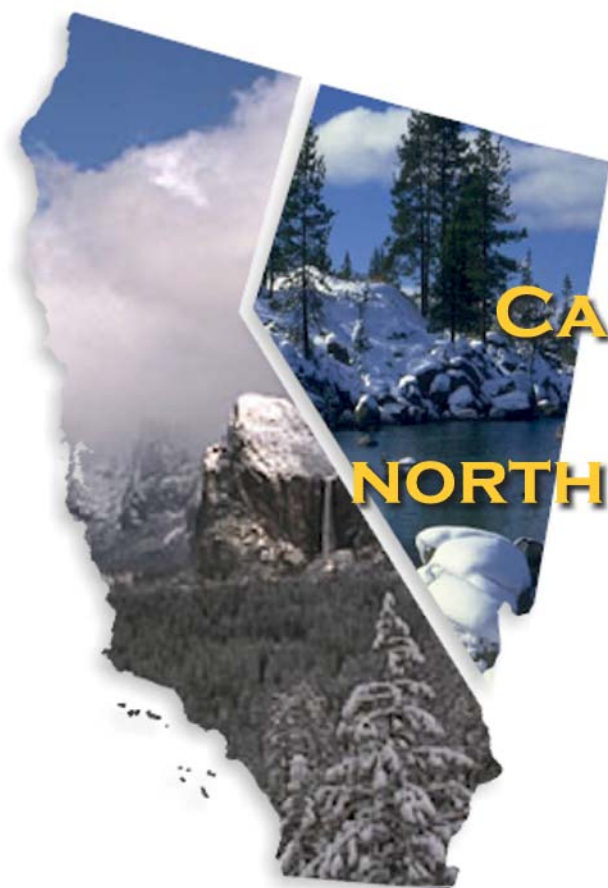


WATER SUPPLY OUTLOOK



CALIFORNIA AND NORTHERN NEVADA

**APRIL
2005**



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

April 1, 2005

Warm and dry weather conditions dominated the first half of March with some melt of the Sierra snow pack. However, a cold and wet weather regime returned during the last two weeks of the month, adding beneficial accumulation to the snow pack and improving the water supply outlook for most basins this spring.

March precipitation amounts were generally above average. Monthly precipitation ranged from 97 to 129 percent in the Trinity-Sacramento drainages and 112 to 162 percent in the San Joaquin drainage; it varied from 114 to 171 percent in the Tulare basin. Conditions were driest in the Klamath basin with 74 percent of the March average. The Walker River basin received 140 percent, the Carson 119 percent and the Truckee 112 percent. About 116 percent of the monthly average fell in the upper Humboldt basin and 103 percent in the lower Humboldt basin.

April 1st snow water equivalent measurements showed slight to substantial percentage improvement over March 1st. The best increase in snow pack occurred in the central and southern Sierras. The April 1st average ranges from 124 percent for the northern Sierra, 135 percent for the central Sierra, and 158 percent for the southern Sierra. The Tahoe-Truckee basin stands at 132 percent, the Carson-Walker, 152 percent and the Humboldt basin about 96 percent. The snow pack in the upper Klamath basin continues to be much below average at 45 percent of the average-to-date.

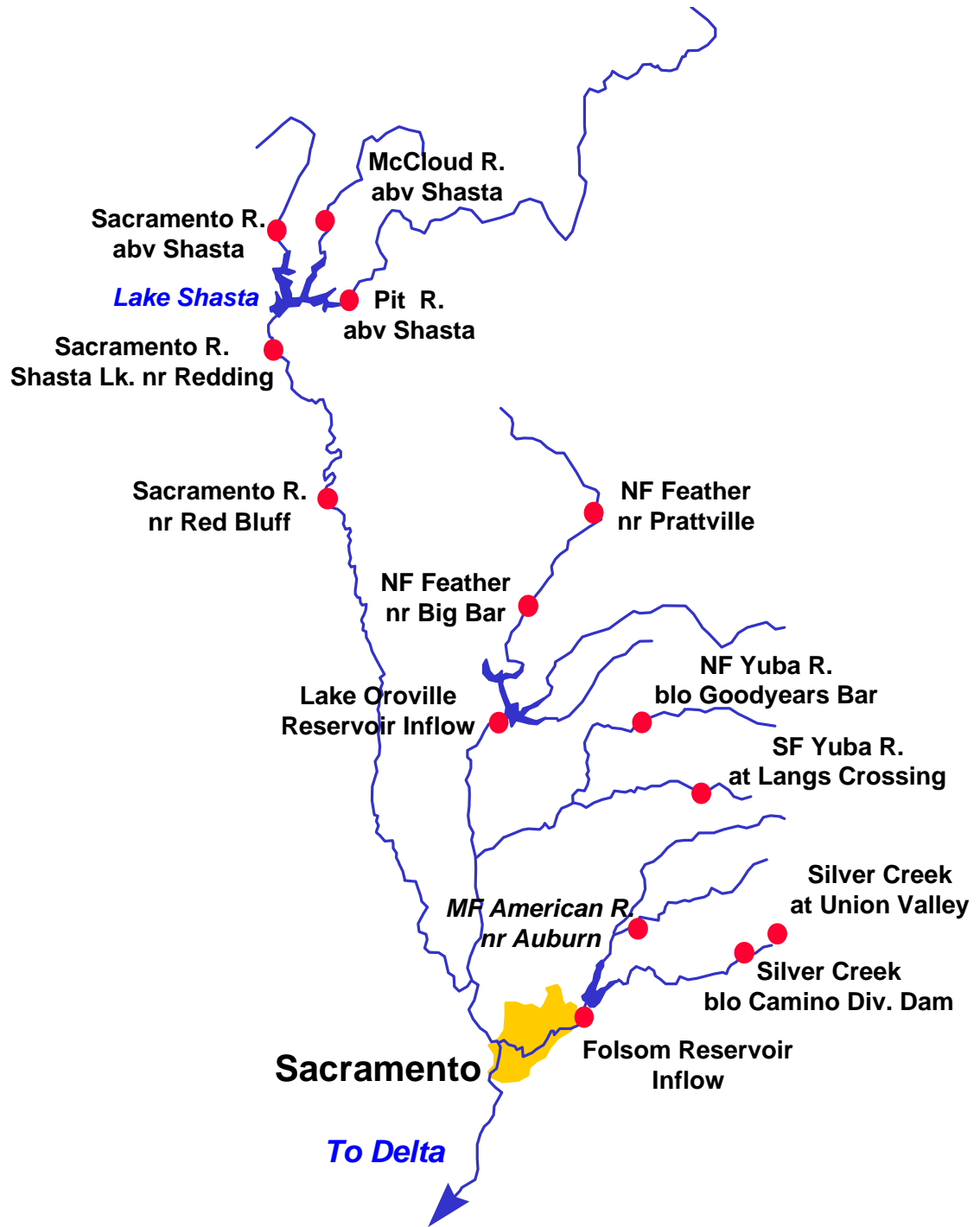
March runoff ranged from 97 to 114 percent in the Trinity-Sacramento drainage, 118 to 157 percent in the San Joaquin drainage, and 91 to 124 percent in the Tulare Lake drainage. Runoff for the east-side Sierra varied from 78 percent for the Truckee River at Farad to 115 percent for the East Walker River near Bridgeport. The Humboldt River at Palisade received 93 percent of the March average while the upper Klamath Lake basin received only 48 percent.

The additional rainfall and anticipated snowmelt during March prompted flood control releases from several of the major reservoirs in the central and southern Sierra. Reservoir storage in the Sacramento basin was at 102 percent of average for the date, the San Joaquin at 117 percent and the Tulare Lake basin at 96 percent. East-side Sierra reservoirs are at 74 percent of average. The lake level at Lake Tahoe stood at 6223.62 on March 31st. This is 0.62 feet above the natural rim; storage in the lake is at only 19 percent of the average-to-date. Storage at Lahontan Reservoir is at 74 percent while Rye Patch Reservoir in the Humboldt basin stands at 46 percent of the average-to-date. The upper Klamath Lake is at 101 percent of the average-to-date.

