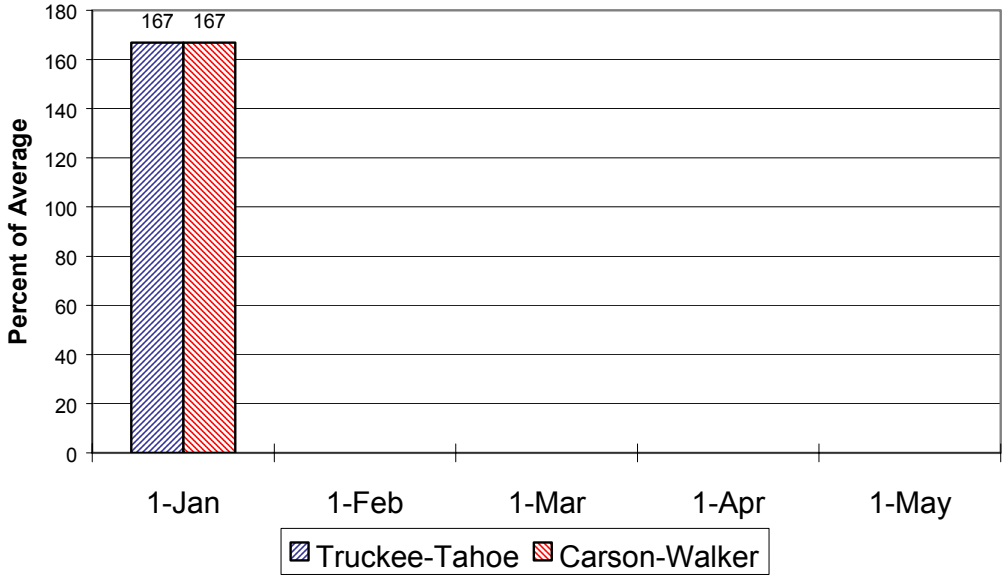
Seasonal Basin Precipitation

October 1 to Date



Basin Snowpack

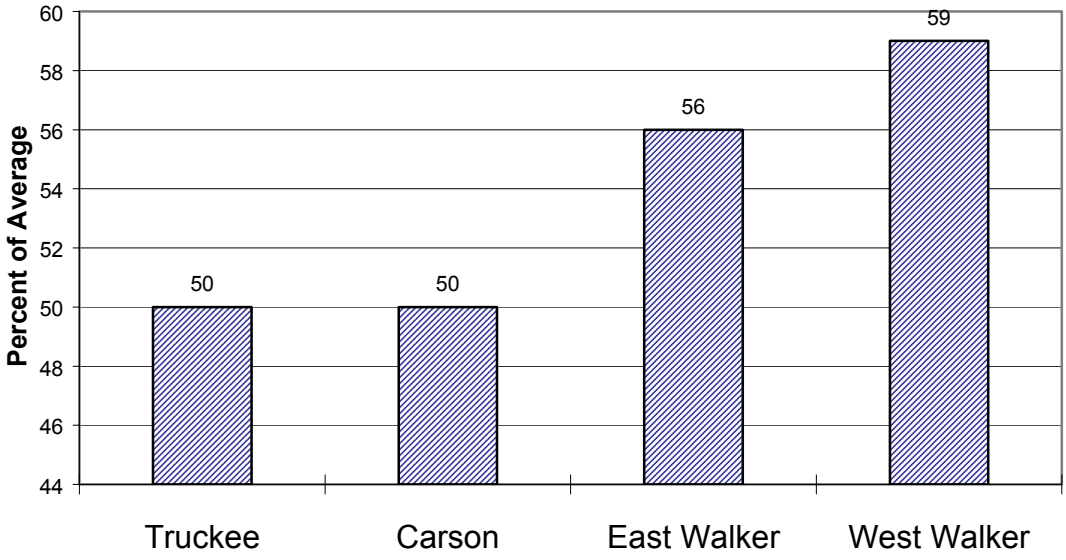
% of Average SWE to Date



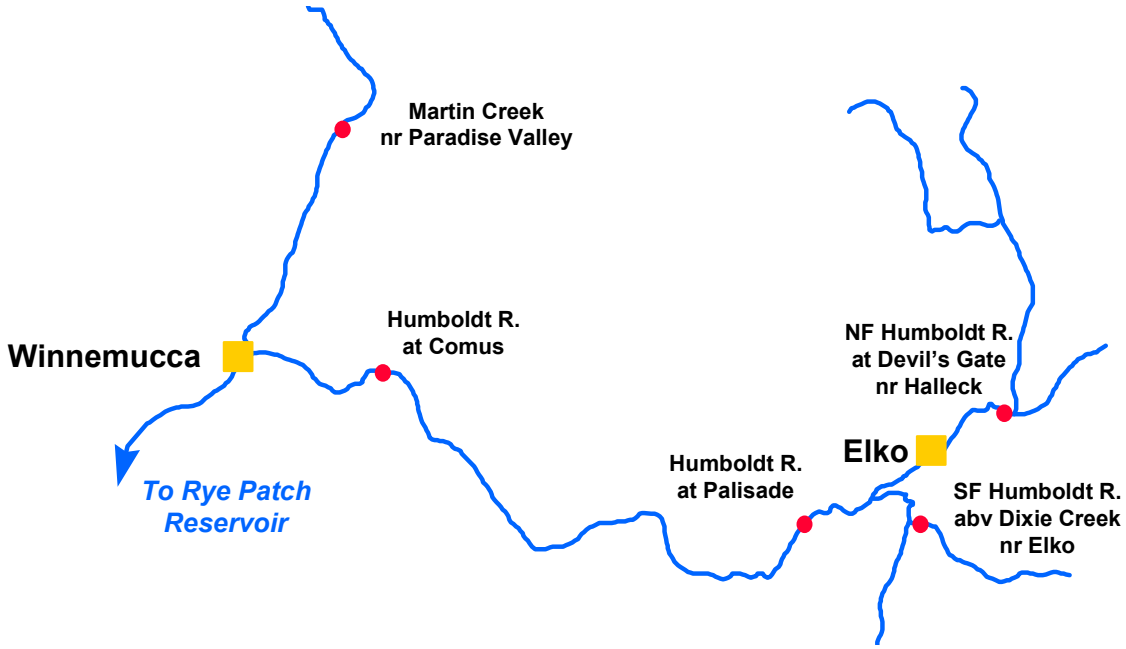
East Side Sierra Nevada Basins

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	41	121	63	17	34*
SF Humboldt River						
Dixie Ck, abv, Elko, nr	Apr-Jul	85	112	112	28	76