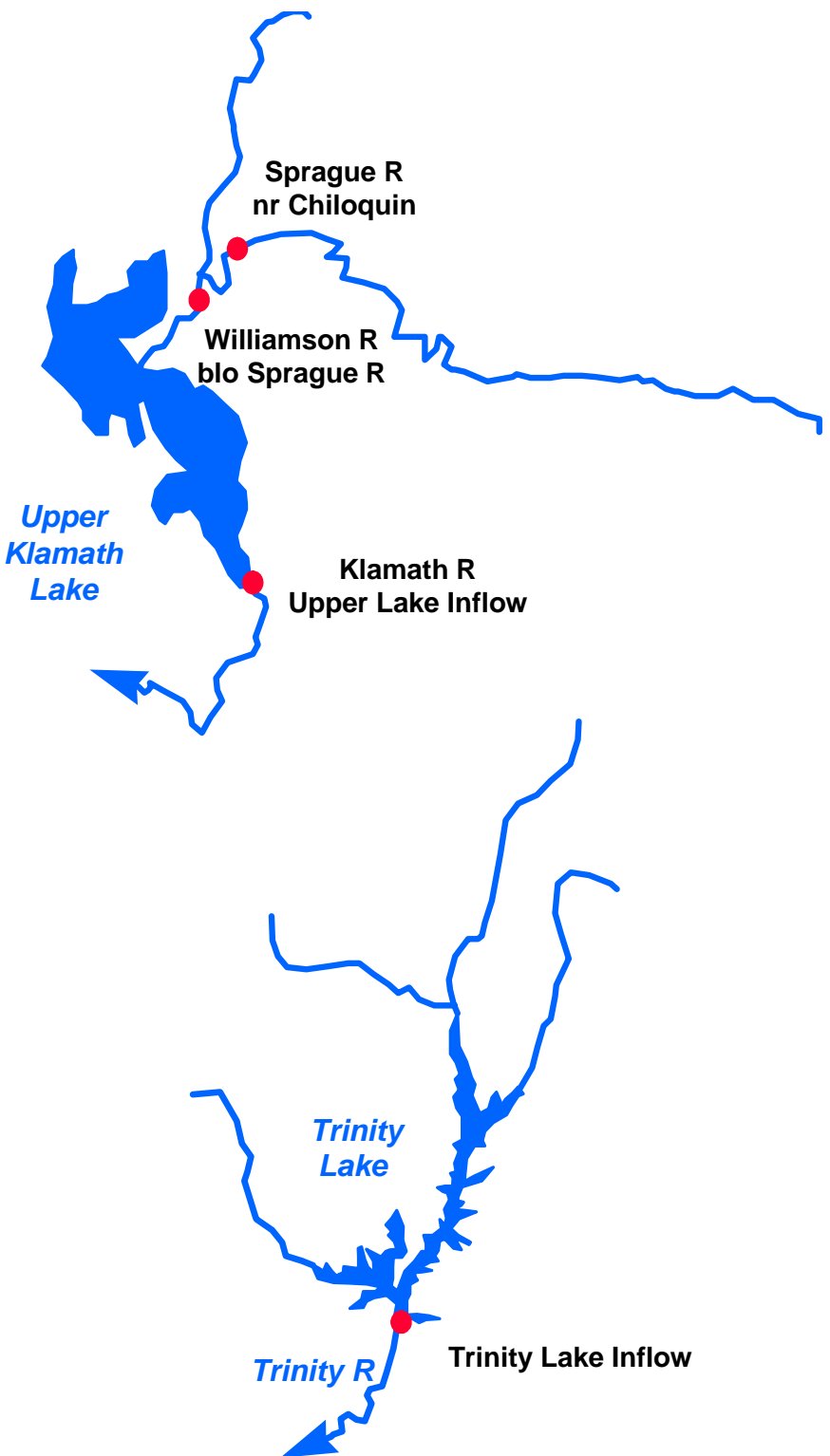
Spring runoff forecasts for basins in California's central valley range from 79 percent for the Pit River near Montgomery Creek to 152 percent for the Merced River below Merced Falls. Forecasts are above average from the Yuba River basin to the Kern. Streamflow forecasts for the east side Sierra basins vary from 112 to 149 percent. Forecasts for the Humboldt basin range from 80 to 115 percent. The March through September forecast for the upper Klamath Lake inflow is 43 percent.

Mid-month updates are scheduled for selected east side Sierra forecast points and the upper Klamath Lake inflow. These will be posted on the CNRFC web page.

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		
COASTAL BASINS									
Williamson River									
Sprague, blo	Mar-Sep	235	47	345	131	505			
Sprague River									
Chiloquin, nr	Mar-Sep	153	50	245	59	305			
Upper Klamath Falls River									
Inflow	Mar-Sep	310	43	470	155	715			
Lost River									
Gerber Reservoir Inflow	Apr-Jul	4.8	28	12.0	2.0	16.9			
Clear Lake Reservoir Inflow	Apr-Jul	15.0	37	30	7.0	41			
Scott River									
Fort Jones, nr	Apr-Jul	145	80	181	112	181			
Trinity River									
Trinity Lake Inflow	Apr-Jul	660	104	830	510	635			
Trinity River - Inflow at Lewiston Lake Distribution (kAF)									
Exceedence									
<u>Probability</u>	<u>Oct-Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Apr-Jul</u>	<u>Water Yr</u>
90%	554	160	210	110	30	15	5	510	1084
50%	554	210	260	150	40	20	10	660	1244
10%	554	275	315	190	50	25	15	830	1424

SACRAMENTO RIVER BASIN

SACRAMENTO RIVER ABOVE BEND BRIDGE

Pit River									
Montgomery Ck, nr	Apr-Jul	840	79	1080	655	1070			
Mccloud River									
Shasta Lk, abv	Apr-Jul	380	103	505	290	370			
Sacramento River									
Delta	Apr-Jul	300	103	395	230	290			
Shasta Lake, Redding, nr	Apr-Jul	1600	89	2160	1230	1790			
Bend Bridge, abv, Red Bluff, nr	Apr-Jul	2100	86	2880	1600	2440			

FEATHER RIVER ABOVE OROVILLE RESERVOIR

NF Feather River									
Prattville, nr	Apr-Jul	300	90	415	235	333*			
Big Bar	Apr-Jul	915	95	1270	700	962*			
Feather River									
Oroville Reservoir Inflow	Apr-Jul	1650	94	2300	1320	1760			

Water Supply Forecasts

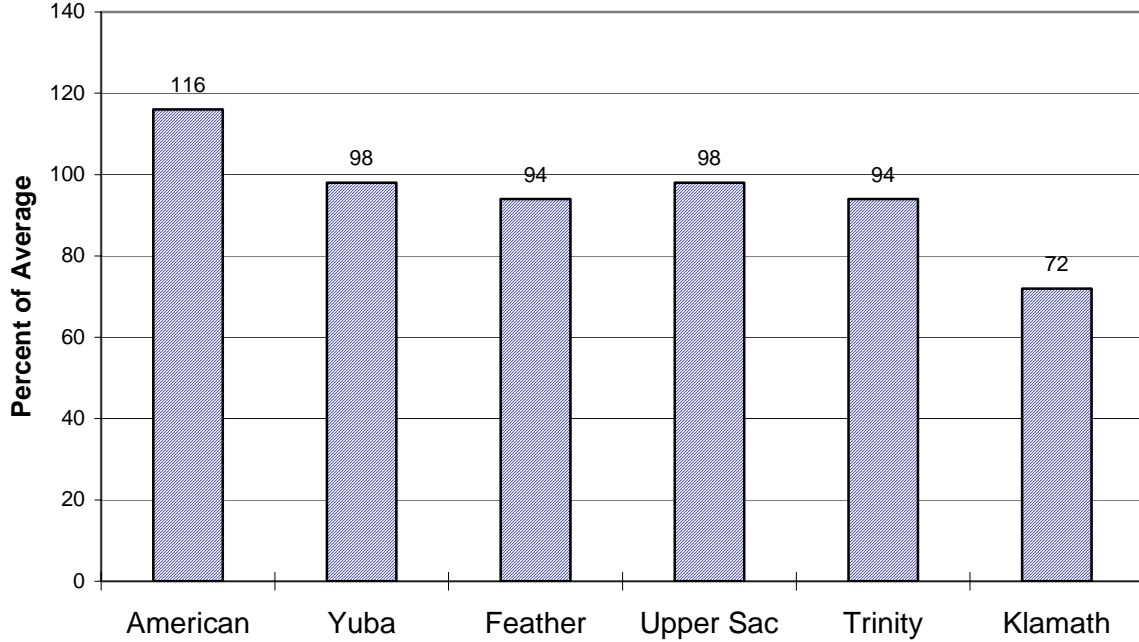
		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
YUBA RIVER ABOVE SMARTVILLE						
North Yuba River						
Goodyears Bar, blo	Apr-Jul	300	110	390	235	273*
South Yuba River						
Langs Crossing	Apr-Jul	250	111	330	195	225*
Yuba River						
Smartville, nr	Apr-Jul	1100	111	1400	865	995
AMERICAN RIVER ABOVE FOLSOM RESERVOIR						
MF American River						
Auburn, nr	Apr-Jul	590	120	760	460	490*
Silver Ck						
Union Valley	Apr-Jul	129	132	165	105	98*
Camino Dam, blo	Apr-Jul	205	130	260	165	158*
American River						
Folsom Reservoir Inflow	Apr-Jul	1550	126	1970	1230	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

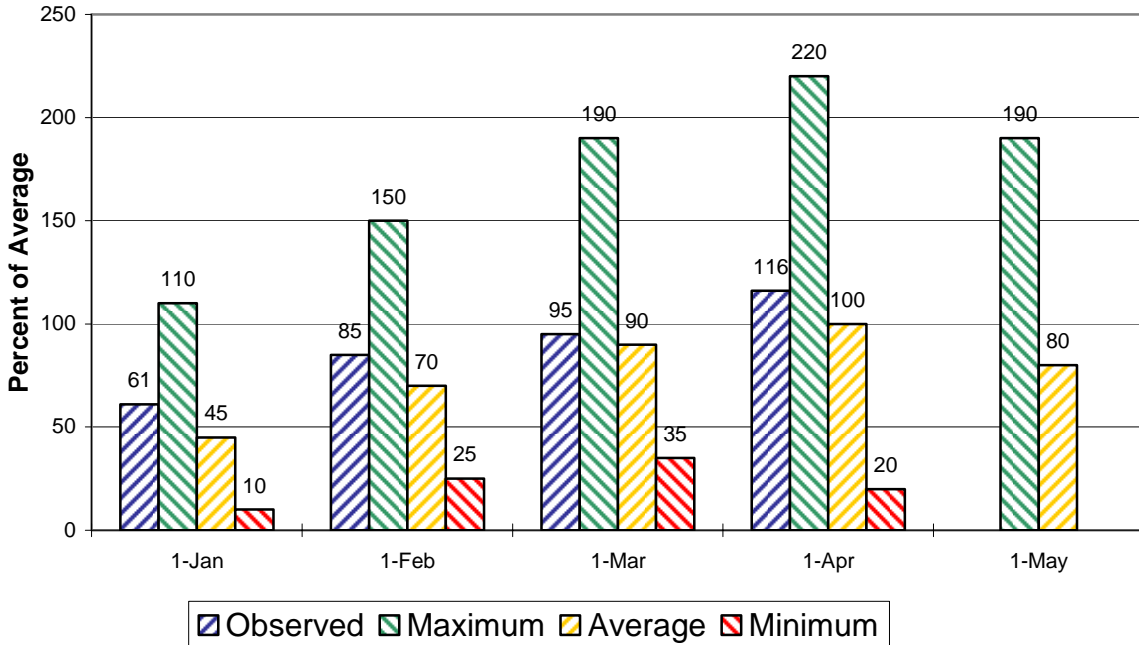
Seasonal Basin Precipitation

October 1 to Date



Seasonal Basin Snowpack

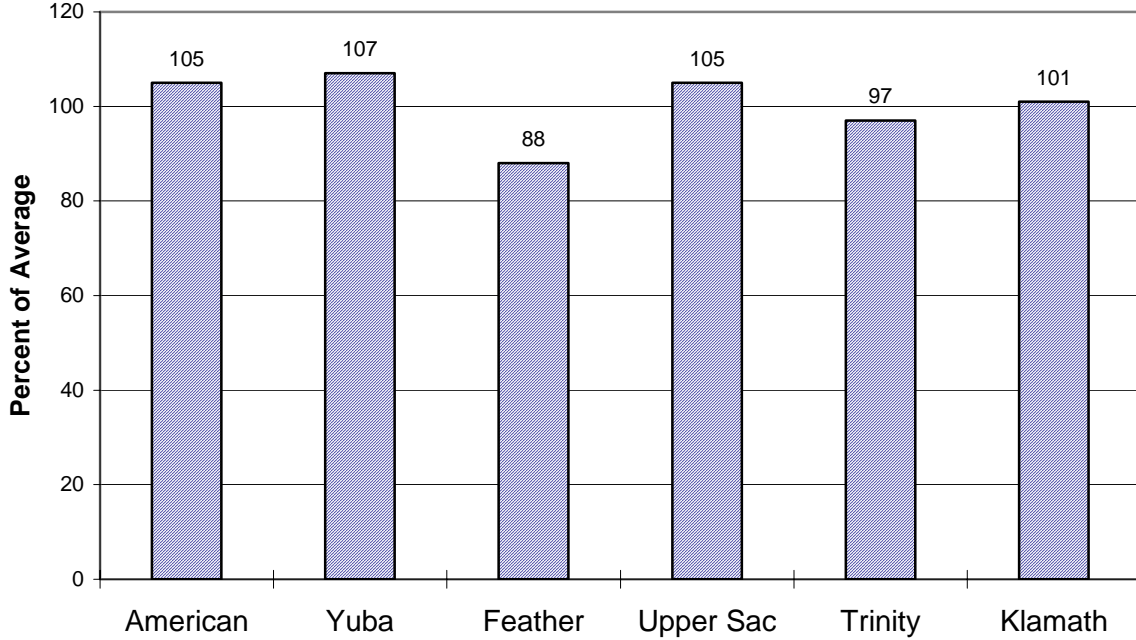
Water Content in % of April 1 Average



Sacramento/Trinity/Klamath River Basins

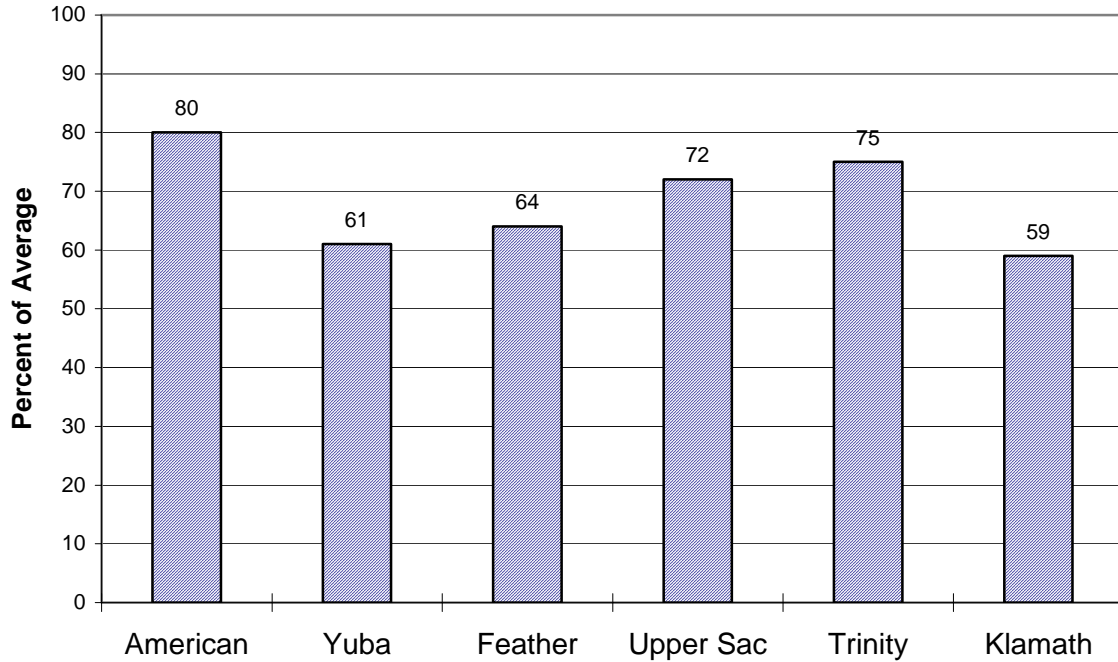
Basin Reservoir Storage

Contents of Major Reservoirs in % of Average



Seasonal Basin Runoff

October 1 to Date



San Joaquin Basin



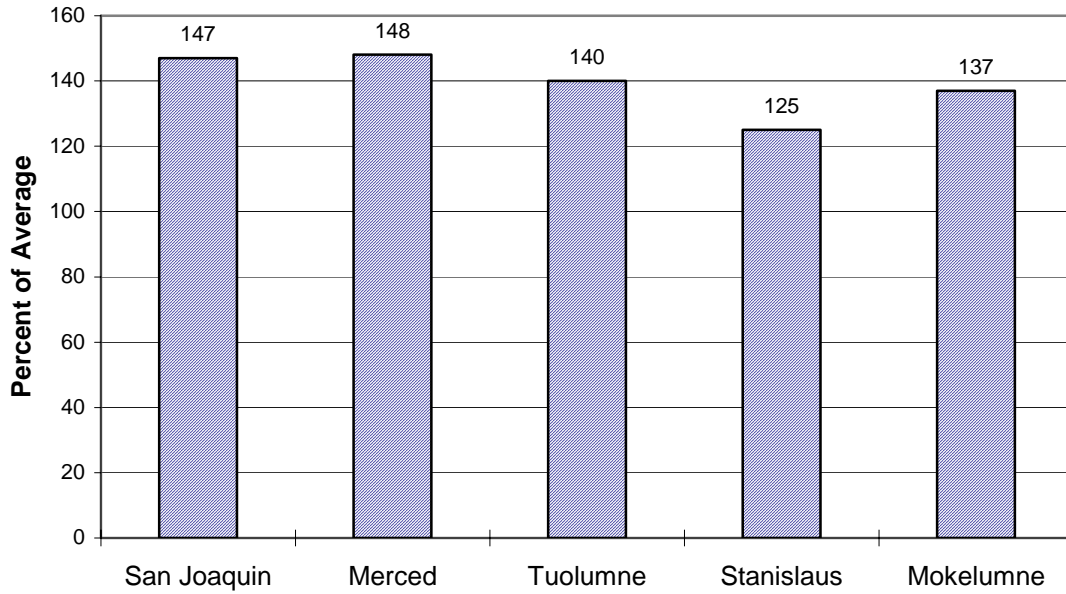
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
<hr/>						
SF San Joaquin River						
Hooper Ck, blo, Florence Lk, nr	Apr-Jul	250	130	325	175	192*
San Joaquin River						
Millerton Lk	Apr-Jul	1850	146	2070	1630	1270
Merced River						