Humboldt River						
Palisade	Apr-Jul	290	116	430	90	250
Comus	Apr-Jul	260	116	410	79	225
Martin Ck						
Paradise Valley, nr	Apr-Jul	22	118	28	7.6	18.7

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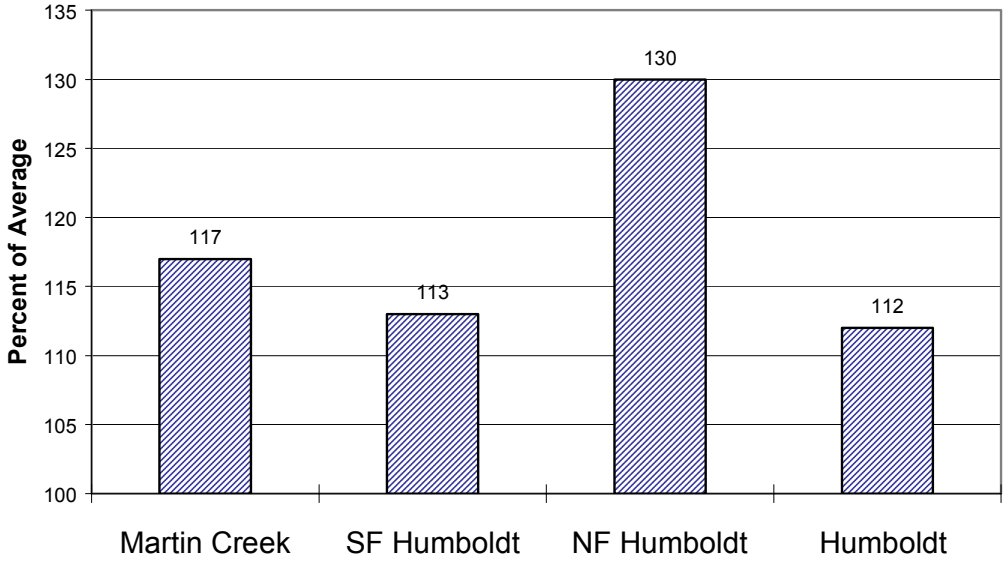
Humboldt River Basin

Seasonal Basin Precipitation

October 1 to Date



Basin Snowpack

% of Average SWE to Date