Pohono Bridge, at, Yosemite, nr	Apr-Jul	570	158	640	500	360*
Merced Falls, blo	Apr-Jul	980	152	1150	810	645
Tuolumne River						
Hetch Hetchy, nr	Apr-Jul	850	143	940	760	596*
La Grange, nr	Apr-Jul	1800	146	2040	1560	1230
MF Stanislaus River						
Beardsley Dam, blo	Apr-Jul	445	139	515	375	320*
Stanislaus River						
Goodwin Dam, blo, Knights Ferry	Apr-Jul	930	134	1090	770	695
NF Mokelumne River						
West Point	Apr-Jul	525	126	635	415	416*
Mokelumne River						
Mokelumne Hill	Apr-Jul	590	128	680	500	460
Cosumnes River						
Michigan Bar	Apr-Jul	160	130	250	70	123

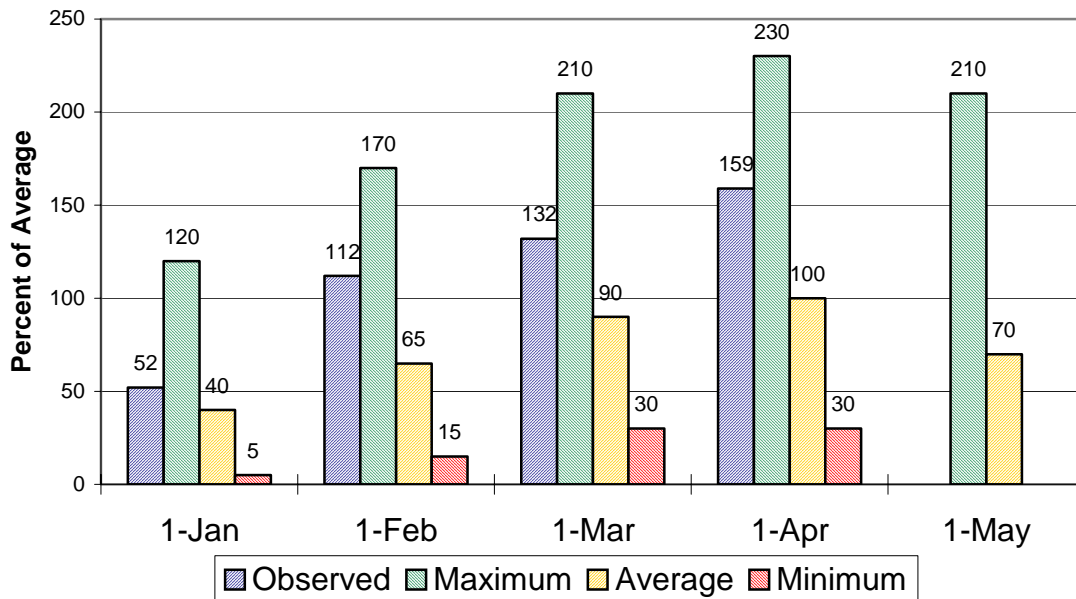
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San Joaquin Basin

Seasonal Basin Precipitation October 1 to Date

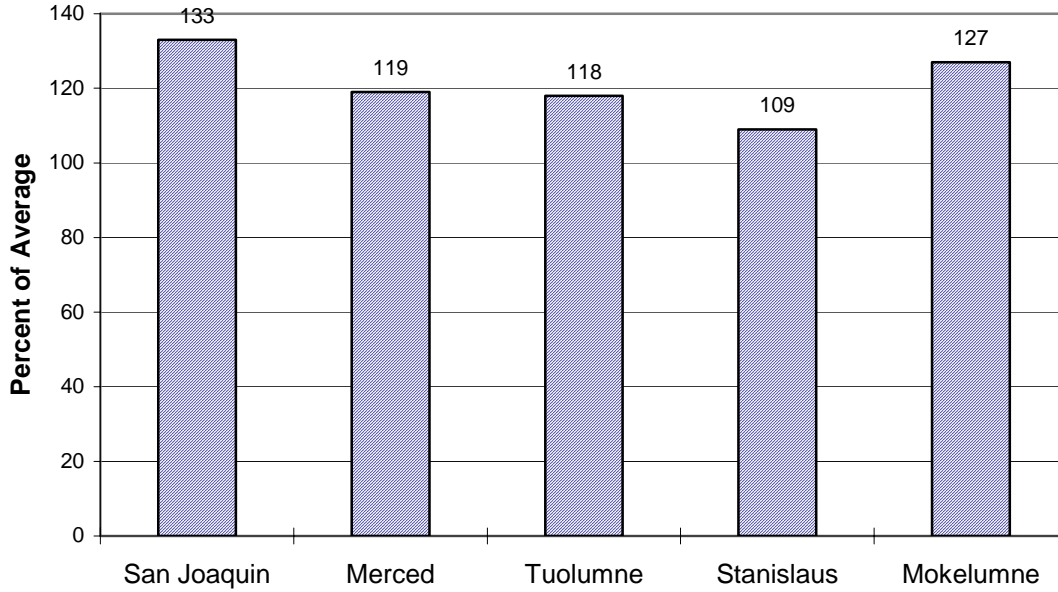


Seasonal Basin Snowpack Water Content in % of April 1 Average

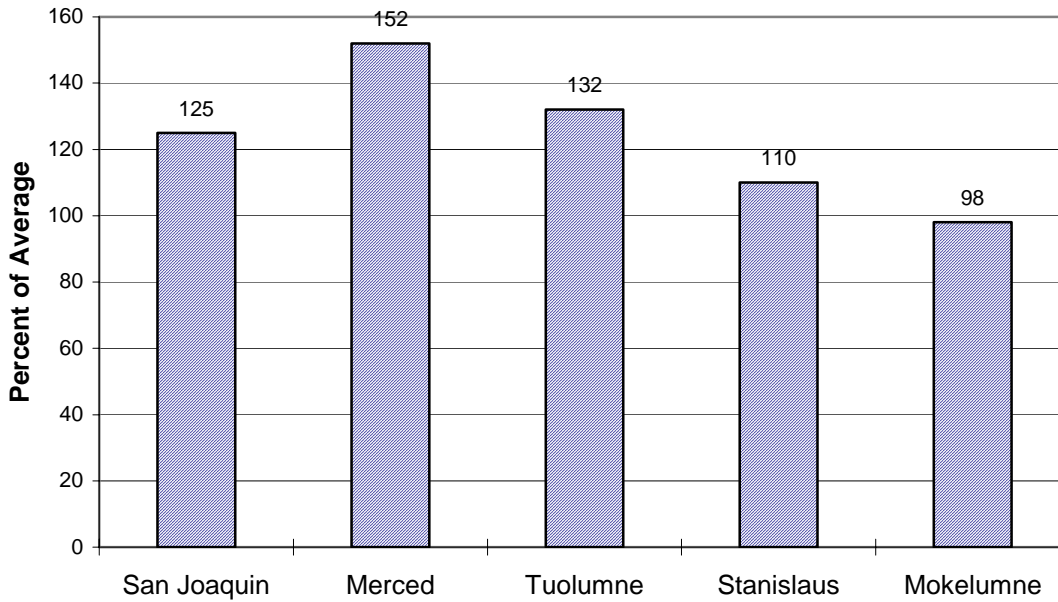


San Joaquin Basin

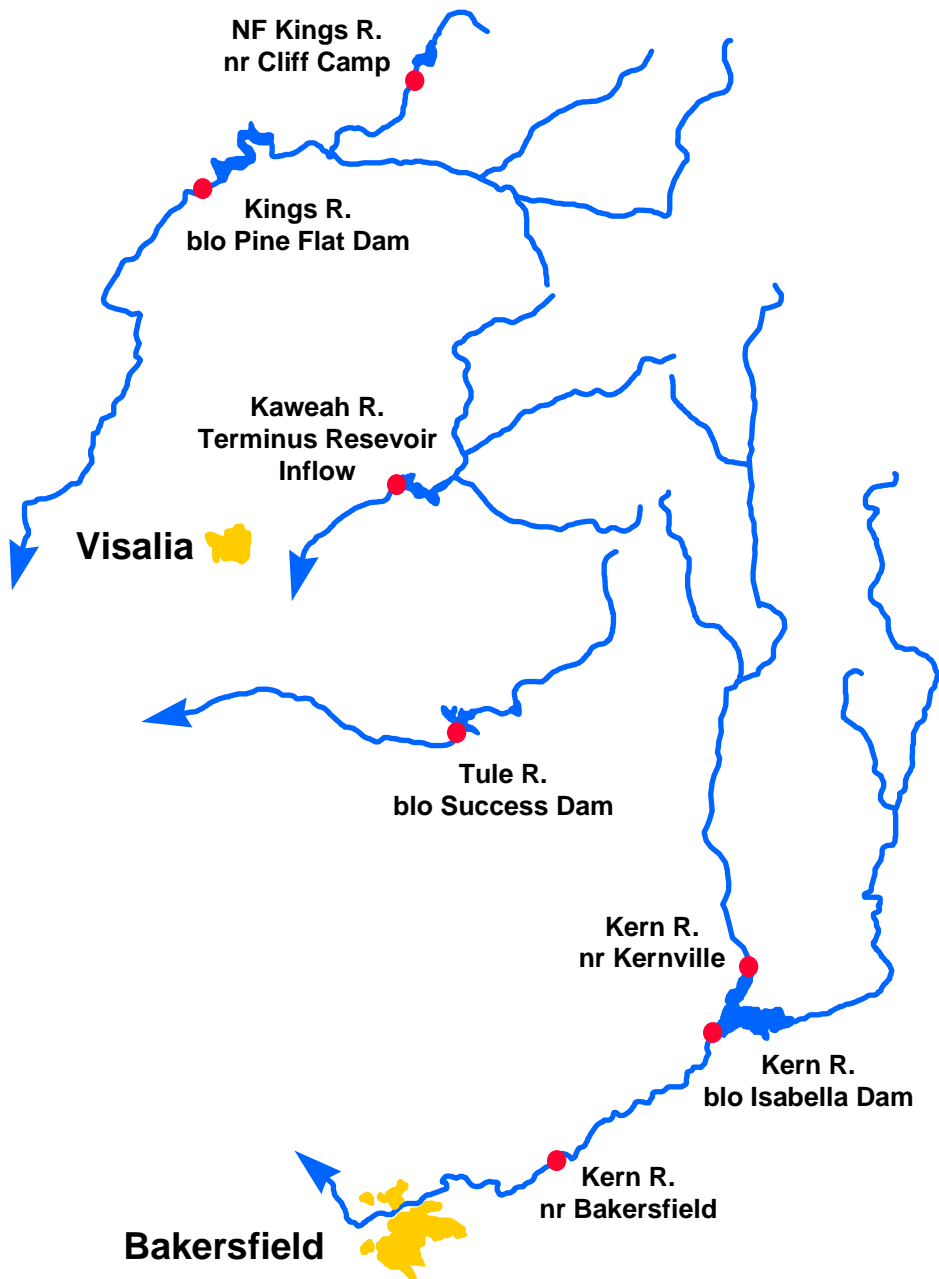
Basin Reservoir Storage Contents of Major Reservoirs in % of Average



Season Basin Runoff October 1 to Date



Tulare Basin

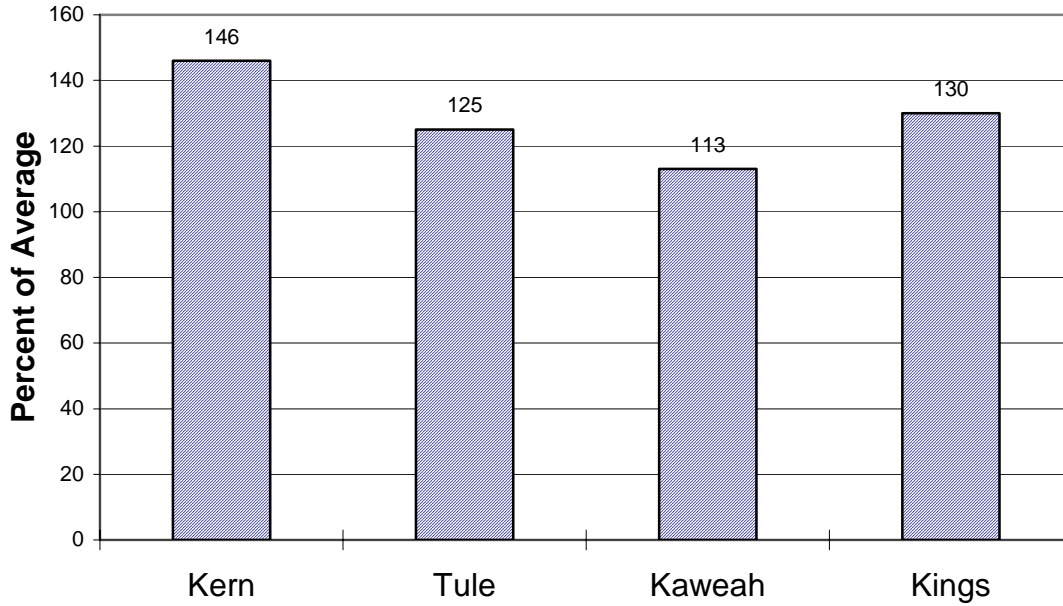


Water Supply Forecasts

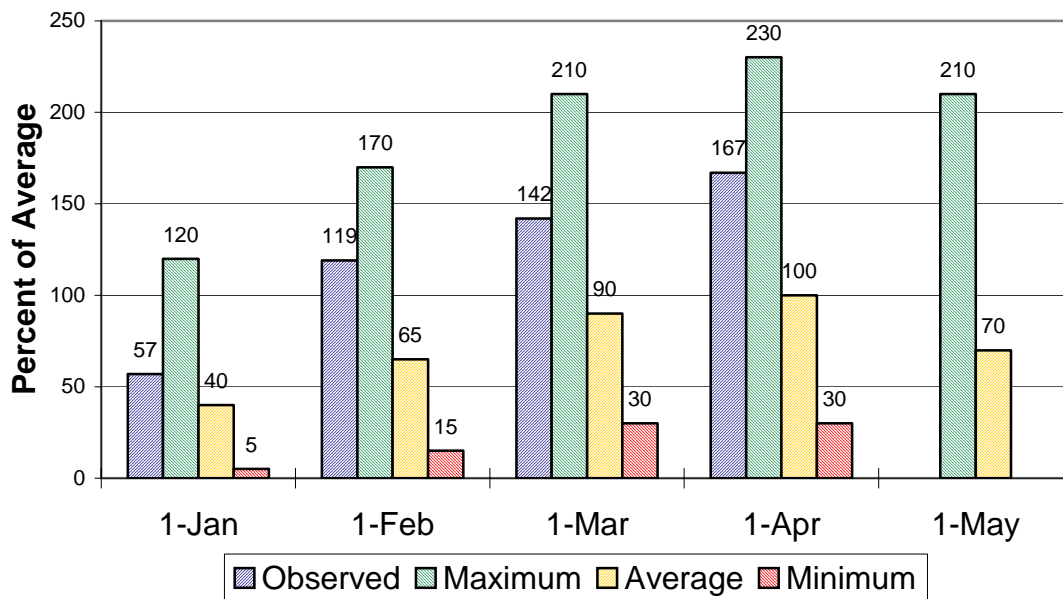
		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
Kern River						
Kernville, nr	Apr-Jul	550	138	620	480	398*
Isabella Dam, blo	Apr-Jul	690	144	800	580	480
Bakersfield, nr	Apr-Jul	710	145	830	590	490
Tule River						
Success Dam	Apr-Jul	85	129	125	45	66
Kaweah River						
Terminus Dam	Apr-Jul	400	138	485	315	290
NF Kings River						
Cliff Camp, nr	Apr-Jul	350	146	395	305	240*
Kings River						
Pine Flat Dam, blo	Apr-Jul	1760	141	1950	1570	1250

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Tulare Lake Basin Seasonal Precipitation October 1 to Date

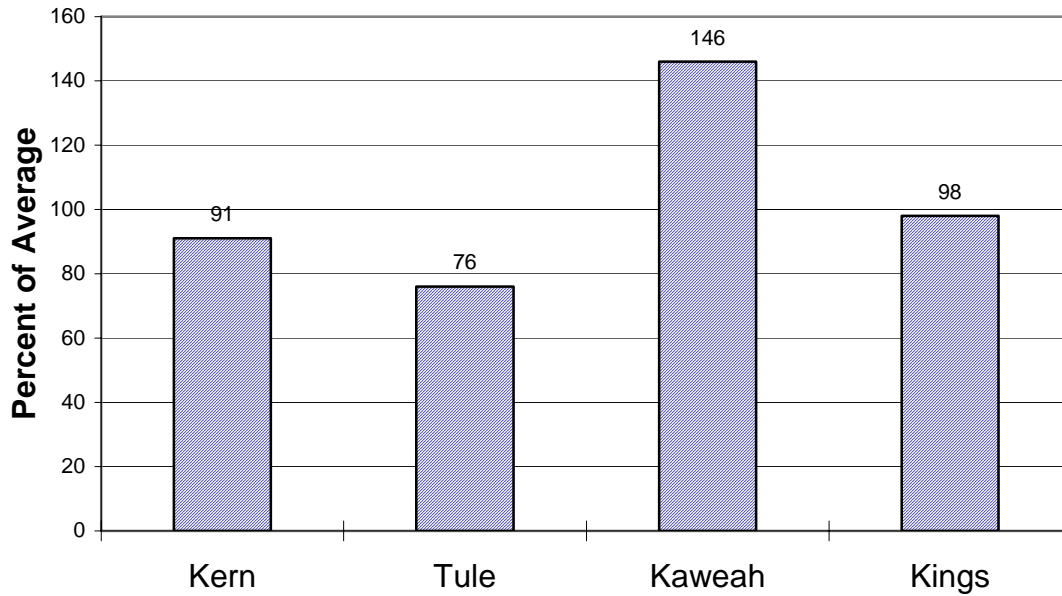


Seasonal Basin Snowpack Water Content in % of April 1 Average

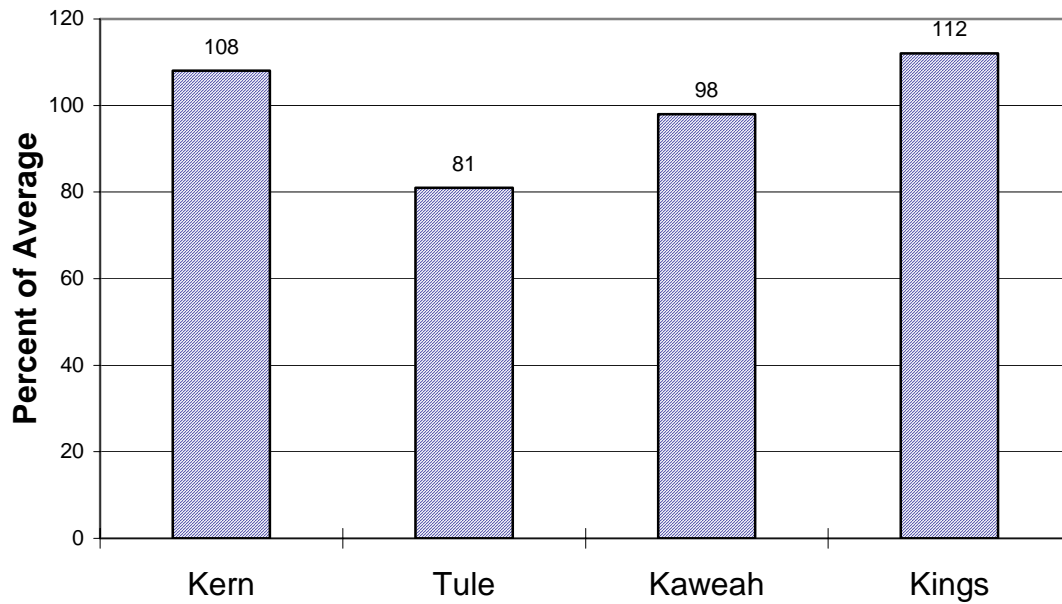


Tulare Lake Basin

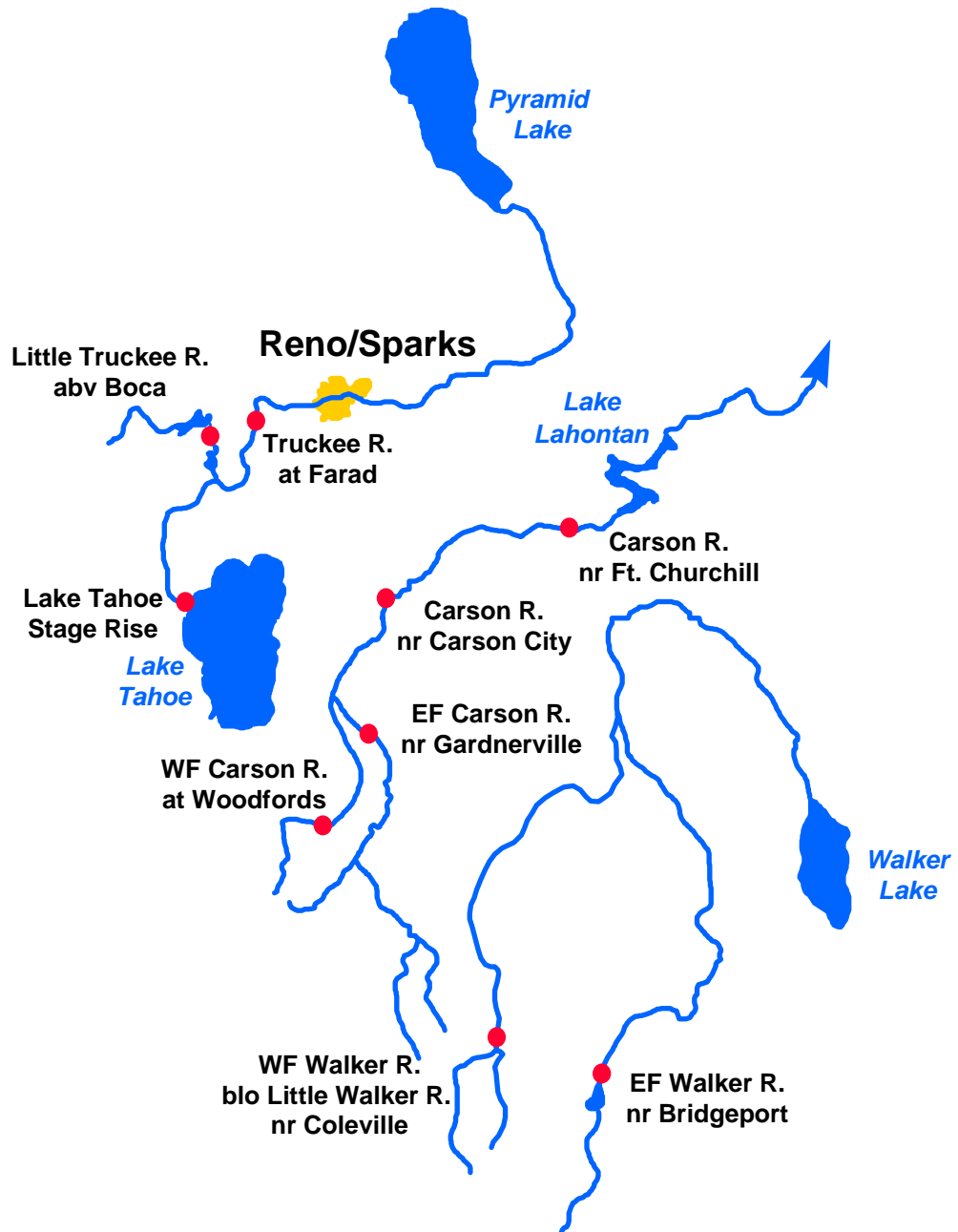
Basin Reservoir Storage Contents of Major Reservoirs in % of Average



Seasonal Basin Runoff October 1 to Date



East Side Sierra Nevada Basins



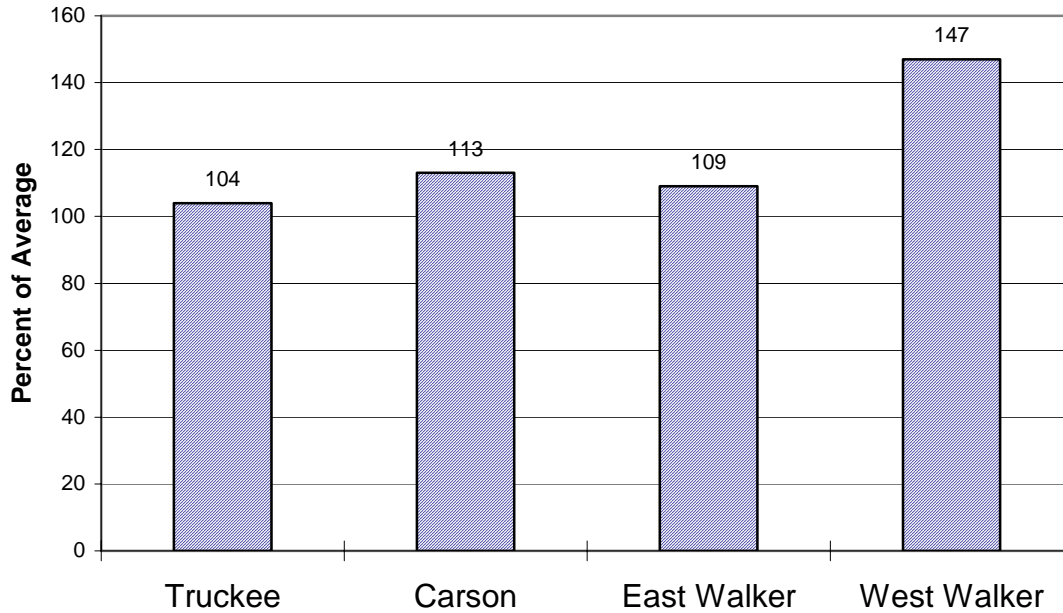
Water Supply Forecasts

		Most Prob Vol KAF	Most Prob Vol %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
Truckee River						
Truckee River						
Lake Tahoe Stage Rise	Apr-High	1.60	116	1.97	1.23	1.38
Ltl Truckee River						
Boca Res, abv, Truckee, nr	Apr-Jul	90	112	110	70	80
Truckee River						
Farad	Apr-Jul	290	112	360	220	260
Carson River						
EF Carson River						
Gardnerville, nr	Apr-Jul	250	132	275	225	189
WF Carson River						
Woodfords	Apr-Jul	74	132	83	65	56
Carson River						
Carson City, nr	Apr-Jul	250	133	280	220	188
Fort Churchill, nr	Apr-Jul	255	143	300	210	178
Walker River						
East Walker River						
Bridgeport, nr	Apr-Aug	100	149	127	73	67
West Walker River						
Ltl Walker, blo, Coleville, nr	Apr-Jul	230	147	245	215	156

East Side Sierra Nevada Basins

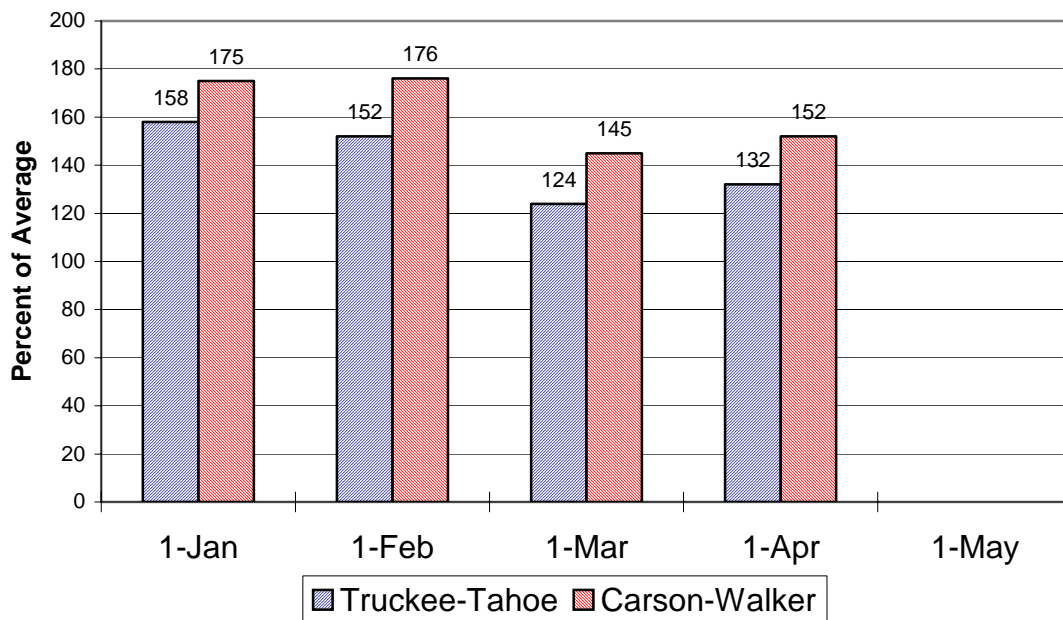
Seasonal Basin Precipitation

October 1 to Date



Basin Snowpack

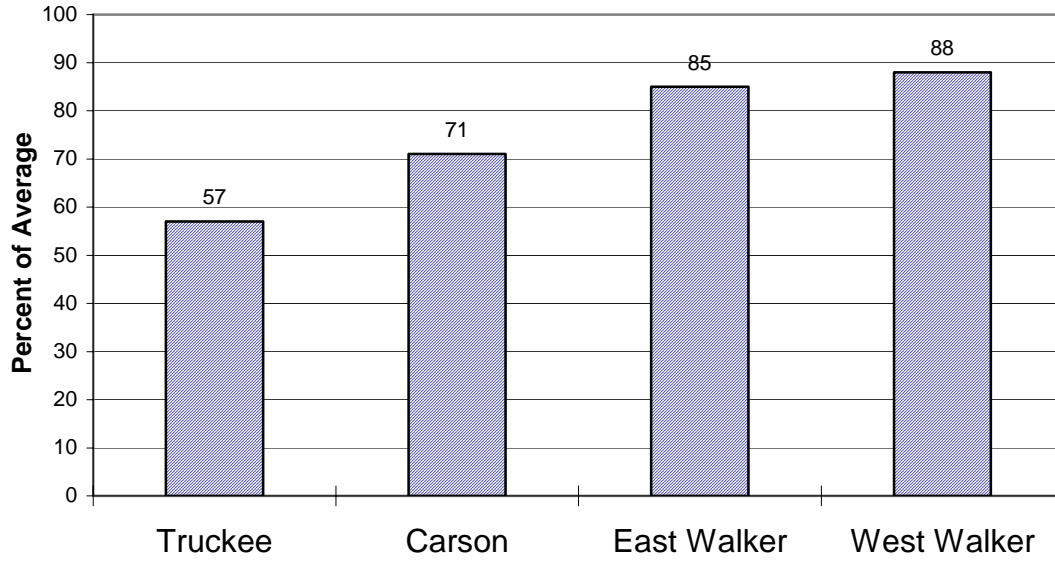
% of Average SWE to Date



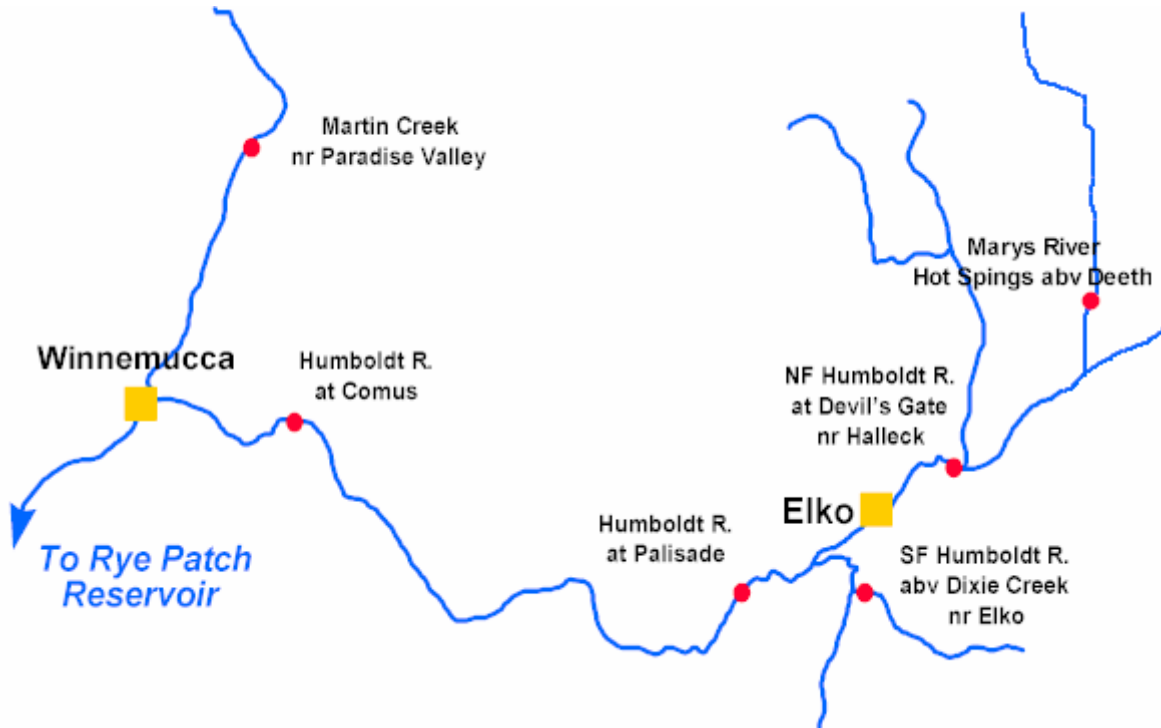
East Side Sierra Nevada Basins

Seasonal Basin Runoff

October 1 to Date



Humboldt River Basin



Water Supply Forecasts

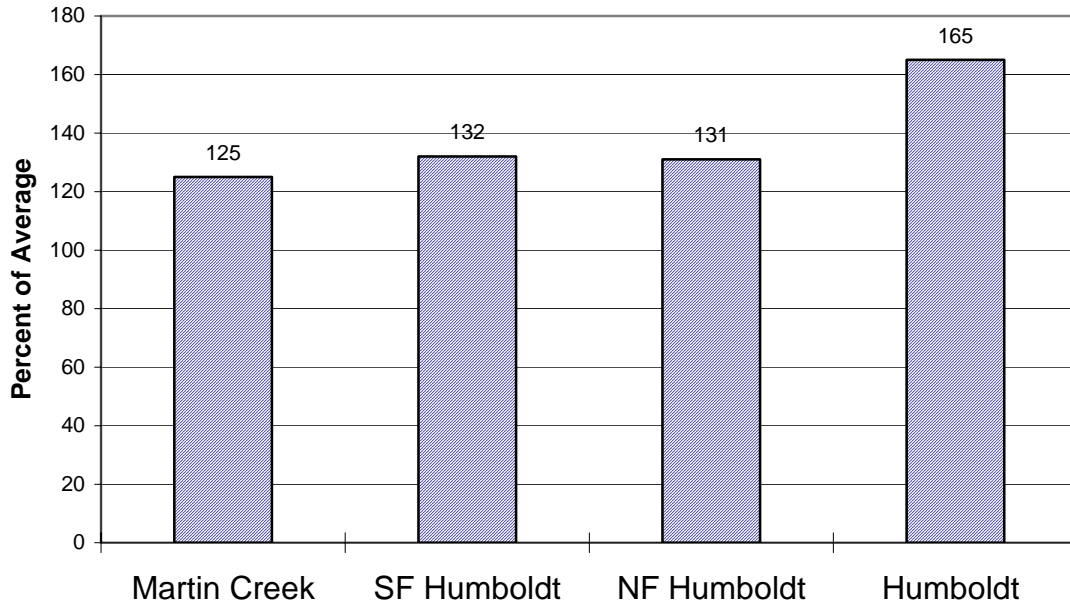
		Most Prob Vol KAF	Most Prob %Norm	Reas Max Vol KAF	Reas Min Vol KAF	30 Year Avg KAF
<hr/>						
NF Humboldt River						
Devlis Gate, at, Halleck, nr	Apr-Jul	38	112	52	24	34*
SF Humboldt River						
Dixie Ck, abv, Elko, nr	Apr-Jul	85	112	116	54	76
Marys River						
Hot Springs, abv, Deeth, nr	Apr-Jul	45	115	60	30	39
Humboldt River						
Palisade	Apr-Jul	255	102	400	110	250
Comus	Apr-Jul	235	104	350	110	225
Martin Ck						
Paradise Vly, nr	Apr-Jul	15.0	80	22	8.0	18.7

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Humboldt River Basin

Seasonal Basin Precipitation

October 1 to Date



Basin Snowpack

% of Average SWE to Date

